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ET DE PHARMACIE - MARRAKECH

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Students'PerceptionofClinicalSelf–Efficacy In Family Medicine CoreCompetencies

THESIS

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BY

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TOOBTAINTHEDEGREEOFDOCTOROFMEDICINE **KEYWORDS**

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بسم الله الرحمن الرحيم

يرفع الله الذين آمنوا منكم والذين أوتوا العلم درجات

صدق الله العظيم

Hippocratic Oath

I swear to fulfill, to the best of my ability and judgment, this covenant:
Iwillrespectthehard-wonscientificgainsofthosephysiciansinwhosestepsIwalk, andgladlysharesuchknowledgeasisminewiththosewhoaretofollow.
Iwillapply,forthebenefitofthesick,allmeasures[that]arerequired,avoidingthose twintrapsofovertreatmentandtherapeuticnihilism.
Iwillrememberthatthereisarttomedicineaswellasscience,andthatwarmth, sympathy,andunderstandingmayoutweighthesurgeon'sknifeorthechemist'sdrug.
Iwillnotbeashamedtosay"Iknownot,"norwillIfailtocallinmycolleagueswhen theskillsofanotherareneededforapatient'srecovery.
Iwillrespecttheprivacyofmypatients,fortheirproblemsarenotdisclosedtomethat theworldmayknow.MostespeciallymustItreadwithcareinmattersoflifeanddeath. Ifitisgivenmetosavealife,allthanks.Butitmayalsobewithinmypowertotakea life;thisawesomeresponsibilitymustbefacedwithgreathumblenessandawarenessof myownfrailty.Aboveall,ImustnotplayatGod.
IwillrememberthatIdonottreatafeverchart,acancerousgrowth,butasickhuman being,whoseillnessmayaffecttheperson'sfamilyandeconomicstability.My responsibilityincludestheserelatedproblems,ifIamtocareadequatelyforthesick.
IwillpreventdiseasewheneverIcan,forpreventionispreferabletocure.
IwillrememberthatIremainamemberofsociety,withspecialobligationstoallmy fellowhumanbeings,thosesoundofmindandbodyaswellastheinfirm.

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ELJAMILI Mohammed	Cardiologie		

LISTE ARRÉTÉÉ LE 01/02/2021

Dedications

Tout d'abord à ALLAH

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I adore you more than you can imagine

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Love you

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I love you

To my twin and my biggest cheerleader Hamza

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To all those who love and appreciate me

To all those who marked my life in a small or a big way

To all those who contributed to this work

I dedicate this to you

To the memory of my sister Asmaa

May Allah accept this work and make it a shining light on you.

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Head of the department of Pediatrics at the University Hospital Mohammed VI

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ToProfessorandjurymemberMrs.N.ELANSARI

Head of department at the University Hospital MohammedVIandProfessorofEndocrinologyand MetabolicDiseases

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To Professor and jury member Associate Professor Mrs. M. SEBBANI

Professor of Community and Preventive Medicine, Public Health and Hygiene

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List ofAbbreviations

List of abbreviations

FMPA	: Faculty of Medicine and Pharmacy of Agadir
FMPM	: Faculty of Medicine and Pharmacy of Marrakech
FMPC	: Faculty of Medicine and Pharmacy of Casablanca
FMPR	: Faculty of Medicine and Pharmacy of Rabat
FMPF	: Faculty of Medicine and Pharmacy of Fes
FMPT	: Faculty of Medicine and Pharmacy of Tangier
FMPO	: Faculty of Medicine and Pharmacy of Oujda
SE	: Self-Efficacy
ACGME	: Accreditation Council for Graduate Medical Education
r	: item-rest correlation
r’	: Subscale item-rest correlation
MS5	: 5th year Medical Students
MS6	: 6th year Medical Students
CI	: Confidence Interval
C1	: Competency 1
C2	: Competency 2
C3	: Competency 3
C4	: Competency 4
C5	: Competency 5
C6	: Competency 6

SUMMARY

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INTRODUCTION

Self-efficacy(SE)isdefinedbytheCanadian-AmericanpsychologistAlbertBandura as the beliefs one has about their ability to participate in activities on the basis of the likelihood of their success (1). It has been shown that this vastly studied concept plays a major role in mediating between knowledge and action, in addition to its place in students' motivation generally and therefore their confidence, regardless of their environments' challenges (2,3).

This means that high levels of self-efficacy help students face adversity and apply their theoretical knowledge effectively and accurately, whereas low levels of self-efficacy and low perceived confidence in one's knowledge could translate into low performances when it comes to practice.

This thought process could be transferred to the medical field, where many studies have discussed the importance of self-efficacy beliefs in the development of medical knowledge and the necessary field-specific skills (4). This relationship is of especially high importance for medical educators and governing bodies whose purpose is to identify the basics of medical students and trainees' success, and more importantly, the reasons behind their underperformance; be it shortfalls in knowledge, unprofessional attitudes, behaviorsand beliefs, or difficulty applying knowledge to authentic clinical situations (5). The ultimate goal is to prepare trainees and students to become qualified physicians in the future since performance in medical school is highly related to performance during residency and by extension after it(6).

As for core competencies, the concept was first introduced in 1999 by the Accreditation Council for Graduate Medical Education (ACGME), which is the body responsible for accrediting all graduate medical training programs for physicians in the United States, with the goal of transitioning towards more competency-based learning and practice, identifying learning objectives and therefore monitoring and improving educational outcomes and consequently clinical outcomes at multiple levels (7,8).

These competencies are six in number: Patient care and procedural skills, medical knowledge, Systems-based practice, practice-based learning and improvement, Professionalism and interpersonal and communication skills.

And although the concept of competency-based medical education was welcomed in the early 2000s, its operationalization faced some difficulties in terms of the criteria to consider in order to judge the agreed-upon core competencies. Thus, the concept of "Milestones" was implemented in 2009 and specialties and subspecialties have begun to report Milestones' data only six years later.

Milestones are defined by the ACGME as "performance levels physicians are expected to demonstrate for skills, knowledge, and behaviors in the six Core Competency domains". They allow for an understanding between program directors and governing bodies with regards to the outcomes of interest in each competency within and across disciplines, including family medicine.

EventhoughmilestonessetbytheACGMEinFamilymedicineareorientedforresidents and Family medicine is an "individualized" specialty in the USA, while Moroccan physicians graduate as general practitioners after seven years of studies including five years of medical schoolandtwoyearsofinternship,webelievethattheconceptofcorecompetenciescouldbe projectedontoourmedicalcurriculumandMilestonescouldbeasubstantialtooltoassessour medicalstudentsandtrainees,allowingforamorecomplexapproachcenteredonlearntoknow, todoandtobe,withaspecificmeasureoflearners'progressiontowardsspecificcompetencies instead of the traditional approach centered on knowledge acquisition, especially at this point whereMoroccanmedicaleducationiswelcomingaprogressiveshifttowardsFamilyMedicine andawayfromGeneralPracticeaspartofmedicalreform.

With this in mind, we conducted this study aiming to evaluate our medical students' levels of self-efficacy and their perceived confidence in a set of competencies. We also had the purpose of drawing a comparison between study levels and medical faculties in thosesix

competencies, all in an effort to identify the areas where our medical students and trainees fall behind, if any, present some possible solutions to the obstacles they face in their education and therefore partake in the efforts of medical studies' reform.

Participants andMethods

I. Studypresentation:

Our research is a descriptive cross-sectional study that took place between January and September 2021, where we explored students' self-efficacy and how they perceived their competencies in Family Medicine.

For that purpose, students were questioned using a survey that we developed for this study, and that we made available online and viaemail.

II. Population:

1. Inclusioncriteria:

Our target was students at the end of their 5th and 6th year of medical school, 1st and 2ndyear interns of University Hospitals or Regional Hospitals and junior thesis students of all Moroccanpublicmedicalschools:FacultyofMedicineandPharmacyofAgadir(FMPA),Facultyof MedicineandPharmacyofMarrakech(FMPM),FacultyofMedicineandPharmacyofCasablanca (FMPC),FacultyofMedicineandPharmacyofRabat(FMPR),FacultyofMedicineandPharmacyof Fes (FMPF), Faculty of Medicine and Pharmacy of Oujda (FMPO) and Faculty of Medicine and Pharmacy of Tangier(FMPT).

2. Exclusioncriteria:

Students in their 1st to 4th year of medical studies or those who had already received their Medical Degree were excluded. Students of non-public medical schools were also excluded since they have a different study format.

III. Methods andstatistics:

1. Itemdevelopment:

Bythetimethisstudywasconducted,therehadbeenalackofMoroccanguidelinesand consensusonthecoreskillsmedicalstudentsshouldacquireduringtheirstudies.Therefore,we soughttobaseourquestionnaireitemsonthesixcorecompetencies(9)setbytheAccreditation CouncilforGraduateMedicalEducation(ACGME):PatientCareandProceduralSkills,Medical Knowledge,Systems-BasedPractice,Practice-BasedLearningandImprovement,Professionalism, Interpersonal and Communication Skills. Each competency has different sub-competencies, whichthemselveshaveasetofskillsreferredtobytheACGMEasmilestones.

First,45milestonesinfamilymedicinecoveringthesixcorecompetencieswerechosen. The items deemed not adapted to our Moroccan context were then eliminated, such as milestonesrelatedtoqualityimprovementandauditingskills.Theitemskeptwerereformulated inordertoalignthemwithourcontext.Furthermore,sub-competencies"carefortheacutelyill", "care for patients with chronic illness"," management of procedural care" were detailed by including specific skills we have judged essential so that over-generalization, which could confuse the respondents, would be avoided. After this initial instrument generation, additional demographicrelatedquestions(age,sex,yearofstudyanduniversity)andtwogeneralclosed-ended questions about theoretical and practical teaching that aren't part of the original family medicinemilestoneswereincluded.TheinstrumentwasthentranslatedtoFrench.

After that, a panel of seven Professors and medical education experts was formed. They were asked to give a qualitative review of the items following McKenzie and al framework (10,11). This includes comments on the extent to which the questions were most representative andadaptedtoourMoroccancontext,theirrelevancetothesubjectandourmedicalreform,

redundancy, intelligibility, the overall length of the questionnaire and any other additional comments or recommendations.

The incorporation of the experts' comments, including their recommendation to add two open-ended questions in order to investigate the participants' point of view, yielded a 40-item questionnaire divided into two parts: clinical and non-clinical competencies. The first part consisted of 24 close-ended questions employing a 5-point response on a Likert scale (Not at all confident, a little confident, neutral, confident, very confident) and the second part had 14 close-ended questions in addition to 2 open-ended ones.

Following this draft, the instrument was sent to a sample of fourteen students from different study levels and different universities for pilot testing. The purpose of the pilot is cognitive testing that guarantees the questions were well understood by the respondents, and that they express their intended meaning(11).

The students were asked to give feedback on the intelligibility of the questions, their order, the overall length of the survey and if there are any other skills that they believe are essential to their education that should be added. 8 students (57,1%) didn't understand question 14 "knowledge of care coordination" and question 15 "reducing and preventing events that could endanger my patient", 12 students (85,7%) didn't understand question 20 "identifying the factors which contribute to gaps between expectations and actual performance". Those 3 questions were therefore eliminated.

Thus, the 37-question survey was finalized to include 33 items covering the six core competencies in family medicine by the ACGME, 2 close-ended questions to capture students' overall perception of their theoretical and practical learning and 2 open-ended questions. The survey's items were reorganized before sharing it in order to avoid order bias.

The questionnaire was generated and distributed using Google forms. (See appendices page 58)

2. Participants andprocedures:

An email explaining the aim of the study with an attached link to the survey was sent to all students at the end of their 5th year, in addition to 6th and 7th year students, interns and thesis students of the FMPM. It was then shared on multiple online groups gathering students from all targeted universities. The survey was carefully constructed to ensure that each student could only give one answer. Data collection started on July 18th 2021 and ended on September 11th2021.

3. Statisticalanalysis:

3.1 Psychometricanalysis:

Before analysis, we conducted a data screening for missing values, and we checked each item's response pattern for normality. Next, we subjected each of the sub-scales to an internal consistency reliability analysis by measuring the coefficient Alpha of Cronbach in addition to calculating the item-rest correlation (r) of each item with the overall dimension and with the subscale under which they fall.

With regard to the bivariate analysis, we performed an independent samples t-test to compare the self-efficacy scores of the six competencies and of all the items' means between therespondentsfromtheFMPMandtheotherfaculties(FMPA,FMPC,FMPR,FMPT,FMPO,FMPF) treating them as twogroups.

Finally, we compared students' Self-Efficacy competency scores across the 5 years of medical school, treating each year as a group.

3.2 Descriptive analysis:

We calculated the mean scores and standard deviations for the items associated with a particular subscale and calculated descriptive statistics for the total sample and for the 5-year groups.

Items that were part of the same competency were analyzed together for score calculations and quality assessment.

Competency 1: Items 1, 3, 4, 6, 7, 14, and 15

Competency 2: Items 2, 5, 8, 22, 23, 34, and35

Competency 3: Items 16, 12, 17, 18, 32, and33

Competency 4: Items 9, 10, 11, 21, 34, and 35

Competency 5: Items 26, 28, 29, 30, and 31

Competency 6: Items 13, 19, 20, 24, 25, and 27

Subscales' scores were computed through the sum of the Likert-scale's means for eachdimension.

All analyses were completed using the Jamovi project (2021). Jamovi. (Version 1.6) [ComputerSoftware].Retrievedfromhttps://www.jamovi.organdSPSS20.0(IBM,NewYork,NY)

IV. Ethicalconsiderations:

The goal of the study was described in the invitation link in addition to the participants' rights. No identifying information was therefore collected and consent was obtained at the beginning of the survey. A decline of consent resulted in automatically ending the questionnaire.

RESULTS

I. Participants'characteristics:

Our sample consisted of 359 participants, with 239 (66.6%) females versus 120 (33.4%) males with an age median of 24 (range: 21 to 31). Surveyed students were from seven medical schools with 151 (42.1%) from the FMPM, 24 (6.7%) from the FMPA, 45 (12.5%) from the FMPR,50(13.9%)fromtheFMPC,31(8.6%)fromtheFMPF,25(7%)fromtheFMPTand33(9,2%)from the FMPO. As for their study level, 102 (28.4%) were interns at Regional Hospitals, 90 (25.1%) were 5th and 6th year medical students equally, 39 (10.9%) were interns at University Hospitals and 38 (10.6%) were thesis students.

Table I illustrates the demographic characteristics of our sample (age, sex, faculty of affiliation, level of study)

Table I : Demographic characteristics of thesample:

Participants' characteristics	N	%
Total	359	100
Sex		
Female	239	66.6
Male	120	33.4
Faculty		
FMPM	151	42.1
FMPA	24	6.7
FMPR	45	12.5
FMPC	50	13.9
FMPF	31	8.6
FMPT	25	7
FMPO	33	9.2
Study level		
5th year	90	25.1
6th year	90	25.1
Regional Hospitals' interns	102	28.4
University Hospitals' interns	39	10.9
Thesis students	38	10.6

II. Quality assessment of theinstrument:

The survey's validity was analyzed using item-rest correlation (r) to examine the relationship between each item and the total score, and then each item with the subscale's score; I.e., subscale item-total correlation (r') in addition to using Cronbach's α for internal consistency analysis; r>0.3 indicates good discrimination and r>0.4 indicates very good discrimination. Internal reliabilities were considered acceptable if >0.6 (12)

Tables III to VIII display item-rest correlation values of all items within their respective subscales.

1. Overallassessment:

Item-rest correlation (r) was superior to 0.3 across all questions, where the lowest r=0.309wasin"confidenceyou'llbesupportedbyyourseniorswhenyou'reinabadphysicalor mental state hindering your learning", and the highest r=0.636 was when asked about self-efficacyin"Coordinatingcareeffectivelyforpatientsneedingamultidisciplinaryapproach".

As for the scale's overall's internal consistency, Cronbach's α=0.956

2. Subscaleassessment:

Items falling under "Patient Care and Procedural Skills", which were of a total of 31, had an r'>0.4 for all milestones except for self-efficacy in managing mental disorders where r'=0,367. The highest r'=0.686 was for self-efficacy in managing dyspnoea. (TableIII)

"Medical Knowledge" had 5 items where the lowest r'=0.381 was in "interpretation of common diagnostic tests", and the highest r'=0.549 for "knowledge of the basics of research methodology". (Table IV)

Asforthethirdcompetency,"Systems-BasedPractice"where6itemswereanalysed,r' wasbetween0.397-0.667forconfidencein"knowledgeofhealth-paymentsystemsandtypesof

insurances" and for "effective care coordination for patients needing a multidisciplinary care" respectively. (Table V)

The 6 Items in "Practice-based learning and improvement" had all an r'>0.4 with a maximum r'=0.707 for "setting learning objectives at the beginning of each hospital round". (Table VI)

The 5 items of "Professionalism" had a subscale item-rest correlation between 0.330 and 0.504 for item 26 "knowledge of ethical principles" item 29 "prioritizing your personal and professional well-being" respectively. (Table VII)

The last competency "Interpersonal and Communication Skills" containing 6 items had a minimum r'=0.422 and a maximum r'=0.6 (Table VIII)

Cronbach's α for the 6 subscales was 0.931, 0.714, 0.784, 0.794, 0.674 and 0.757 respectively.

III. MeanSelf–Efficacyscores:

1. Collective scores across all levels andfaculties:

Theglobalself-efficacyforallitemsacrossalllevelsandfacultieswasatameanof3.15 (SD= ± 0.57). (TableII)

Participants reported the highest perceived self-efficacy of all items, on a possible maximum score of 5, in "interpretation of results of common diagnostic tests" with a mean of 4.27(SD=±0.88)whiletheyreportedthelowestself-efficacywithameanof1.94(SD=±1.16) in "*arthrocentesis*".

2. Self-Efficacy scores across studylevels:

We compared the self-efficacy levels for the six subscales between the five study levels of all faculties combined, treating each level as a group. (Table II)

TheIowestSElevelsinallcompetencieswerereportedbyfifth-yearrespondents,where thecompetencywhichrankedlastintermsofconfidencemeanwassystems-basedpracticewith aSEmean=2.97(SD=±0.79)whileinterpersonalandcommunicationskillsrankedfirstinthat group with a mean = 3.46 (SD= ±0.77).

Sixth-year students had the highest mean across all groups in competency 5 "Professionalism" mean = 3.47 (SD= ± 0.74) while thesis students had the lowest one in that samecompetencywithamean=2.92(SD=±0.78),whereasinternsatuniversityhospitalshad thehighestSElevelsofallgroupsinalltheotherfivecompetenciesandintheglobalscore.

Table II : Self-efficacy Means (Standard Deviation) for the total sample and the 5-year groups

Competencies	All respondents (N = 359)	Cronbach's alpha	MS-5 (n = 90)	MS-6 (n = 90)	University Hospitals' interns (n=39)	Regional Hospitals' interns (n = 102)	Thesis students (n =38)
Competency 1	3.14(0.94)	0.931	3.03(0.65)	3.20(0.61)	3.66(0.43)	3.31(0.65)	3.20(0.80)
Competency 2	3.17(0.70)	0.714	2.98(0.78)	3.14(0.70)	3.40(0.54)	3.22(0.64)	3.32(0.72)
Competency 3	2.97(0.79)	0.784	2.73(0.89)	2.94(0.75)	3.34(0.46)	3.03(0.78)	3.09(0.81)
Competency 4	3.00(0.92)	0.794	2.92(0.98)	2.99(0.89)	3.17(0.76)	3.00(0.91)	3.03(1.01)
Competency 5	3.31(0.78)	0.674	3.34(0.86)	3.47(0.74)	3.35(0.59)	3.28(0.77)	2.92(0.78)
Competency 6	3.63(0.70)	0.757	3.46(0.77)	3.61(0.69)	3.89(0.48)	3.66(0.71)	3.70(0.67)
Global score	**3.15(0.57)**	0.956	3.23(0.67)	3.23(0.58)	3.47(0.40)	3.25(0.62)	3.21(0.68)

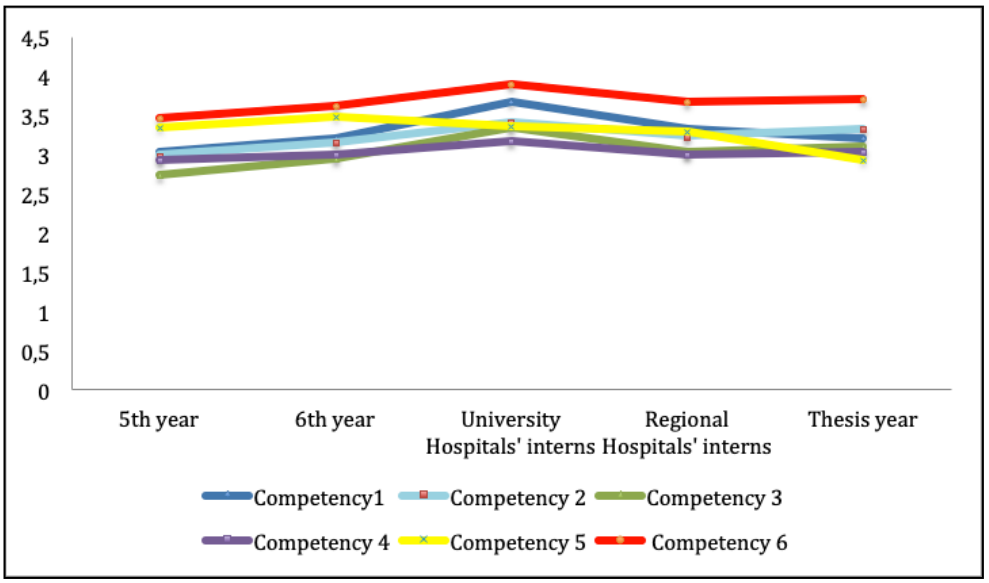

Figure 1 : Linear graph representing SE levels in the six competencies by study level

3. Self-efficacy scores bycompetency:

We computed the mean and standard deviation of each item of the six subscales.

3.1 Patient care and proceduralskills:

Perceivedself-efficacyforthiscompetencywasatameanof3.14(SD=±0.64),withthe lowestmeanof1.93(SD=±1.16)for"arthrocentesis"andthehighestof4.22(SD=±1.05)for "inserting an intravenous peripheralcatheter".

Overall, participants reported below "Neutral" self-efficacy in a total of 12 milestones including the management of 4 symptoms: loss of consciousness, acute sensory or motor deficit, oligo-anuria, state of shock, the management of 5 diseases: chronic cardiac failure, chronic viral hepatitis, epilepsy, cancers, mental diseases and 3 technical gestures: paracentesis, arthrocentesis, inserting a chest drain for a pneumothorax or pleural effusion)

Meanwhile respondents felt "very confident" in 3 items: Urinary catheter insertion, simple sutures and inserting an Intravenous peripheral catheter.

Table III : Subscale 1 (Patient care and procedural skills) quality assessment and self-efficacymeans

Subscale Items	*Mean (SD)*	*Subscale's Item-total Correlation*	*Overall Item-rest correlation*
1. Generate an initial diagnosis for acute presentations	3.41(0.85)	0.564	0.542
3. Develop differential diagnoses for acute presentations	3.29(0.95)	0.508	0.523
4.Formulate a management plan for an unstable patient with an acute presentation: 4.1- Chest pain	3.23(1.14)	0.620	0.570
4.2- Dyspnoea	3.26(1.04)	0.686	0.608
4.3- Loss of consciousness	**2.94(1.14)**	0.589	0.562
4.4- Acute sensory or motor deficit	**2.82(1.22)**	0.564	0.511
4.5- Abdominal pain	3.70(1.00)	0.645	0.616
4.6- Acute fever	3.32(0.96)	0.550	0.523
4.7- State of chock	**2.98(1.20)**	0.583	0.511
4.8- Oligo-anuria	**2.73(1.09)**	0.585	0.533
4.9-Trauma	3.48(1.18)	0.650	0.626
6. Formulate a basic management plan for chronic illnesses: 6.1-Hypertension	3.27(1.06)	0.533	0.497
6.2- Chronic heart failure	**2.35(0.99)**	0.511	0.471
6.3- Diabetes	3.56(1.07)	0.521	0.517
6.4-Dysthyroidia	3.06(1.10)	0.530	0.535
6.5- Asthma and Chronic Obstructive Pulmonary Disease (COPD)	3.06(1.07)	0.498	0.446
6.6-Tuberculosis	3.47(1.16)	0.547	0.528
6.7- Chronic Viral hepatitis	**2.28(1.03)**	0.450	0.416
6.8-Epilepsy	**2.41(1.10)**	0.520	0.517
6.9-Cancers	**2.09(1.06)**	0.459	0.436
6.10-Mental diseases	**2.14(1.13)**	0.367	0.375
7. Performing family physician procedures independently: 7.1-Paracentesis	**2.80(1.52)**	0.506	0.493

7.2- Arthrocentesis	**1.93(1.16)**	0.485	0.485
7.3- Chest drain for pneumothorax/pleural effusion	**2.27(1.28)**	0.482	0.489
7.4- Urinary catheter insertion	**4.08(1.17)**	0.555	0.530
7.5- Nasogastric tube insertion	3.66(1.39)	0.561	0.515
7.6- Intravenous peripheral catheter insertion	**4.22(1.05)**	0.539	0.503
7.7-Simple sutures	**4.17(1.20)**	0.520	0.488
7.8-Chest compressions	3.97(1.18)	0.579	0.558
14. Conducting therapeutic education for your patients (dietary habits, smoking, physical activity)	3.85(1.03)	0.463	0.546
15. Identify opportunities to maintain and promote wellness in patients	3.42(1.10)	0.445	0.552

1=Not confident 2=A little confident 3=Neutral 4=Fairly confident5=Very confident

3.2 MedicalKnowledge:

Participants reported below "Neutral" self-efficacy in two skills under this competency: "knowledge of the basics of research methodology" and "critical reading of an article"; however, they reported an above-average score in "interpreting results of common diagnostic tests".

The mean of all items of this subscale was 3.17 (SD = ± 0.70).

Table IV : Subscale 2 (medical knowledge) quality assessment and self-efficacy means

Subscale Items	Mean (SD)	Subscale item-total correlation	Overall Item-rest correlation
2. Incorporate key elements of a patient story to form a diagnosis	3.64(0.87)	0.442	0.568
5. Describe the pathophysiology of common diseases	3.03(1.07)	0.451	0.608
8. Interpreting results of common diagnostic tests	**4.26(0.88)**	0.381	0.616
22. Knowledge of the basics of research methodology	**2.53(1.13)**	0.549	0.502
23. Critical reading of an article	**2.39(1.15)**	0.547	0.473

3.3 Systems-basedpractice:

The overall mean for this subscale was below neutral 2.97 (SD = ± 0.79).

Two items, "knowledge of health-payment systems and types of insurances" and "identifyingbasicknowledgedomainsforaneffectivetransitiontoprivatepractice"hadmeans of2.25(SD=±1.09)and2.30(SD=±1.26)respectively.Self-efficacymeansfortherestofthe milestones were a little aboveneutral.

Table V : Subscale 3 (systems-based practice) quality assessment and Self-Efficacy means

Subscale items	Mean (SD)	Subscale item-total correlation	Overall item-rest correlation
12. Adapting your management plan to the patients' social and economic status	3.13(1.08)	0.594	0.606
16. Knowledge of patient safety principles	3.13(1.16)	0.564	0.596
17.Coordinatingcareeffectivelyforpatientsneeding a multidisciplinaryapproach	3.11(1.11)	0.667	0.636
18.Demonstratingsafeandeffectivetransitionsof care andhand-offs	3.56(1.19)	0.564	0.581
32.Knowledgeofhealth-paymentsystemsandtypes ofinsurances	**2.25(1.09)**	0.397	0.480
33.Identifyingbasicknowledgedomainsforan effective transition to privatepractice	**2.30(1.26)**	0.431	0.463

3.4 Practice-based learning andImprovement:

This six-item subscale resulted in a "Neutral" Self-Efficacy mean.

Individual items' means were between 2.14 (SD=±1.11) for "The theoretical learning that I received thus far has prepared me sufficiently to practice independently" and3.26 (SD=±1.13) for "Identifying factors that contribute to better learning when you're at the hospital", with means of 4 items of 6 falling under "Neutral".

TableVI:Subscale4(practice-basedlearningandimprovement)qualityassessmentandSelf-Efficacymeans

Subscale Items	Mean (SD)	Subscale item-total correlation	Overall item-rest correlation
9.Puttingpersonallearninggoalsatthe beginning ofrounds	3.05(1.17)	0.707	0.562
10. Identifying factors that contribute to better learning when you're at the hospital	3.26(1.13)	0.689	0.518
11. Asking for feedback for a better performance	**2.83(1.17)**	0.625	0.565
21. Making your therapeutic decisions following an « evidence-based medicine » approach	**2.86(1.20)**	0.434	0.583
34. The theoretical learning that I've received thus far has sufficiently prepared me to practice independently	**2.14(1.11)**	0.421	0.522
35. The practical learning that I've received thus far has sufficiently prepared me to practice independently	**2.53(1.22)**	0.411	0.512

3.5 Professionalism:

Onlyoneitemoutoffivewithinthissubscale,whichis"confidenceyou'llbesupported by your seniors when you're in a bad physical or mental state hindering your learning", had a below "Neutral" mean of 2.35 (SD = ±1.25).

The overall mean for this subscale was 3.31 (SD = ± 0.78)

Table VII : Subscale 5 (profesionalism) quality assessment and Self-Efficacy means

Subscale items	Mean (SD)	Subscale item-total correlation	Overall item-rest correlation
26. Knowledge of ethical principles	3.58(1.12)	0.330	0.511
28. Ability to stay professional under all circumstances	3.62(1.13)	0.449	0.375
29. Prioritizing your personal and professional well-being	3.34(1.21)	0.504	0.401
30. Confidence you'll be supported by your seniors when you're in a bad physical or mental state hindering yourlearning	**2.35(1.25)**	0.402	0.309
31.Askingforhelpfromaseniorwhenyou'reatyourlimit in your knowledge and skills	3.68(1.23)	0.463	0.370

3.6 Interpersonal and communicationskills:

This six-item subscale's mean was at 3.63 (SD = ± 0.70), with only one item's mean "*delivering bad news to a patient or his family*" falling under "Neutral".

Meanwhile, respondents disclosed high confidence in half of this competency's milestones:"*adaptingverballanguageandnon-verbalbehaviourtothepatient*","*establishinga good patient-doctor rapport"* and *"protecting patients' privatelife*".

Table VIII : Subscale 6 (interpersonal and communication skills) quality assessment and Self-Efficacy means

Subscale Items	Mean (SD)	Subscale item-total correlation	Overall item-rest correlation
13. Adapting your language and non-verbal behavior to your patients	**4.06(0.89)**	0.558	0.487
19. Requesting and receiving a consultation appropriately (SBAR or another systematic method)	3.08(1.28)	0.422	0.546
20. Using language that values all members of the health care system	3.30(1.12)	0.567	0.588
24. Establishing a good patient-doctor rapport	**4.10(0.82)**	0.600	0.581
25. Delivering bad news to a patient or his family	**2.87(1.21)**	0.472	0.474
27. Protecting patients' private information	**4.37(0.87)**	0.457	0.404

4. Self-Efficacy scores' comparison betweenfaculties:

4.1 Comparison of the competencies' overallscores:

We analyzed the self-efficacy scores for the different competencies and their consecutive milestones for group one, which is students of the Faculty of Marrakech while comparing them to the scores obtained from group two gathering students of the other six faculties altogether (FMPA,FMPR,FMPC,FMPF,FMPT,FMPO)usingtheindependentsamplest-test.(TableIX)

The significance level is set at $p<0.05$ and Confidence Interval [CI] for the mean difference is set at 95%.

Overall, the FMPM students scored a little above "Neutral" in all competencies, had a statistically significant higher global score and higher scores in competencies 1, 2, 3 and 6, whereas the differences between the two groups in competencies 4 and 5 were statistically insignificant.

Both groups reported the highest confidence levels in the sixth competence: "Interpersonal and communication skills" followed by "professionalism", then "patient care and procedural skills" and "medical knowledge". Meanwhile, participants were the least confident in their "systems-based practice" and "practice-based learning and improvement"skills.

Respondents outside the FMPM fell below "Neutral" in these last 2 competencies.

Table IX : Self-Efficacy scores of students of the FMPM versus students of the other sixfaculties :**

Competency	Mean (SD) of group 1*	Mean (SD) of group 2**	P value of the difference
1.Patient care and procedural skills	3.44(0.59)	3.10(0.67)	**<. 001**
2.Medical knowledge	3.29(0.64)	3.08(0.73)	**.007**
3.Systems-based practice	3.10(0.76)	2.88(0.81)	**.010**
4.Practice-based learning and improvement	3.03(0.92)	2.98(0.92)	.606
5.Professionalism	3.73(0.70)	3.27(0.83)	.270
6.Interpersonal and communication skills	3.76(0.63)	3.53(0.73)	**.002**
Global score***	3.33(0.56)	3.14(0.65)	**.004**

*FMPM **FMPA, FMPC, FMPR, FMPT, FMPO, FMPF combined ***The overall score for all six competencies

4.2 Comparison of the subscales'means:

a) Comparison of means of competency1:

RespondentsfromtheFacultyofMarrakechreportedbeingconfidentinmostmilestones andskillswithinthiscompetency(TableX).Theyreportedhighconfidencelevelsinfiveitems: items 7-4 "urinary catheter insertion", 7-5 "nasogastric tube insertion", 7-6 "intravenous peripheralcatheter",7-7"simplesutures"anditem7-8"chestcompressions".

This same group fell behind in three milestones: Items 6-7, 6-8 and 6-9 corresponding to the management of "viral active hepatitis", "epilepsy"," cancers" respectively, in addition to one skill: "arthrocentesis". Although means were also below "Neutral" in "management of acute sensory or motor deficit", "management of chronic heart failure" and "putting a chest drainfor

pneumothorax/pleural effusion" in both groups, but significance levels were superiorto 0.05 with low confidence intervals for the difference.

Meanwhile, participants from the other universities described lower confidence levels than their counterparts from Marrakech in all milestones within this competency while falling under "Neutral" in two additional items: management of a "state of shock" and "oligo-anuria" (items 4-7 and 4-8).

Table X : SE means for items within competency 1 for the FMPM respondents and others withtheir significance and CI levels

Subscale Items	Mean (SD) of FMPM	Mean (SD) of others*	Significance	95% CI of the difference	
				LOWER	UPPER
1. Generate an initial diagnosis for acute presentations	3.52(0.88)	3.33(0.82)	**0.03**	-0.37	-0.10
3. Develop differential diagnoses for acute presentations	3.39(0.98)	3.21(0.93)	0.08	-0.38	0.02
4.Formulate a management plan for an unstable patient with an acute presentation :					
4.1- Chest pain	3.34(1.14)	3.14(1.14)	0.11	-0.43	0.04
4.2- Dyspnoea	3.44(1.00)	3.13(1.04)	**0.005**	-0.52	-0.09
4.3- Loss of consciousness	3.19(1.08)	2.76(1.14)	**<0.001**	-0.66	-0.19
4.4- Acute sensory or motor deficit	2.91(1.20)	2.75(1.23)	0.24	-0.40	0.10
4.5- Abdominal pain	3.93(0.98)	3.52(0.97)	**<0.001**	-0.61	-0.19
4.6- Acute fever	3.56(0.94)	3.15(0.93)	**<0.001**	-0.61	-0.21
4.7- state of chock	3.22(1.22)	2.80(1.15)	**<0.001**	-0.66	-0.16
4.8- Oligo-anuria	3.05(1.13)	2.51(1.01)	**<0.001**	-0.76	-0.30

4.9-Trauma	3.96(0.99)	3.13(1.18)	**<0.001**	-1.05	-0.59
6. Formulate a basic management plan for chronic illnesses : 6.1-Hypertension	3.29(1.03)	3.25(1.08)	0.74	-0.25	0.18
6.2- Chronic heart failure	2.34(0.96)	2.35(1.00)	0.95	-0.20	0.21
6.3- Diabetes	3.53(1.02)	3.58(1.11)	0.64	-0.17	0.27
6.4-Dysthyroidia	3.26(1.05)	2.92(1.12)	**0.003**	-0.57	-0.11
6.5- Asthma and Chronic Obstructive Pulmonary Disease (COPD)	3.01(1.03)	3.09(1.10)	0.52	- 0.15	0.29
6.6-Tuberculosis	3.45(1.04)	3.48(1.25)	0.83	-0.21	0.26
6.7- Chronic Viral hepatitis	2.44(1.11)	2.17(0.96)	**0.01**	-0.49	-0.05
6.8-Epilepsy	2.58(1.04)	2.29(1.13)	**0.01**	-0.51	-0.05
6.9-Cancers	2.26(1.02)	1.96(1.06)	**0.01**	-0.52	-0.08
6.10-Mental diseases	2.27(1.13)	2.05(1.12)	0.07	-0.45	0.01
7. Performing family physician procedures independently : 7.1-Paracentesis	3.04(1.56)	2.63(1.46)	0.01	-0.73	-0.09
7.2- Arthrocentesis	2.09(1.22)	1.82(1.10)	**0.03**	-0.51	-0.02
7.3- Chest drain for pneumothorax/pleural effusion	2.38(1.33)	2.20(1.24)	0.17	-0.46	0.08
7.4- Urinary catheter insertion	4.38(0.97)	3.86(1.24)	**<0.001**	-0.76	-0.29
7.5- Nasogastric tube insertion	4.12(1.22)	3.33(1.41)	**<0.001**	-1.06	-0.51
7.6- Intravenous peripheral catheter insertion	4.62(0.65)	3.92(1.18)	**<0.001**	-0.89	-0.50
7.7-Simple sutures	4.69(0.60)	3.78(1.38)	**<0.001**	-1.11	-0.69
7.8-Chest compressions	4.28(1.02)	3.75(1.23)	**<0.001**	-0.76	-0.29

14. Conducting therapeutic education for your patients (dietary habits, smoking, physical activity)	3.92(0.97)	3.79(1.06)	0.22	-0.34	0.08
15. Identify opportunities to maintain and promote wellness in patients	3.59(1.06)	3.30(1.11)	**0.01**	-0.51	-0.06

b) Comparison of means of competency 2:

FMPMstudentsandtraineesdescribedover"Neutral"self-efficacyinthreeitemsout offive,withthehighestmeanforitem8whilereportinglowlevelsintwootheritems,items22 and23,whicharerelatedtoresearchandarticlereading.

Students from the comparison group meanwhile reported low self-efficacy levels in an additional item related to the pathophysiology of common diseases.

Means of differences between the two groups of respondents were only significant for items5and8successivelywhereasthedifferencesweresstatisticallyinsignificantfortheother items.

Table XI : SE means for items within competency 2 for the FMPM respondentsand others withtheir significance and CI levels

Subscale Items (C2)	Overall	Mean (SD) of FMPM	Mean (SD) of others	Significance	95% CI of the difference	
					LOWER	UPPER
2. Incorporate key elements of a patient story to form a diagnosis	3.64(0.87)	3.68(0.82)	3.62(0.91)	0.51	-0.24	0.12
5. Describe the pathophysiology of common diseases	3.03(1.07)	3.17(1.00)	2.92(1.12)	**0.02**	-0.47	-0.03
8. Interpreting results of common diagnostic tests	4.26(0.88)	4.47(0.72)	4.12(0.95)	**<0.001**	-0.53	-0.18
22. Knowledge of the basics of research methodology	2.53(1.13)	2.64(1.15)	2.45(1.11)	0.12	-0.42	0.05
23. Critical reading of an article	2.39(1.15)	2.48(1.10)	2.32(1.18)	0.20	-0.39	0.08

c) Comparison of means of competency 3:

Results for this competency yielded a statistically significant difference in confidence betweenFMPMrespondentsandtheothersinitems16"Knowledgeofpatientsafetyprinciples" and item 33 in which the former group reported lower confidence means than the latter. The mean difference was also significant in item 18 but with students from the other faculties scoring 1.58 less than FMPM students andtrainees.

The mean for both groups was below "Neutral" in item 32 yet the difference between the two was statistically insignificant.

Table XII : SE means for items within competency 3 of the FMPM respondentsand others withtheir significance and CI levels

Subscale items (C3)	Overall	Mean (SD) of FMPM	Mean (SD) of others	Significance	95% CI The of difference	
					LOWER	UPPER
12. Adapting your management plan to the patients' social and economic status	3.13(1.08)	3.59(1.00)	3.42(1.13)	0.14	-0.38	0.05
16. Knowledge of patient safety principles	3.13(1.16)	3.29(1.11)	3.39(1.23)	**0.02**	-0.50	-0.02
17. Coordinating care effectively for patientsneedingamultidisciplinary approach	3.11(1.11)	3.21(1.06)	3.04(1.13)	0.15	-0.39	0.06
18. Demonstrating safe and effective transitions of care and hand-offs	3.56(1.19)	3.79(1.07)	2.21(1.11)	**0.001**	-0.64	-0.15
32. Knowledge of health-payment systems and types of insurances	2.25(1.09)	2.31(1.06)	2.18(1.25)	0.41	-0.32	0.13
33. Identifying basic knowledge domains for an effective transition to private practice	2.30(1.26)	2.46(1.24)	3.02(1.17)	**0.03**	-0.54	-0.01

d) Comparison of means of competency 4:

Students and trainees from universities other than the FMPM were less confident than their counterparts from the FMPM in five milestones within this competency, scoring under "Neutral" Self-Efficacy means in items 11, 34 and 35 in FMPM in addition to item 21 for the others.

The means differences were statistically significant in item 21 and 35 while it was insignificant in the other items.

Table XIII : SE means for items within competency 4 of the FMPM respondentsand otherswith their significance and CI levels

Subscale Items	Overall	Mean (SD) of FMPM	MEAN (SD) of others	Significance	95% CI of the difference	
					LOWER	UPPER
9. Putting personal learning goals at the beginning of 'rounds	3.05(1.17)	3.07(1.12)	3.31(1.17)	0.85	-0.26	0.22
10. Identifying factors that contribute to better learning when you're at the hospital	3.26(1.13)	3.19(1.06)	3.04(1.20)	0.28	-0.10	0.36
11. Asking for feedback for a better performance	2.83(1.17)	2.85(1.20)	2.81(1.14)	0.71	-0.29	0.20
21. Making your therapeutic decisionsfollowingan«evidence-based medicine » approach	2.86(1.20)	3.01(1.11)	2.75(1.25)	**0.03**	-0.50	-0.01
34.ThetheoreticallearningI've receivedthusfarhassufficiently prepared me topractice independently.	2.14(1.11)	2.25(1.11)	2.06(1.10)	0.11	-0.42	0.04
35. The practical teaching I've receivedthusfarhassufficiently prepared me topractice independently	2.53(1.22)	2.68(1.16)	2.42(1.25)	**0.04**	-0.51	-0.01

e) Comparison of means of competency 5:

Both groups had the lowest SE mean in item 30 "confidence you'll be supported by your seniors when you're in a bad physical or mental state hindering your learning" while means for the other item were superior to"Neutral".

The Mean difference between FMPM and others was significant only in item 26.

Table XIV: SE means for items within competency 5 of the FMPM respondents and others withtheir significance and CI levels

Subscale items	Overall	Mean (SD) of FMPM	Mean (SD) of others	Significance	95% CI Of The difference	
					LOWER	UPPER
26. Knowledge of ethical principles	3.58(1.12)	3.81(1.00)	3.42(1.17)	**0.001**	-0.61	-0.15
28. Ability to stay professional under all circumstances	3.62(1.13)	3.70(1.05)	3.56(1.17)	0.23	-0.37	0.09
29. Prioritizing your personal and professional well-being	3.34(1.21)	3.41(1.21)	3.29(1.21)	0.33	-0.38	0.13
30. Confidence you'll be supported by your seniors when you're in a bad physical or mental state hindering your learning	2.35(1.25)	2.35(1.18)	2.35(1.30)	0.98	-0.26	0.25
31. Asking for help from a senior when you're at your limit in your knowledge and skills	3.68(1.23)	3.57(1.21)	3.75(1.24)	0.15	-0.07	0.44

f) Comparison of means of competency 6:

Bothgroups'confidencemeanswereover"FairlyConfident"initems13"Adaptingyour language and non-verbal behavior to your patients", 24 "Establishing a good patient-doctor rapport" and 27 "Protecting patients' private information" which had the highest mean of 4.44(0.81) -4.32(0.90) in group 1 and group 2 successively.

Group 2 had a below "Neutral" mean in items 19 "Requesting and receiving a consultation appropriately (SBAR or another systematic method)" and 25 "Delivering bad news to a patient or his family".

Overall, respondents from the FMPM had higher means than those from the other faculties in all questions but the differences had a significance level inferiorto 0.05 and a 95% confidence interval for questions 20 and25.

Table XV : SE means for items within competency 6 of the FMPM respondents and others withtheir significance and CI levels

Subscale Items	Overall	Mean (SD) of FMPM	Mean (SD) of others	Significance	95% Of difference	CI the
					LOWER	UPPER
13. Adapting your language and non-verbal behavior to your patients	4.06(0.89)	4.15(0.83)	4.00(0.93)	0.09	-0.34	0.02
19. Requesting and receiving a consultation appropriately (SBAR or another systematic method)	3.08(1.28)	3.21(1.19)	2.99(1.34)	0.09	-0.49	0.03
20. Using language that values all members of the health care system	3.30(1.12)	3.46(1.02)	3.18(1.19)	**0.01**	-0.40	-0.04
24. Establishing a good patient-doctor rapport	4.10(0.82)	4.19(0.76)	4.03(0.85)	0.05	-0.33	0.005
25. Delivering bad news to a patient or his family	2.87(1.21)	3.11(1.20)	2.69(1.19)	**0.001**	-0.67	-0.17
27. Protecting patients' private information	4.37(0.87)	4.44(0.81)	4.32(0.90)	0.18	-0.30	0.05

IV. Summary of the respondents' strengths andweaknesses:

Tables XVI and XVII summarize the items where our sample scored the highest and the lowest SE means, which we described as strengths (S) and weaknesses (W)respectively.

We define strengths as items with SE means ≥ 4.0/5 while weaknesses are items with means <3.0/5

Table XVI : Respondents' weaknesses:

FMPM	OTHERS
Acute sensory or motor deficit	
Chronic heart failure management	
Chronic viral hepatitis management	
Epilepsy management	
Cancer management	
Management of mental diseases	
Arthrocentesis	
Drainage of a pneumothorax or pleural effusion	
Confidence you'll be supported by your seniors when you're in a bad physical or mental state hindering your learning	
The practical teaching I've received thus far has sufficiently prepared me to practice independently	
The theoretical learning I've received thus far has sufficiently prepared me to practice Independently.	
Asking for feedback for a better performance	
Knowledge of health-payment systems and types of insurances	Demonstrating safe and effective transitions of care and hand-offs
Critical reading of an article	
Knowledge of the basics of research methodology	
–	Paracentesis
–	Dysthyroidia
–	Oligo-anuria
–	Management of a state of shock
–	Management of loss of consciousness
–	Making your therapeutic decisions following an « evidence-based medicine » approach

Table XVII : Respondents' strengths:

FMPM	Others
Interpreting results of common diagnostic tests	
Adapting your language and non-verbal behaviour to your patients	
Establishing a good patient-doctor rapport	
Protecting patients' private information	
Intravenous peripheral catheter insertion	–
Simple sutures	–
Chest compressions	–
Urinary catheter insertion	–
Nasogastric tube insertion	–

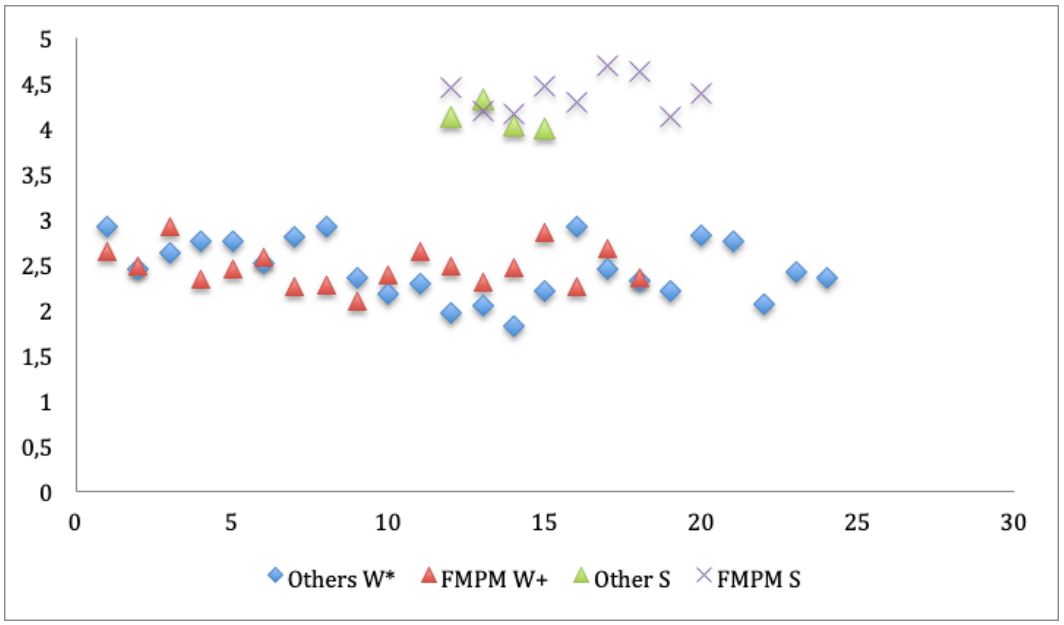

Figure 2 : Weaknesses and Strengths of oursample

IV. Results of the open-ended questions andverbatim:

When asked about which skills they think should be enhanced during their medical learning,studentsreportedtheneedtomakethelessonsmorepracticalandlesstheoreticalby including case studies and details of medical prescriptions, in addition to radiological tests' interpretationandanemphasisonthepracticeoftechnicalgestures:

-"***La prescription des ordonnances avec la dose et la durée du traitement";***

–"Interprétationdesexamensradiologiquesetlaprescriptionmédicale";

–"Insistersurlesgestesmédicaux"

Furthermore,manyexpressedtheneedtobetaughttocommunicationandinterpersonal skillsinrelationtopatients,theirnexttokin,andwithothermedicalteammembers,inaddition totheneedtobetaughtresponsibilitytowardspatientsattheearlyyearsoftraining:

- "***La compétence d'essayer d'être gentil malgré tout, ferme mais gentil. Le patient marocain est souvent en colère, Il faut le traiter comme un grand, lui expliquer la maladie et traitement, donner des conseils***"

-***"Sensibiliser les médecins de la responsabilité envers les patients dès l'externat".***

– "Gestiondelafamilledespatientsetdévelopperdescompétencesdecommunication en langagescientifique"

–"Lerespectetl'entraideentrelesdifférentsprofessionnelsdesantéauseindumeme service/établissement"

– "La notion de faire passer l'information pour le bien dupatient"

Some students, expressing their desire to enhance them, also mentioned research skills

-"***augmenter la recherche scientique en utilisant données et résultats du quotidien en ce qui concerne plusieurs pathologies, publication d'articles"***

– "Lecture des articles enanglais".

With regard to the ways that could improve learners' confidence and self-efficacy, the most recurrent response was the importance of having a supervised practice with feedback from seniors and predefined learning goals, especially during the early years of internship, followed by learners' desire to be more included in patient care, management and decisionmaking.

–***"Plusdepratiqueguidéepardesseniors"***

– "Améliorer la prise en charge au niveau des stages hospitaliers en déterminant les objectifs qu'un médecin généraliste doit savoir à partir de chaquestage"

-"En améliorant l'apprentissage au cours des stages hospitaliers, l'integration des médecins externes dans la PEC des malades de A à Z, organiser beaucoup de séances de stimulation pour améliorer la pratique"

– "Par la pratique régulière et l'accompagnement au cours desstages"

– "Améliorer les conditions d'apprentissage des externes et des ffi lors des stages hospitaliers, les entrainer à acquérir un bon raisonnement clinique, fixer des objectifs de stage dans chaque service et viser à ce que ces objectifs doivent obligatoirement être exécutés pour valider sonstage".

Others mentionned the importance of improving the trainer-trainee relationship:

– "***L'amélioration du comportement des professeurs et residents envers les externes***"

– ***"La relation de l'enseignant et l'apprenant est très importante à soulever, il y a des services où règne une ambiance toxique vis a vis des apprenants ce qui brise leur confiance et leur envie d'apprendre"***

Respondents also expressed high interest in increasing learning by simulation and the importance of having specific learning goals both for theoretical lessons and in practice, in addition to learning through algorithms instead of general guidelines.

– *"**Avoir des cours sous formes de logarithmes ou de CAT simplifiés surtout pour les modules comme la réanimation et la synthèse thérapeutique, plus de cas cliniques sous forme de TD. Pour les gestes et interprétation des examens biologiques il faut organiser plus d'ateliers de simulation***

-"Par l'amélioration de l'encadrement lors des stages hospitaliers, avoir plus d'activités d'entrainement pour raisonnement clinique comme travailler des cas cliniques lors des passages et même sous forme de Td à la faculté. Mais surtout surtout l'encadrement lors des stages et accorder de l'importance aux objectifs!

– ***"Un meilleur encadrement au niveau des stages, avec comme objectif de former l'étudiant à être un bon médecin généraliste au lieu de le « bombarder d'informations specialisées"***

- "Se baser sur des conduites à tenir pratiques tout en définissant le rôle du médecin généraliste dans chaque pathologie...et en définissant des objectifs de pratique médicale utiles pour le généraliste à apprendre en étant encadré par un senior".

DISCUSSION

The role of academic self-efficacy in academic success, outcomes and the feeling of competence with perseverance has long been established. Thus, the reason behind our interest in measuring SE levels of students and junior doctors of the seven medical faculties with regards to the ACGME family medicine core competencies, which also allows us to indirectly measure their strengths and weaknesses in a set of skills.

I. Studyfindings:

1. Qualityassessment:

It is of importance to note that content validation of the survey was not part of our objectives for this study, yet we envisaged assessing, to an extent, the quality of our tool in ordertoenrichthediscussionandexplorethepossibilityoffutureresearch.Weachievedthat through calculating the correlation of each item with the overall dimension (r), calculating its internalconsistencythroughCronbach'sAlphacoefficient,thecorrelationofeachitemwiththe subscale or competency under which it falls (r') and also calculating the internal consistency values of all sixsubscales.

The literature is indecisive about the threshold required for item-rest correlation but the rule of thumb is a minimum required value of 0.2 or 0.3 (13). We chose 0.3 as the minimum required value for a good discrimination.

Item-total correlation (r) was good for all the items within our survey, ranging from 0.3to 0.6, with the lowest r=0.309 for item 30 "confidence you'll be supported by your seniors when you're in a bad physical or mental state hindering your learning" whereas the internal consistency of the entire survey was "excellent" at0.905.

r'was>0.4indicating"verygooddiscrimination"inallthecompetenciesexceptforitems 6-10,8,32,and26ofcompetencies1,2,3and5respectivelywherediscriminationwas"good".

Meanwhile,Cronbach'sAlphavaluesofthesubscalesrangedbetween"acceptable"at0.675 forsubscale5and"high"at0.931forsubscale1.Thedifferenceininternalconsistency

reliabilities could be explained by the difference in the number of items in each subscale since subscale 1 had 31 questions while subscale 5 had only 5 questions.

From this assessment, it could be concluded that the items of our survey depict the concept of self-efficacy sufficiently.

2. Comparison of self-efficacy scores across studylevels:

Asexpected,students'overallSelf-efficacyscoresincreasedinparallelwiththeirlevelwith anunexpectedlyrelativelylowerscoreamongthesisstudentsincomparisontointerns.

As for scores by competency, we observe the same pattern of evolution. Confidence levels increased from year 5 to internship but lower levels were witnessed in thesis students. This decrease could be due to the diminution of exposure to clinical cases and patient management since during the preparation for their thesis junior doctors have usually already finished their last year of internship and are solely focused on theirresearch.

Across all levels, students felt the most efficient in their interpersonal and communication skills. The lowest efficacy levels in 5th and 6th-year students were witnessed in systems-based practice, while interns were the least confident in Practice-Based Learning and Improvement competency, and thesis students had the lowest score <3.0 in their Professionalism-related skills.

Artino R. A. and al. have found the same statistically significant evolution in patient care and evidence-based medicine self-efficacy among medical students between the 1st and 4th-year of studies, whereas no statistically significant difference was found between levels in interpersonal skills self-efficacy(4).

These findings suggest that students' knowledge and self-efficacy develop simultaneously. This might be due to the fact that students at their later years of training have more theoretical knowledge and more opportunities to practice their theoretical acquisitions and therefore more

space for trial and error, while junior students, naturally, probably struggle more with patient management since their acquired theoretical and practical knowledge are limited.

Bandura is of the same opinion when he discussed the role of enactive attainment, in other words actual performance, as the most important factor in academic self-efficacy(2)(14).

3. Collective and faculty-level self-efficacy scores:

It is reassuring that students, when analyzed collectively, reported high levels of confidence >4.0 on a 5-point Likert scale, in 7 skills belonging to different competencies, especiallythattheseskillscouldbedescribedasbasicandnecessaryforeveryphysician.Those are simple sutures, inserting a peripheral intravenous catheter and inserting a Foley catheter whichallarepartofpatientcareandproceduralskills,theninterpretationofcommondiagnostic testsinmedicalknowledgecompetencyandadaptingverballanguageandnon-verbalbehaviour tomeetthepatient'sneeds,establishingagoodpatient-doctorrapportandprotectingpatients' privateinformation,allpartofcompetency6,interpersonalandcommunicationskills.

ButwhenwetakealookatthemeansandcomparethembetweentheFMPMandtheother faculties, we notice a gap in confidence levels between the two groups. While self-efficacy of respondents from faculties other than the FMPM was fairly high in the previously mentioned skills of competencies 2 and 6, they were inferior to the levels of the FMPMstudents.

As for the milestones in patient care and procedural skills, the confidence of students from the other faculties was even lower as means were <4.0, whereas confidence of the FMPM students and trainees was slightly higher (between 3.0 and 4.0) especially in nasogastric tube insertion and chest compressions: self-efficacy of FMPM students in these two skills was superior to the overallmean.

This high sense of efficacy in technical "gestures" aligns with the results reported by Elyazidi I. where a survey among interns of regional and provincial hospitals was conducted and revealed that more than 90% of the respondents felt confident doing procedures including

suturing and peripheral venous catheter, while only 35% and 17.5% felt they could practice more specialised gestures such as paracentesis or a pleural puncture respectively. (15)

Bounid D. also found that more than 60% of 3rd-year students who received training in the management of cardiac arrest and unconsciousness during an "emergency procedures and care" session felt capable of partially managing those cases at the end of the session, while the same percentage of 6th-year students felt they were able to partially manage severe trauma and unconsciousness after receiving a 12 hours training, with an overall satisfaction of more than 70% in both groups. Furthermore, almost all students agreed on the necessity of continuing this type of teaching therefore attesting to its vitality in students' knowledge and confidence.(16)

We may therefore assume that the previously described high levels of confidence are a result of the training students of the FMPM receive in the different themes through simulation from the 2nd-year of medicalschools.

It should be noted that a simulation lab was created in the FMPM in 2013-2014 then two simulation rooms were added in 2018-2019, where more than 20 themes, skills and clinical situations are taught, including 240 and 180 hours dedicated to "emergency procedures and care" during the 2nd year of medical school and then the 6th year successively, 32 hours of "Newborn intensive care" during the 4th year, 48 hours for "management of a coma" and 32 hours for "suture practising" in 6th year. All those dedicated hours learning on mannequins play a major role in not only increasing students' knowledge but also in increasing their confidence and auto-perception of their clinical abilities, which in return avails when dealing with actual patients. This assumption agrees with our students' view of simulation learning and how they feel it's central for their confidence when they were asked about what could improve theirSE.

This view also follows Bandura's theory (1986) that concludes that theoretical knowledge is an insufficient mean to predict results since performances and behaviours are substantially influenced by people's beliefs about themselves, hence why one's sense of efficacy is important, more so in academic settings.(17,18)

Regarding the high efficacy reported in all faculties in diagnostic test interpretation, it might be simply due to the exposure students have to those tests during their years ofclinical rotations, during clinical rounds andon-calls.

Ourstudyfindingsalsorevealedstudentsandjuniordoctorsfeltefficaciouswithregards to their communication skills with patients in terms of adaptation of verbal and non-verbal language,buildingagoodrapportandprotectingpatients'privateinformation.

Houbayeli M. explored this dimension in more depth in his thesis where he surveyed 6th, 7th-year and thesis students about their satisfaction with their communication skills with patients. In his research, 60% of respondents were satisfied of the way they explored the personal context of patients, 60% felt they encouraged patients to ask questions and helped them comprehend their management. Meanwhile, 40% of participants were unsatisfied about not giving patients enough space to express their expectations and concerns, and about the use of medical jargon in their communication while 60% were unsatisfied about their non-verbal behaviour. 80% of respondents were then in favor of receiving training in doctor-patient communication (19). It should be noted that the FMPM introduced a communication module in 2015-2016 for 1st-year students where they're taught through theoretical and practical courses many aspects of professional communication including doctor-patient relation models, management of emotions, the announcement of bad news and communication with different types ofpatients.

Nonetheless, it would be reasonable to wonder whether students overestimated their abilitiesandthereforetheirSelf-Efficacysinceresearchsuggeststhatwhenperformanceislow, peopletendtooverestimatethemselvesbutoverestimateothersevenmore,thusstillbelieving they are worse than others (20). And although it would be beneficial to know people's exact personal efficacy, researchers suggest that overestimation of one's self-appraisal is in fact beneficialratherthanharmful,sinceitallowsindividualstosethighergoals,makesomeextra effort and therefore perform better(21).

It is worrisome, however, that a larger number of respondents, when analyzed collectively and by faculty, felt not confident in 24 milestones, which is more than 3 times the milestones they felt highly confident in. Those include the management of 9 symptoms (acute sensory or motor deficit, chronic cardiac failure, chronic viral hepatitis, epilepsy, cancers, mental diseases) and 3 technical gestures (paracentesis, arthrocentesis, inserting a chest drain for pneumothorax or pleural effusion) within competency 1, all in which efficacy means were <3.0 on a 5-Likert-typescale.

Management of acute loss of consciousness, state of shock, oligo-anuria also received low confidence scores except by students of the FMPM who felt efficacious in those skills, which can be attributed to simulation training in which these skills are part of.

These low levels of efficacy may be explained by the previously mentioned theory suggested and explored by Elyazidi I. that students feel less confident practicing technical gestures which are more speciality specific such as an arthrocentesis, and by the same token managing more specialized cases such as heart failure or viral hepatitis. And that might be due, in part, to having fewer opportunities to perfect those skills since Bandura's theory proposes that mastery experiences are a key factor in the development of self-efficacy (Bandura, 1977), or maybe because they don't see them as important as other more frequent clinical situations and gestures and therefore, they have less incentive to learnthem.

Findings also indicated that students don't feel capable of critically reading a research article nor feel confident in their knowledge of research methodology. Meanwhile, a study by Ouzouhou S. where he explored research capacity and culture amongst 7th year and thesis students, interns and residents, medical doctors in addition to nurses and paramedical practitioners in Marrakech (with 50% of the respondents practicing in a University Hospital), found that respondents reported having an "adequate" level (rescaled mean >4.0 on a scale of 1 to 10) in terms of critically reviewing the literature, writing for publication in peer-reviewed journals,writingaresearchprotocolandanalyzingqualitativeandquantitativeresearchdata.

Yet, the author also found that on the institutional level, research capacity was not adequate (<4) in terms of having a plan or policy for research development, supporting the peer-reviewed publication of research and having identified experts accessible for research advice. (22)

It is worth noting that there is a major difference in the experience and level of respondents between our study and that by Ouzouhou, since our targeted population was students whereas theirs was mainly professionals with at least 5 years of experience, which means more knowledge and possibly a bigger researchexperience.

Consequently, an assumption can be made that the likely limited research experience of our respondents explains their limited confidence in that skill while the higher competence and success of the others in previous research projects resulted in higher personal efficacy since in general, succeeding in achieving goals (a research project for example) results in increasing one'sconfidenceinthatskill,pursuingitmoreandallocatingmoretimeandefforttowardsit(3)

AsforPractice-basedLearningandImprovementcompetency,resultsshowedthatlearners from the FMPM felt neutral about following an evidence-based approach when making therapeutic decisions while others aren't confident in that skill, in addition to a low collective score.BMJdefinesevidence-basedmedicineas"Theconscientious,explicit,andjudicioususeof current best evidence in making decisions about the care of individual patients," and it requires a combination of individual clinical expertise and the ability to find available clinically relevant research to the medical issue in hand (23). Thus, low confidence in this skill is probably a consequence of the low confidence students have in their ability to critically read an article or in research in general. And although faculties such as the FMPM devote 48 hours to clinical research teaching for 6th-year medical students, it might be beneficial to encourage students to actively partake in research projects in order to strengthen the practical aspect of that skill in addition to its theoreticalaspect.

Moreover, all students reported being unable to ask for feedback that could help them improve nor do they feel supported by their seniors. These findings reproduce those of Chichou H. in their thesis in 2018.

When students of the FMPM were surveyed about their perception of the teaching, perception of their professors and of the academic atmosphere, scores were low in most items indicating a mostly negative perception. Students didn't feel encouraged to partake in discussion in amphitheaters, didn't feel like they are allowed to ask all the questions they had and felt that the atmosphere in practice, during lessons and seminars was tense.(24)

Furthermore, students felt that their educators weren't able to communicate to them their levels of performance, competencies or to give them useful and constructive feedback, while they overall feltridiculed.

Thosefindingsalsoconformtothefeelingstudentsdescribedinourstudywithregardsto theirunpreparednesstopracticeindependentlyafterthepracticalandtheoreticalteachingthey received in all faculties, which in itself could explain all the low self-efficacy beliefs we previouslyfound.

These described negative perceptions can have major effects on students overall self-efficacy and by extension, their accomplishments and wellbeing since there is a growing body of evidenceontheeffectevaluativefeedbackhasonpersonalefficacy. Itcanboostordestroyone's confidence depending on the way it was conveyed. The feedback that accentuates recipients' capabilities is proven to raise efficacy beliefs, especially when given at the early phases of skill development.

Moreover, "verbal persuasion" is said to be one of the primary sources of self-efficacy. Thosewhoareverballypersuadedthattheycanachieveacertaingoal,forexamplebyamentor who has faith in them (Pygmalion effect), are more likely to make more effort and to be more resilient in the face of adversity towards that goal.(25)

The low scores witnessed in a set of skills might not be due to lack of access to training but in fact to underestimation of one's capabilities. The same rationale we mentioned about overconfidence applies to underconfidence. When performance is exceptionally high, people will underestimate their own performances and underestimate others evenmore.

Overall, students of the FMPM scored higher than students from the other six faculties in all of the competencies, which could be explained by the previously mentioned training available at the FMPM through simulation and family medicineseminars.

Meanwhile, both groups reported the highest personal efficacy in communication skills, meaning that students are in general comfortable talking to patients and to their colleagues.

II. Studystrengths:

To our knowledge, this is the first study to explore the concept of self-efficacy among Moroccanmedicalstudents.Furthermore,thisisthefirststudytoexplorestudents'perception of multiple skills and competencies, which allows for a more in-depth understanding of our students' self-perception andconfidence.

III. Studylimits:

Our study had a number of limitations. Starting with the limited number of participants. Although our sample was significant, a larger one would be even more representative, especially in the newest faculties such as the FMPT and the FMPA.

Moreover, our survey, naturally, didn't explore all the milestones a general practitioner should master including knowledge in Paediatrics or Obstetrics and Gynaecology.

Ourdecisiontoomitthesewasmainlybecauseself-efficacyisdomain-specific.Meaning thatageneralassessmentofpersonalefficacyweakenstheeffectofitsexploration(18).Thus,

including items that inspect respondents' perceived efficacy in pediatrics or their confidence in their Gynecology skills will be non-representative.

Furthermore, and although we feel this study presents important information about how students perceive their skills and competencies, a validated instrument could be even more informative as it could provide more accurate measurement of students' confidence levels, and would help eliminate certain reliability and validity limitations which were present in our survey.

Recommendations

Introducing reproducible and reliable assessment methods such as the core competencies milestones could play a role not only in giving educators inferential tools to assess students' levels and by extension build future change they wish to bring to medical education, but could also be a reassurance to the public that medical students and trainees are fully prepared to be reliable physicians who can secure safe care.

By the same token, our results could help guide educators in the future changes made to the curriculum in order to fill the existing learning gaps. These changes, as we demonstrated on multiple occasions, shouldn't be centered around the courses to present in amphitheaters but favorably around creating opportunities that encourage performance success and implementing practices that promote the growth of the confidence to accompany skill and knowledge acquisition, since the extensive self-efficacy research of more than three decades has clarified that knowledge possession alone doesn't automatically mean its successful application. (26,27)

Our educators should also present students with learning opportunities where they can enhance the skills that we previously demonstrated to be lacking, be it technical gestures such as paracentesis and arthrocentesis or research opportunities and articles analysisskills, using efficient and practical methods such as learning by simulation, a method that proved to be effective both through the testimonials of our respondents and in literature.

Additionally, the learner-educator dynamic during courses and rotations should be thoroughly revisited. As we mentioned, learners are grasping for a good rapport with their educators and feel that their self-efficacy and their Professors' feedback are interconnected, which concurs with Bandura's theory of "verbal persuasion" that we previously described. Learnersshouldbegivenspecificfeedbackorientedbypre-definedlearningobjectivestohelp them navigate their learningjourney.

Overall, this thesis points out the elements that should be strengthened within our medical education urgently and the need to move away from focusing on knowledge acquisition into competency-based learning.

CONCLUSION

Students' personal efficacy still needs more attention from educators who, understandably, are mostly focused on knowledge attainment. Implemented practices in medical education need to follow an approach that fosters positive self-perception, motivation and resilience through providing an encouraging and favorable environment where learners feel competent and allowed to go through phases of trial and error without the risk of endangering their patients or the burden of feelingjudged.

Gaps in many learners' competencies and skills, namely in research and satisfaction in practical and theoretical teaching among others, had been suspected by trainers and trainees alike from previous research and field experience, which has been proven in this work through the comparisons we drew between faculties and study levels, motivating a reflection on our medical curriculum and the development of our medical reform and Family Medicine as a specialty.

ABSTRACT

ABSTRACT:

Self-efficacyisdefinedasthebeliefspeoplehaveabouttheircapabilitytoparticipate inactivitiesonthebasisofthelikelihoodoftheirsuccess.Theconcepthasbeenlargelystudied andthe roleofacademicself–efficacyinstudents'motivation,goalsettingandconfidencehas been long discussed. The purpose of this study was to evaluate students' and junior doctors' perceivedcorecompetenciesself-efficacyregardingasetofmedicalskillsusinga5point-Likert scale,andthencompareitbetweenmedicalfacultiesandacrossstudylevelsfromyear5tothe year of thesis. We created a 37-item survey based on the six core competencies of the AccreditationCouncilforGraduateMedicalEducation,andwecollecteddatafrom359students and interns from seven faculties: Faculty of Medicine and Pharmacy of Agadir, Marrakech, Casablanca, Rabat, Fes, Tangier and Oujda. Results of the survey's internal consistency reliability analysis revealed acceptable item-rest correlations for all items. The calculated Cronbach'sAlphacoefficientforeachsubscalerangedfrom0.675to 0.931withanoverallalpha=0.956.Wethencomparedstudents'self-efficacyatdifferentstages oftrainingandasexpected,wefoundaconsistentgrowthfromyeartoyearwith a drop during year of thesis. We also computed a Student's t-test to compare self-efficacy scores for the subscales and then the means of each item between respondents from the Faculty of Medicine and Pharmacy of Marrakech versus the other six facultiestreatingthemas2groups1and2respectively.Wediscoveredthatstudentsfromgroup 1hadastatisticallyhigherconfidencein4competenciesoutofsix: Patientcareand proceduralskills(p<0.001),Medicalknowledge(p=0.007),Systems-basedpractice(p=0.010) and Interpersonal and communication skills (p =0.002). We also found statistically significant differencesbetweenthetwogroupsinanumberof

items across all subscales($p<0.05$; CI=95%). The results from our survey could guide educators in their efforts to medical reform. Practical applications and recommendations are discussed.

RESUME

L'auto-efficacité est définie en tant que les croyances que les gens ont sur leur capacité à participer à des activités sur la base de la probabilité de leur succès. Le concept a été largement étudié et le rôle de l'auto-efficacité académique dans la motivation, l'établissement d'objectifs et la confiance des étudiants a été longuement discuté. Le but de cette étude était d'évaluer la perception des étudiants et jeunes médecins de leur l'auto-efficacité dans un ensemble de compétences médicales, à l'aide d'une échelle de Likert à 5 points, puis de la comparer entre les différentes facultés de médecine et entre les niveaux d'études, de la cinquièmeannéeàl'annéedethèse.Nousavonscrééuneenquêtede37élémentsbaséesurles sixcompétencesdebaseduConseild'AccréditationdesEtudesMédicalesSupérieures(ACGME), et nous avons collecté des données auprès de 359 étudiants et internes des sept facultés : Faculté de Médecine et de Pharmacie d'Agadir, Marrakech, Casablanca, Rabat, Fès, Tanger et Oujda. Les résultats de l'analyse de la cohérence interne du questionnaire ont révélé une corrélation item-dimension acceptable pour tous les éléments avec un coefficient Alpha de Cronbach pour l'échelle globale et pour chaque sous-échelle entre 0,675 à 0,931 et un alpha du score global = 0,956. Nous avons ensuite comparé l'auto-efficacité des étudiants à différentes étapes de leur formation et, comme prévu, nous avons constaté une croissance constante de l'auto-efficacitéd'annéeenannéeavecunebaisseinattendueaucoursdel'annéedethèse.Nous avons également calculé le test-t de Student pour comparer les scores d'auto-efficacité pour les sous-échelles, puis les moyennes d'auto-efficacité de chaque élément entre les répondants de la faculté de médecine et de pharmacie de Marrakech par rapport aux six autres facultés, les traitant comme 2 groupes, groupe 1 et 2 respectivement. Nous avons découvert que les étudiants du groupe 1 avaient une confiance statistiquement supérieure dans 4 compétences sur six:Soinsauxpatientsetcompétencesprocédurales(p<0,001),lesconnaissancesmédicales(p =0,007), la pratique basée sur les systèmes (p =0,010) et puis les compétences en

communication et relations interpersonnelles (p =0,002). Nous avons également trouvé des différences statistiquement significatives entre les deux groupes dans un certain nombre d'items à travers toutes les sous-items avec une faible auto-efficacité dans un total de 22 compétences (moyenne <3,0/5) et des niveaux élevés en 7 (moyenne ≥ 4,0/5), (p <0,05 ; IC = 95 %). Les résultats de notre enquête pourraient guider les éducateurs dans leurs efforts de réforme médicale. Des applications pratiques et recommandations ont été égalementdiscutées.

ملخص

يتم تعريف الكفاءة الذاتية على أنها معتقدات الناس حول قدرتهم على المشاركة في الأنشطة على أساس احتمالية نجاحهم. تمت دراسة المفهوم إلى حد كبير ونوقش دور الكفاءة الأكاديمية الذاتية في تحفيز الطلاب وتحديد الأهداف والثقة بالنفس لفترة طويلة . الغرض من هذه الدراسة هو تقييم مستويات الكفاءة الذاتية للطلاب والأطباء المبتدئين في مجموعة من المهارات الطبية باستخدام مقياس ليكرت من خمس نقاط، ثم مقارنتها بين مختلف كليات الطب وبين المستويات الدراسية من العام الخامس إلى عام الأطروحة . أنشأنا لذلك استبيانًا مكونًا من 37 عنصرًا بناءً على الكفاءات الأساسية الست لمجلس اعتماد التعليم الطبي العالي، وقمنا بجمع بيانات 359 طالبًا ومتدربًا من سبع كليات : كلية الطب والصيدلة بأكادير، مراكش، الدار البيضاء، الرباط، فاس، طنجة ووجدة . كشفت نتائج تحليل الاتساق الداخلي عن ارتباطات مقبولة لجميع العناصر مع المقياس العام . قمنا أيضًا بحساب معامل ألفا لكرونباخ للأبعاد الكلية ولكل مقياس فرعي . تراوحت قيمه بين 0.675 و 0.931 مع قيمة ألفا للمقياس الإجمالي مساوية ل 0.956. قمنا بعد ذلك بمقارنة الكفاءة الذاتية للطلاب في مراحل مختلفة من التدريب وكما هو متوقع وجدنا نموًا ثابتًا من سنة إلى أخرى، مع انخفاض غير متوقع خلال سنة الأطروحة . كما قارنا متوسطات الكفاءة الذاتية للمقاييس الفرعية ثم لكل عنصر لطلبة كلية الطب والصيدلة بمراكش مقابل الكليات الست الأخرى باعتماد اختبار ـ ت لستودنت، وعاملناهم كمجموعتين 1 و 2 على التوالي. وجدنا أن طلاب المجموعة 1 لديهم ثقة أعلى إحصائيًا في 4 كفاءات من أصل ستة : رعاية المريض والمهارات الإجرائية ($p < 0.001$)، المعرفة الطبية ($p = 0.007$)، الممارسة القائمة على الأنظمة ($p = 0.010$) المهارات الشخصية ومهارات الاتصال ($p = 0.002$). وجدنا أيضًا فروق ذات دلالة إحصائية بين المجموعتين في عدد من العناصر في جميع النطاقات الفرعية، مع مستويات منخفضة (متوسط <5/3.0) من الكفاءة الذاتية في إجمالي 22 مهارات ومستويات عالية (متوسط ≥ 5/4.0) في 7 مهارات، (95% CI) ($p < 0.05$). يمكن لنتائج الاستطلاع أن توجه القائمين في جهودهم للإصلاح الطبي، كما تمت مناقشة مجموعة من التطبيقات العملية والتوصيات.

Appendices

THESE : "La perception des étudiants enmédecine de leur auto-efficacité en leurs compétences de base. "

Dans le cadre de ma soutenance de thèse en médecine, ce questionnaire a été préparé
Afin de mesurer la perception des étudiants (de la 5 -ème année à l'année de thèse) vis à vis de leur efficacité et confiance en leurs propres compétences cliniques et non cliniques.Ceci dans l'objectif ultime de participer aux efforts d'amélioration de l'expérience des étudiants au cours des stages hospitaliers et la réforme de ces derniers.

Vous êtes prié(e)s donc de cocher la réponse qui reflète le mieux votre niveau de confiance actuel, sur une échelle de 1 à 5 (1 pas du tout confiant, 2 peu confiant, 3 neutre,4 confiant, 5 très confiant) pour chaque question.

Les réponses sont collectées en toute anonymat.

NB : Seuls les étudiants des facultés de médecine publiques sont concernés par ce questionnaire afin de garder l'homogénéité de l'échantillon (Conditions des stages hospitaliers).

*Obligatoire

Je consente à participer à ce questionnaire. *

Une seule réponse possible.

- Oui
- Non

Genre *

Une seule réponse possible.

- Femme Homme
-

Votre Faculté *

Une seule réponse possible.

- FMPA
- FMPM
- FMPR
- FMPC
- FMPF
- FMPO
- FMPT

Age *

Votre niveau d'études ? * 1 point

Une seule réponse possible.

- 5ème année 6ème
- année (FFI)
- 7ème année (Interne de périphérie)Interne
- CHU
- En instance de thèse (8 ème année)

Compétences cliniques:
Veuillez préciser votre niveau de confiance par rapport aux compétences suivantes:

1. Poser un diagnostic initial devant une symptomatologie aigue. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant						Très confiant

2. Rassembler l'histoire clinique du patient pour former un diagnostic. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

3. Evoquer différents diagnostics différentiels pour une symptomatologie aigue. * 1 point

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

4. Prendre en charge un malade instable présentant une symptomatologie aigue :

4.1-Douleur thoracique *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

4.2-Dyspnée *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

4.3-Trouble de conscience *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

4.4-Déficit moteur ou sensitif brutal *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

4.5-Douleur abdominale *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

4.6-Fièvre aigue *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

4.7-Etat de choc *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

4.8-Oligo-anurie *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

4.9-Traumatisme *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant						Très confiant
	◯	◯	◯	◯	◯	

5. Décrire la physiopathologie des pathologies de pratique courante en médecine générale. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

6. Prendre en charge une maladie chronique: Diagnostic, bilans, traitement, suivi:

6.1-Hypertension artérielle *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

6.2-Insuffisance cardiaque chronique *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

6.3-Diabète *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

6.4-Dysthyroidie *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

6.5-Asthme et broncho-pneumopathie chronique obstructive (BPCO). *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

6.6-Tuberculose *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

6.7-Maladies hépatiques chroniques actives(hépatites virales) *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

6.8-Epilepsie *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

6.9-Cancers *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

6.10-Troubles mentaux *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

7. Réaliser indépendamment les gestes techniques qu'un médecin généraliste peut réaliser:

7.1-Ponction de liquide d'ascite *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

7.2-Ponction articulaire *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

7.3-Drainage d'une pleurésie/Pneumothorax *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

7.4-Sondage urinaire *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

7.5-Sondage naso-gastrique *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

7.6-Pose d'une voie veineuse périphérique *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

7.7-Sutures simples *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

7.8-Massage cardiaque *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

8. Interpréter les résultats de bilans et examens de pratique courante *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant						Très confiant
	◯	◯	◯	◯	◯	

38. 9. Mettre vos propres objectifs d'apprentissage au début de chaque stage hospitalier. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

10. Identifier les facteurs contribuant à l'amélioration de vos connaissances pendant votre stage hospitalier. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

11. Demander un retour ou « feedback » afin d'arriver à vos objectifs établis et améliorer vos performances. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

12. Adapter votre prise en charge et conseils au niveau socio-économique et culturel du patient. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

13. Adapter votre langage verbal et non-verbal au patient (selon son niveausocio-culturel, age, handicap..) *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

14. Mener l'éducation thérapeutique de vos patients (arrêt tabac, activité physique, diététique, hygiène de vie). *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

15. Faire de la promotion de la santé lors des différentes actions sociales. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

16. Connaissances sur le principe de la sécurité des patients. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

17. Coordonner effectivement les soins d'un patient qui nécessite une prise en charge multidisciplinaire. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

18. Assurer une passation de consignes et transition d'équipe qui préserve la sécurité du patient et la continuité de sa PEC. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

19. Demander un avis de manière systémique (utilisant la méthode Situation-Antécédents-Evaluation-Demande ou SBAR). *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

20. Utiliser des méthodes de feedback positif qui valorisent tous les membres de l'équipe de soins. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

Compétences non cliniques :

21. Baser vos décisions thérapeutiques sur une « evidence based medicine » ou "médecine fondée sur des preuves", c'est à dire les dernières recherches cliniques pertinentes. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

22. Connaissance des bases de la méthodologie de recherche clinique. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

23. Lire de manière critique un article médical. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

24. Etablir une bonne relation médecin-malade. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

25. Annoncer une mauvaise nouvelle à un patient ou à sa famille. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

26. Connaissances des principes de l'éthique médicale. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

27. Protéger la vie privée du patient et ses informations personnelles. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

28. Maîtriser vos émotions et rester courtois en permanence même en situation de conflit. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

29. Prioriser votre état de bien être personnel et professionnel. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

30. Etre confiant(e) que vous seriez soutenu(e) par vos seniors si vous êtes dansun mauvais état physique ou mental affectant votre apprentissage. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

31. Demander l'aide d'un senior quand vous êtes au bout de vos capacités ou connaissances cliniques. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

32. Vos connaissances autour des différents systèmes de paiement et d'assurances au Maroc. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

33. Ouvrir et gérer un cabinet privé. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

34. L'apprentissage THEORIQUE (cours) que vous avez reçu vous a préparé suffisamment pour pratiquer indépendamment. *

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

35. L'apprentissage PRATIQUE (stages) que vous avez reçu vous a préparé suffisamment pour pratiquer indépendamment.

Une seule réponse possible.

	1	2	3	4	5	
Pas du tout confiant	◯	◯	◯	◯	◯	Très confiant

36. Avez-vous des propositions de compétences que vous jugez prioritaires à améliorer et qui n'ont pas été soulevées dans ce questionnaire?

37. A votre avis, comment votre confiance en vos capacités cliniques peut être améliorée ?

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أقْسِمبِاللهالعَظِيم

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الأطروحة

قدمت ونوقشت علانية يوم 2022/01/04

من طرف

السيدة منية قورش
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لنيل شهادةالدكتوراه في الطب

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