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RESEARCH **ORIGINAL ARTICLE**

Jordanian Medical Students' Perspective on the Impact of a Pass/Fail USMLE Step 1: A Cross-Sectional Investigation

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ABSTRACT

PURPOSE OF THE STUDY - To discuss Jordanian medical students' perspective on USMLE step 1 pass/fail score and its impact on their clinical future.

STUDY DESIGN - This cross-sectional study was conducted among medical students at all six schools of medicine in Jordan. An online self-administered questionnaire was used, consisting of 33 questions assessing the participants' socio-demographics, socio-academics, intentions to apply for the USMLE Step 1 examination, and their attitude toward converting USMLE Step 1 to pass/fail scoring system.

RESULTS - A total number of 504 medical students completed the survey. Of those who participated, 44.4% supported the change to a pass/fail scoring system, while 26.8% did not. Additionally, 82.3% of the students agreed that Step 2 Clinical Knowledge (CK) would carry more weight in selecting applicants for residency by this change. Moreover, 86.7% of respondents believed that more students would participate in research activities, which ranked as the second most important item for residency matching.

CONCLUSIONS - According to Jordanian medical students, converting the USMLE Step 1 scoring system to a pass/fail system will likely lead to more focus on the Step 2 CK score and the research experience in applications to US residency programs.

KEYWORDS - Medical Education, USMLE, international medical students, international medical graduates, residency, pass/fail.

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INTRODUCTION

The United States Medical Licensing Examination (USMLE) Step 1 is one of three examinations administered by the Federation of State Medical Boards (FSMB) and the National Board of Medical Examiners (NBME)[1]. The three-digit numerical score of the USMLE Step 1 exam played a major role in the selection criteria for residency applications. However, the NBME and the FSMB announced the transition of the USMLE Step 1 score to Pass/Fail, which became active in January 2022[2]. This transition might have a huge effect on medical students and residency programs, but the effect is still unclear. In 1979, the USMLE Step 1 numerical score was viewed as being less significant than recommendation letters, clerkship grades, Alpha Omega Alpha membership, and class rank. Nevertheless, the USMLE Step 1 score was the most frequently mentioned factor in selecting applicants for an interview in the 2020 NRMP survey of program directors[3,4]. A study found that 53.5% of US medical students favored numeric scale over pass/fail score; since pass/fail score had a significant negative impact on their residency match and specialty of choice[5]. In another study, the percentage of Internal Medicine residents not favoring pass/fail score was 55%, with significance found mainly in males, those training at the Postgraduate Year 1 (PGY1) level, and graduates of international medical schools (IMGs) [6]. In a survey conducted in the US, only 26% of medical students and residents prefer the USMLE Step 1 pass/fail scoring system. The main reason behind this low percentage was the negative effect on residency selection criteria and medical knowledge with pass/fail scores [7]. The underrepresented in medicine students may benefit from this change by reducing the effect of inequitable preparation for the exam, increasing the importance of extracurricular activities, and improving well-being. Moreover, a pass/fail system may help achieve greater diversity in the medical work environment[8].

NBME illustrated that medical student performance evaluation, letters of recommendation, research, medical school reputation, elective rotations, community service experience, and personal statement should be included as important factors for residency selection[9]. However, these factors may be less applicable to IMGs, shifting their stress to achieve a high USMLE Step 2 (CK) score[10]. Our study aims to discuss Jordanian medical students' perspective on USMLE step 1 pass/fail score and its impact on their clinical future. To our knowledge, this study is the first to explore this topic in Jordan. .

METHODS

STUDY DESIGN AND POPULATION

This is a cross-sectional study based on an online self-administered questionnaire. Our target population was all medical students in Jordan's six schools of medicine (the University of Jordan, Jordan University of Science and Technology, Hashemite University, Yarmouk University, Mut'ah University, and Balqa Applied University). The questionnaire was shared via social media platforms. A pilot test was performed by a group of University of Jordan students as being representative of our target population. Five hundred and four responses were recruited from the 1st of May 2022 to the 1st of August 2022.

QUESTIONNAIRE

The English online anonymous self-administered questionnaire was composed of 4 sections with a total of 33 questions. The first section included questions about sociodemographic and academic status (i.e., age, gender, the level of education of the parents, nationality, university, year of study, GPA, and the number of publications). The second section investigated the students' intention to apply for the USMLE step 1 exam and their awareness of the shift to pass/fail.

The third section included questions that assessed students' attitudes and perceptions toward converting the USMLE from a scoring system to a pass/fail one. This section also evaluated the students' opinions towards the most important factors to match in a residency in the United States[7,11].

In the fourth and the last section, we asked the students to rank residency application items based on their importance from their point of view (i.e., recommendation letters, USMLE scores, dean's letter, research experience, personal statement, and extracurricular activities) [7].

ETHICAL APPROVAL

This study was reviewed and approved by the Institutional Review Board at Jordan University Hospital, the University of Jordan. Informed consent was obtained from all the participants before filling out the questionnaire. Participants' privacy was preserved by conducting the data analysis anonymously. No member outside the research team had access to view, manipulate, or change the data.

DATA ANALYSIS

The participants' data were entered using Microsoft Office Excel 2019 and then imported into IBM SPSS v.25 software which was used

to conduct the analysis. Categorical variables were presented as counts and percentages, while continuous variables were presented as mean and standard deviation. Chi-square and t-tests were used as appropriate to determine the factors associated with the student's choices and attitudes toward the USMLE Step 1 change to pass or fail system. The variables that were significantly associated with the students' choices and attitudes were retested using binary and ordinal logistic regression analysis to adjust for confounding variables. The binary and ordinal logistic regression results were presented as Odds Ratio and B Coefficient and their 95% Confidence Intervals (95%CI), respectively. All the variables with a P-value<0.05 in tests were considered statistically significant.

RESULTS

CHARACTERISTICS OF THE INCLUDED STUDENTS

The total number of medical students participating in our study was 504. Half of the participants were females (50.6%). Most of the students did not have any of the parents working as a physician. Most of the study participants were fifth-year medical students, followed by fourth and sixth-year medical students. Moreover, 76.6% of the students did not have any research publications. Table 1 describes the demographic characteristics of the participants.

STUDENTS' KNOWLEDGE AND ATTITUDE TOWARD THE USMLE STEP 1 CHANGE

Most of the students (93.5%) were aware of the USMLE change to a pass/fail scoring system. 44.4% agreed with the change in the USMLE Step 1 scoring system.

In our study sample, 75.2% planned to apply for US residency, and 86.7% planned to participate more in research activities. 43.8% of the students expressed that IMGs would likely be more negatively affected by this change. In addition, only 30.4% of the students stated that USMLE Step 1 will be as important for the matching process after the change. When asked about the effect of the change on their chances of getting interviews for residency and their ranking, responses were equally divided as to whether it would increase, not affect, or decrease the number of interviews and their ranking when they apply.

Around half of the students agreed that the change in the scoring system would improve students' well-being. Also, 82.3% agreed greater emphasis will be on Step 2 (CK) score in selecting applicants (Table 1).

STUDENTS RANKING ACTIVITIES ACCORDING TO THEIR IMPORTANCE FOR RESIDENCY MATCHING

The most frequent activity that was ranked as the first in terms of their importance was USMLE scores (55.0%) followed by research experience (19.0%) and letters of recommendation (16.3%). Conversely, only 6.7%, 2.8%, and 0.2%, respectively, rated personal statements, extracurricular activities, and dean's letters as most important (Table 2).

FACTORS ASSOCIATED WITH PARTICIPANTS' ATTITUDE TOWARD THE CHANGES AND THE SHIFT IN STUDENTS' PLANS TO APPLY FOR RESIDENCY

Univariate analysis showed that the students' choices toward the change of IMGs applying to residency were associated with age, GPA, number of publications, and their perception to what the USMLE Step 1 tests for. In addition, age, year of study, GPA, and the perception of what USMLE Step 1 tests for were the factors associated with the change in research activities (P-value<0.05) (Table 3). Ordinal regression analysis revealed that age was the only factor associated with participants' choices toward changing IMG's preference to apply for residency (B=-0.121; 95%CI: -0.227- -0.014). First (B=-1.960; 95%CI: -3.232- -0.689) and second-year students (B=-1.204; 95%CI: -2.373- -0.035) were significantly associated with lower expectations toward the increase in research work compared to the sixth-year students. Having either a good (1.312; 95%CI: 0.799-1.825) or a very good (B=0.578; 95%CI: 0.210-0.945) GPA was significantly associated with perceiving the change as a good idea compared to students with excellent GPA (Table 4).

FACTORS ASSOCIATED WITH PARTICIPANTS' ATTITUDES TOWARD THE IMPORTANCE OF THE USMLE TO KNOWLEDGE, RESIDENCY, AND MEDICAL PRACTICE

Univariate analysis showed that GPA was significantly associated with the student's preference for the change (P-value<0.001). (Table 3). Ordinal regression analysis revealed that younger age was associated with a lower expectation from the students that Step 1 accurately estimates the knowledge (B=-0.107; 95%CI: -0.204- -0.009). Compared with an excellent GPA, a very good GPA was significantly associated with the perception of a lower influence of the change to a Pass/Fail scoring system on the amount of medical knowledge gained by USMLE Step 1 (B=-0.604;95%CI: -1.166- -0.041). Students who considered USMLE Step 1 as a test for basic

medical knowledge were associated with a significantly lower attitude toward USMLE Step 1 score importance for residency application (B=-0.28; 95%CI: -0.975- -0.082) (Table 4).

FACTORS ASSOCIATED WITH PARTICIPANTS' ATTITUDE TOWARD THE CHANGE IN THEIR CHANCES OF MATCHING

Univariate analysis showed that the students' opinions toward the potential effect of the scoring system change on the number of interviews received were associated with gender and the number of publications. In addition, GPA and the number of publications were associated with the students' opinion about the potential effect of the scoring system change on their ranking. Having parents who are physicians and GPA were associated with students perceiving the change as a good idea (P-value=0.003, P-value=0.013). (Table 3).

Ordinal regression analysis revealed students who had 1-5 publications had a significantly lower anticipation of the number of interviews they would get (B=-1.156; 95%CI: -2.117- -0.195) and a lower anticipation of being ranked higher by residency programs (B=-1.275; 95%CI: -2.319- -0.232) compared to students who had more than 5 publications. Moreover, students with 0 publications had significantly lower anticipation of being ranked higher than students with more than 5 publications (B=-1.376; 95%CI: -2.369- -0.382). Students who had either a good (B=0.867; 95%CI: 0.333-1.400) or a very good GPA (B=0.563; 95%CI: 0.169-0.957) had higher anticipation of being ranked higher by residency programs compared to students who had excellent GPA. Students who had a good GPA were also associated with significantly lower perceptions regarding this change being a good idea (B=-0.731; 95%CI: -1.243- -0.219) compared to students who had excellent GPA (Table 4).

DISCUSSION

The present study was designed to assess the opinion of Jordanian medical students on the effect of USMLE's binary pass/fail scoring system, which became active in January 2022, as IMGs -including Jordanian medical graduates- constitute an essential part of the United States physician workforce[12,13].

Historically, a variation in medical students' perspective toward pass/fail Step 1 scores has been noted; a study conducted by NBME in 1989 showed that less than 50% favored pass/fail scores, while a survey in 1997 revealed a strong preference toward pass/fail scores[10,14]. However, studies conducted in 2011 and 2020 revealed that only 26% and 34% of medical students agreed with this transition[7]. Our findings indicate that 44.4% of our study population favored the USMLE pass/fail scoring system, while only 26.8% did not. Our results were comparable to other studies performed to assess medical students' opinions on the USMLE Step 1 scoring system change to a pass/fail system. In a recent study conducted at Johns Hopkins University in Baltimore, Maryland, 39% of its medical students favored this transition [15]. Moreover, another study performed in 2020 found that 43% of medical students, especially those underrepresented in medicine, favored the transition[16]. These findings could be attributed to a reduction in time and effort for USMLE Step 1 exam preparation, therefore decreasing stress and improving quality of life. These changes might also assist students with lower USMLE Step 1 scores and lower GPAs, and it might decrease socioeconomic disparities[3,8,16]. In our study, having a good or a very good GPA was significantly associated with perceiving the change as a good idea compared to students with an excellent GPA. Our study has shown comparable anticipation in Jordanian medical students, as 53.8% of respondents agreed that this transition might improve well-being.

On the other hand, studies focusing on program directors' opinions on changing the USMLE scoring system revealed a negative perception toward the USMLE transition to a binary pass/fail scoring system[17–24]. This could be attributed to the reliance on the Step 1 numerical score as a primary standardized tool to stratify applicants in the residency application process, thereby blunting the importance of other metrics, including research experience, elective rotations, letters of recommendation, deans' letter, and extracurricular activities[10,25]. Therefore, this transition aims to eliminate the use of Step 1 as a single primary metric to screen out applicants and help reestablish and adopt a holistic view in selecting applicants for residency[26–28]. In addition, most program directors revealed that emphasis on Step 2 CK scores will increase after this transition becomes active [29,30]. This is consistent with findings from our study, which revealed that 82.3% of Jordanian medical students agreed that Step 2 CK will carry more weight in selecting applicants for residency.

In prior studies, program directors have expressed concerns that the medical students' stress and anxiety will shift toward achieving a high Step 2 CK target score, which nullifies the influence of the USMLE Step 1 scoring system change on medical students' stress and quality of life, potentially leaving the root of the problem

unaddressed[17,18].

Our study shows a possible future increase in research activity and publications by Jordanian medical students, as 86.7% of respondents, especially sixth-year medical students, believed that more students would participate in research activity and was ranked as the second most important item in residency matching. In addition, respondents with a high number of publications believe that the number of interviews granted would increase. The increased importance of research activities and publications can be anticipated, as recent studies revealed that orthopedic and otolaryngology program directors are more likely to emphasize research activity, elective rotation at esteemed institutions, letters of recommendation, and extracurricular activities for selecting applicants[31,32].

Despite favoring the transition, concerns remain about the negative influence of this transition on IMGs, as several studies have shown that this transition will put IMGs at a disadvantage[16,17,19,31,32]. In agreement with prior studies, our study found that 53.8% of Jordanian medical students, especially those with an excellent GPA, agreed that Step 1 pass/fail scoring would put IMGs at a disadvantage. This may be explained by the fact that IMGs depend on USMLE scores to distinguish themselves when applying to residency programs since foreign medical schools are less acknowledged [17,31]. Another possible explanation for this might be the possible increased importance of visiting international student elective rotations and letters of recommendation, thereby adding more financial burden to IMGs, especially those who cannot afford it[17].

This cross-sectional study has inherent limitations that should be considered when interpreting the results. First, the representation of medical schools was non-uniform. Few medical students at Yarmouk and Mut'ah Universities in Jordan have responded to our questionnaire. Second, a lower number of responses was submitted by 1st year medical students compared to other years. Third, this study only represents Jordanian medical students. Lastly, using convenience sampling methods may increase the risk of selection bias. In conclusion, the study gives us an insight into the opinion of Jordanian medical students on the new USMLE Step 1 binary scoring system. Jordanian medical students believe this change it might affect the criteria for selecting applicants for residency. Therefore, the weight and importance of the USMLE Step 2 score, research experience, and extracurricular activities will likely increase. Further studies are warranted to confirm these findings. Accordingly, we anticipate that a higher score in USMLE Step 2, more involvement in research work, and various extracurricular activities will have more influence on the match process for IMGs.

DATA AVAILABILITY

The datasets generated during and/or analyzed during the present study are available from the corresponding author upon reasonable request.

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AUTHORS' CONTRIBUTIONS

HG is the guarantor of the study. HG, YO, HK were involved in conceptualization. HK was the main supervisor. HG, YO, DJ, RM, IA contributed to data collection. AT was the main contributor to data analysis. All authors participated in writing the manuscript. All authors read and approved the final manuscript.

SUPPLEMENTAL MATERIALS

Table 1. Demographic Characteristics of Participants.

Variable	Response	Frequency (n=504)	Percentage (%)
Gender	Male	249	49.4
	Female	255	50.6
Are any of your Parents a doctor	None	430	85.3
	One	59	11.7
	Two	15	3.0
Nationality	Arabian	488	96.8
	American/European	16	3.2
Year of Study	First	34	6.7
	Second	48	9.5
	Third	70	13.9
	Fourth	111	22.0
	Fifth	130	25.8
	Sixth	111	22.0
GPA	Fail	3	0.6
	Pass	7	1.4
	Good	88	17.5
	Very Good	240	47.6
	Excellent	166	32.9
Number of Publications	0 Publications	386	76.6
	1-5 Publications	99	19.6
	More than 5 Publications	19	3.8
What does USMLE Step 1 test for	Requirement to graduate from medical school in Jordan	3	0.6
	Basic knowledge	411	81.5
	Clinical knowledge	11	2.2
	Test to apply for medical school in the United States	79	15.7
Are you aware of USMLE Step 1 score change to Pass/Fail System	Yes	471	93.5
	No	23	4.6
	Not Sure	10	2.0
Are you planning to perform USMLE Step 1	Yes	308	61.1
	No	78	15.5
	Unsure	118	23.4
How Do you anticipate this change impacting the percentage of IMGs applying to US residency	Less students will apply	41	8.1
	Unchanged	84	16.7
	More students will apply	370	75.2
This change will increase students research activities who are pursuing residency in the United States	Yes	437	86.7
	Neutral	49	9.7
	No	18	3.6

Who do you believe will benefit from this change	IMGs	101	20.0
	Less prestigious school graduates	86	17.1
	Prestigious school graduates	110	21.8
	Program Directors	51	10.1
	American medical students	156	31.0
Who do you believe will suffer from this change	IMGs	221	43.8
	Less prestigious school graduates	92	18.3
	Prestigious school graduates	42	8.3
	Program Directors	57	11.3
	American medical students	92	18.3
I would like USMLE Step 1 to be pass/fail	Do not agree	135	26.8
	Neutral	145	28.8
	Agree	224	44.4
I believe Step 1 gives an accurate estimation of knowledge	Do not agree	66	13.1
	Neutral	145	28.8
	Agree	293	58.1
With Step 1 pass/fail change, the amount of knowledge gained/ relearned would	Increased	182	36.1
	Unchanged	221	41.9
	Decreased	111	22.0
For residency application pass/ fail Step 1 is	Unimportant	190	37.7
	Neutral	161	31.9
	Important	153	30.4
Relevance of Step 1 content to future residency training	Relevant	196	38.9
	Neutral	190	37.7
	Not Relevant	118	23.4
Relevance of Step 1 content to future medical practice	Relevant	210	41.7
	Neutral	193	38.3
	Not Relevant	101	20.0
With Step 1 pass/fail, the number of interviews granted to me would	Increase	150	29.8
	Unchanged	191	37.9
	Decrease	163	32.3
With Step 1 pass/fail, I believe I would have been ranked more highly by the residency programs	Agree	147	29.2
	Neutral	193	38.3
	Do not agree	164	32.5
Is it a good idea to change USMLE Step 1 to pass/fail	Agree	203	40.3
	Neutral	154	30.6
	Do not agree	147	29.2
Will changing USMLE Step 1 to pass/fail improve medical student well-being	Agree	271	53.8
	Neutral	144	28.6
	Do not agree	89	17.7
Will changing the USMLE Step 1 to Pass/Fail make it more difficult to objectively compare applicants	Agree	297	58.9
	Neutral	126	25.0
	Do not agree	81	16.1
Will changing the USMLE Step 1 to Pass/Fail make applicant screening harder	Agree	310	61.5
	Neutral	131	26.0
	Do not agree	63	12.5

Will changing the USMLE Step 1 to Pass/Fail increase the emphasis on Step 2 CK scores in selecting applicants	Agree	415	82.3
	Neutral	68	13.5
	Do not agree	21	4.2
Will changing the USMLE Step 1 to Pass/Fail put international medical graduates at a disadvantage	Agree	271	53.8
	Neutral	139	27.6
	Do not agree	94	18.7
Will changing USMLE Step 1 to Pass/Fail impact the ability to predict passing boards	Agree	203	40.3
	Neutral	209	41.5
	Do not agree	92	18.3
Will changing USMLE Step 1 to Pass/Fail decrease the quality of applicants	Agree	154	30.6
	Neutral	169	33.5
	Do not agree	181	35.9

GPA, grade point average. USMLE, United States Medical License exam. IMG, international medical graduate

Table 2. Ranking of activities in their importance from 1-6

Variable	Response	Frequency (n=504)	Percentage (%)
USMLE Scores	First	277	55.0
	Second	105	20.8
	Third	57	11.3
	Fourth	33	6.5
	Fifth	19	3.8
	Sixth	13	2.6
Personal Statement	First	34	6.7
	Second	52	31.2
	Third	84	28.0
	Fourth	123	24.4
	Fifth	141	28.0
	Sixth	70	13.9
Research Experience	First	96	19.0
	Second	194	38.5
	Third	84	16.7
	Fourth	59	11.7
	Fifth	20	4.0
	Sixth	8	1.6
Letter of Recommendations	First	82	16.3
	Second	106	38.5
	Third	115	22.8
	Fourth	84	16.7
	Fifth	75	14.9
	Sixth	42	8.3
Deans Letter	First	1	0.2
	Second	20	4.0
	Third	51	10.1
	Fourth	114	22.6
	Fifth	133	26.4
	Sixth	185	36.7

Extracurricular Activities	First	14	2.8
	Second	27	5.4
	Third	70	13.9
	Fourth	91	18.1
	Fifth	116	23.0
	Sixth	186	36.9

USMLE, United States Medical License Exam

Table 3. Factors associated with participants' attitude toward the change

Variable	The change in IMGs number applying to the residency	The change in research work	I would like Step1 to be pass/fail	Step 1 Gives accurate estimation of knowledge	The amount of knowledge gained/re-learned would	Importance of Step 1 score for residency application
Age	0.035*	0.000*	0.783	0.011*	0.000*	0.744
Gender	0.557	0.124	0.247	0.960	0.605	0.026
Parents are doctors	0.228	0.219	0.150	0.045*	0.000*	0.228
Nationality	0.770	0.764	0.607	0.179	0.910	0.195
Year of study	0.713	0.000*	0.777	0.851	0.498	0.267
GPA	0.017*	0.000*	0.000*	0.198	0.162	0.838
Number of publications	0.023*	0.110	0.231	0.239	0.132	0.255
What does USMLE step 1 test for	0.000*	0.000*	0.639	0.064	0.000*	0.024*

Variable	Relevance of Step 1 content to future residency	Relevance of Step 1 to future medical practice	Number of interviews granted	With step 1 pass/fail, I would be ranked more highly	This change is a good idea	Make it more difficult to compare applicants
Age	0.405	0.278	0.567	0.608	0.900	0.110
Gender	0.775	0.585	0.003*	0.644	0.440	0.426
Parents are doctors	0.639	0.157	0.241	0.326	0.030*	0.628
Nationality	0.282	0.872	0.197	0.337	0.886	0.719
Year of study	0.665	0.631	0.115	0.143	0.736	0.344
GPA	0.090	0.102	0.166	0.002*	0.013*	0.101
Number of publications	0.051	0.211	0.031*	0.000*	0.050	0.066
What does USMLE step 1 test for	0.393	0.426	0.812	0.788	0.178	0.151

Variable	Make it more difficult to screen applicants	Increase the emphasis on the Step 2 score	Puts IMGs in Disadvantage	Impact predicting passing boards	Decrease the quality of the applicants
Age	0.156	0.000*	0.053	0.350	0.384
Gender	0.720	0.489	0.856	0.897	0.993
Parents are doctors	0.385	0.033*	0.827	0.000*	0.240
Nationality	0.439	0.648	0.704	0.733	0.527
Year of study	0.544	0.136	0.079	0.537	0.455

GPA	0.003*	0.000*	0.000*	0.327	0.934
Number of publications	0.159	0.000*	0.661	0.007*	0.711
What does USMLE step 1 test for	0.040*	0.000*	0.003*	0.269	0.027*

GPA, grade point average. USMLE, United States Medical License exam. IMG, international medical graduate
Chi-square test, *P-value<0.05.

Table 4. Ordinal regression analysis for the factors associated with the participants' choice of who will be influenced positively or negatively by this change.

The change in applying for residency			
Variable	**Category**	**Adjusted B**	**(95%CI)**
Age	-	-0.121	(-0.227- -0.014)*
GPA	Fail	0.911	(-3.960-5.783)
	Pass	0.039	(-1.766-1.844)
	Good	0.375	(-0.300-1.050)
	Very Good	0.272	(-0.212-0.757)
	Excellent	Control	Control
Number of publications	0	0.429	(-0.712-1.570)
	1-5	0.262	(-0.942-1.467)
	>5	Control	Control
What does USMLE Step 1 test for	Requirement to graduate from medical school in Jordan	0.276	(-4.511-5.064)
	Basic Knowledge	-0.496	(-1.141-0.148)
	Clinical Knowledge	-1.210	(-2.528-0.108)
	Test to apply for medical school in the United States	Control	Control
The change in research work			
Variable	Category	Adjusted B	(95%CI)
Age	-	-0.110	(-0.274-0.054)
GPA	Fail	0.024	(-6.531-6.579)
	Pass	-0.249	(-2.547-2.049)
	Good	0.073	(-0.802-0.948)
	Very Good	-0.245	(-0.934-0.444)
	Excellent	Control	Control
What does USMLE Step 1 test for	Requirement to graduate from medical school in Jordan	0.991	(-5.444-7.426)
	Basic Knowledge	-0.118	(-0.864-0.627)
	Clinical Knowledge	-1.406	(-2.837-0.026)
	Test to apply for medical school in the United States	Control	Control
Year of Study	First	-1.960	(-3.232- -0.689)*
	Second	-1.204	(-2.373- -0.035)*
	Third	-0.722	(-1.774-0.331)
	Fourth	-0.116	(-1.121-0.890)
	Fifth	-0.508	(-1.396-0.381)
	Sixth	Control	Control

I would like Step 1 to be pass/fail			
Variable		Adjusted B	(95%CI)
GPA	Fail	1.086	(-1.149-3.321)
	Pass	0.374	(-1.022-1.770)
	Good	1.312	(0.799-1.825)*
	Very Good	0.578	(0.210-0.945)*
	Excellent	Control	Control
Gives accurate estimation of knowledge			
Variable		Adjusted B	(95%CI)
Age	-	-0.107	(-0.204- -0.009)*
Any parents are a doctor	None	0.384	(-0.634-1.402)
	One	-0.05	(-1.474-0.741)
	Both	Control	Control
The amount of knowledge gained/relearned would			
Variable		Adjusted B	(95%CI)
Any parents are doctors	None	-0.468	(-2.171-1.234)
	One	-0.846	(-2.644-0.951)
	Both	Control	Control
GPA	Fail	-2.348	(-5.444-0.748)
	Pass	-1.214	(-2.803-0.376)
	Good	0.425	(-0.426-1.276)
	Very Good	-0.604	(-1.166- -0.041)*
	Excellent	Control	Control
Number of Publications	0	0.692	(-0.529-1.913)
	1-5	-0.169	(-1.442-1.103)
	>5	Control	Control
What does USMLE Step 1 test for	Requirement to graduate from medical school in Jordan	-2.021	(-5.131-1.088)
	Basic Knowledge	0.752	(0.156-1.348)*
	Clinical Knowledge	-0.337	(-1.694-1.020)
	Test to apply for medical school in the United States	Control	Control
Importance of USMLE Step 1 score for residency application			
Variable		Adjusted B	(95%CI)
Gender	Male	-0.318	(-0.642-0.007)
	Female	Control	Control
What does USMLE Step 1 test for	Requirement to graduate from medical school in Jordan	0.768	(-1.483-3.019)
	Basic Knowledge	-0.528	(-0.975- -0.082)*
	Clinical Knowledge	-0.730	(-1.902-0.443)
	Test to apply for medical school in the United States	Control	Control
Relevance of Step 1 content to future residency			
Variable		Adjusted B	(95%CI)
Any parents are a doctor	None	0.497	(-0.453-1.447)
	One	-0.521	(-1.569-0.526)
	Both	Control	Control

Number of interviews granted			
Variable		Adjusted B	(95%CI)
Gender	Male	-0.617	(-0.948- -0.285)*
	Female	Control	Control
Number of publications	0	-0.877	(-1.782-0.028)
	1-5	-1.156	(-2.117- -0.195)*
	>5	Control	Control
With Step 1 pass/fail, I would be ranked more highly by residency programs			
Variable		Adjusted B	(95%CI)
GPA	Fail	0.982	(-1.507-3.472)
	Pass	0.877	(-0.555-2.308)
	Good	0.867	(0.333-1.400)*
	Very Good	0.563	(0.169-0.957)*
	Excellent	Control	Control
Number of publications	0	-1.376	(-2.369- -0.382)*
	1-5	-1.275	(-2.319- -0.232)*
	>5	Control	Control
The change to pass/fail is a good idea			
Variable		Adjusted B	(95%CI)
GPA	Fail	1.87	(-5.59-9.32)
	Pass	-1.55	(-9.33-6.23)
	Good	-0.05	(-0.52-0.43)
	Very Good	0.21	(-0.07-0.49)
	Excellent	0.06	(-0.20-0.32)
Any of the parents are doctors	None	-1.522	(-2.692- -0.353)*
	One	-1.039	(-2.292-0.214)
	Both	Control	Control
Make it more difficult to screen applicants			
Variable		Adjusted B	(95%CI)
What does USMLE Step 1 test for	Requirement to graduate from medical school in Jordan	-2.517	(-5.662-0.629)
	Basic Knowledge	-1.55	(-0.900-0.122)
	Clinical Knowledge	-0.05	(-2.006-0.429)
	Test to apply for medical school in the United States	Control	Control
GPA	Fail	-0.923	(-3.907-2.060)
	Pass	-0.632	(-2.089-0.824)
	Good	-0.731	(-1.243- -0.219)*
	Very Good	-0.101	(-0.510-0.307)
	Excellent	Control	Control
Increase the emphasis on Step 2 CK score			
Variable		Adjusted B	(95%CI)
Age	-	-0.084	(-0.192-0.025)
What does USMLE Step 1 test for	Requirement to apply to graduate from medical school in Jordan	0.200	(-4.769-5.168)
	Basic Knowledge	0.778	(0.194-1.361)*

	Clinical Knowledge	-0.059	(-1.450-1.332)
	Test to apply for medical school in the United States	Control	Control
GPA	Fail	-0.670	(-5.706-4.367)
	Pass	-1.121	(-2.713-0.471)
	Good	-0.259	(-0.992-0.474)
	Very Good	-0.447	(-1.016-0.122)
	Excellent	Control	Control
Any of the parents are doctors	None	-0.791	(-2.749-1.168)
	One	-1.262	(-3.295-0.771)
	Both	Control	Control
Number of publications	0	0.879	(-0.259-2.016)
	1-5	0.052	(-1.140-1.244)
	>5	Control	Control
Puts IMGs in Disadvantage			
Variable		Adjusted B	(95%CI)
What does USMLE Step 1 test for	Requirement to graduate from medical school in Jordan	-38.875	(0.000-0.000)
	Basic Knowledge	0.016	(-0.456-0.487)
	Clinical Knowledge	-1.196	(-2.391- -0.002)*
	Test to apply for medical school in the United States	Control	Control
GPA	Fail	18.588	(0.000-0.000)
	Pass	-0.820	(-2.252-0.612)
	Good	-0.720	(-1.268- -0.172)*
	Very Good	-0.396	(-0.816-0.025)
	Excellent	Control	Control
Impact predicting passing boards			
Variable		Adjusted B	(95%CI)
Any of the parents are doctors	None	-0.282	(-1.267-0.702)
	One	-1.338	(-2.423- -0.254)*
	Both	Control	Control
Number of publications	0	-0.113	(-0.988-0.762)
	1-5	-0.529	(-1.464-0.405)
	>5	Control	Control
Decrease the quality of the applicants			
Variable		Adjusted B	(95%CI)
What does USMLE Step 1 test for	Requirement to graduate from medical school in Jordan	-20.869	(-20.869-20.869)
	Basic Knowledge	-0.487	(-0.932- -0.042)*
	Clinical Knowledge	0.255	(-0.921-1.431)
	Test to apply for medical school in the United States	Control	Control

GPA, grade point average. USMLE, United States Medical License exam. IMG, international medical graduate
Ordinal regression analysis, *P-value<0.05.

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