Jordan Medical Journal, Volume 58, No.2 2024
DOI: https://doi.org/10.35516/jmj.v58i2.1084

Evidence-Based Medicine Attitudes among Residents at Jordan University Hospital: A Cross-Sectional Study

Farihan Barghouti[1], Aseel M. Al Rabab'ah[2], Nadia J. Almahallawi,[2], Dara O. Suleiman[3], Rwand Al-Amairah[3], Zina Smadi[3], Omar Ismail[3]

Abstract

Background: Evidence-based medicine (EBM) is a term that has acquired different definitions in different settings and is considered as an ambiguous concept. However, it represents an empiricist mode of thinking in medicine. EBM is a patient-centered approach in medicine and bases clinical knowledge on evidence, as well as having a huge impact on clinical practice during the past few decades.

Aim: The study aimed to evaluate medical resident trainees' attitude, knowledge, and practice of EBM and encountered barriers in clinical settings to determine the relationship between trainees at different levels and departments and implications on patient care.

Methods: A cross-sectional survey was conducted between June 2022 and December 2022, utilizing a face-to-face and online questionnaire. Our questionnaire consisted of 37 questions, which included characteristics of the sample in addition to attitudes related to EBM and perceptions of barriers related to it. Inclusion criteria were residents working at Jordan University Hospital, with a total of 175 residents who agreed to participate in this study, and exclusion criteria were other medical assistant members and fellows.

Results: A survey was distributed to 175 residents, who completed it and provided information on their sociodemographics. Approximately 72.6 percent of the participants were females (n = 127), and the median age was 27 years, and an interquartile range of 2 years. The majority of participants (n = 171, 97.7%) stated that they had heard the term "evidence-based medicine" before. When asked about the residents' knowledge of various research-related terms, their answers showed a positive trend, with the majority indicating that they had some understanding of the term. The remaining findings are covered below.

Conclusion: Despite having received no formal training in this area during their years of training, JUH residents demonstrated positive views regarding EBM, supporting it, and believing in its conclusions. They also generally had good terminology knowledge. More than 85% utilize medical websites, more than 50% have papers published, and more than 50% endorse EBM.

Keywords: Evidence-Based Medicine, EBM, Primary Healthcare, Family Medicine, Jordan Primary Healthcare, Academic Medical Centers, Evidence-Based Medicine / Education

(J Med J 2024; Vol. 58(2): 204–223)

Received *March 21, 2023* *Accepted* *May 21, 2023*

INTRODUCTION

Evidence-based medicine (EBM) is a term that has acquired different definitions in different settings and is considered an ambiguous concept. However, it represents an empiricist mode of thinking in medicine [1]. Defined by Sackett as the "conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" [2]. During the past few decades, EBM has had a huge impact on clinical practice [3]. It views clinical practice as an integration between individual expertise and external evidence about the most efficacious treatment modalities; each complementing the other to maximize the level of care provided [1,3,4].

EBM is a patient-centered approach in medicine and bases clinical knowledge on evidence [5], which includes data obtained from rigorous clinical trials and the attained knowledge, evidence-based guidelines, which are directly applied to patients, ensuring consistency in treatment modalities that

[1]Department of Family and Community Medicine, School of Medicine, The University of Jordan, Amman, Jordan,
[2]Department of Family and Community Medicine, Jordan. University Hospital, The University of Jordan, Amman, Jordan.
[3]Faculty of Medicine, The University of Jordan, Amman, Jordan.
✉Corresponding author: aseelrb1993@gmail.com

© 2024 DSR Publishers / The University of Jordan. All Rights Reserved.

supposedly provide the best outcomes. Guidelines provide an irreplaceable asset by recommending the best first or next step, but keeping in mind that individuals vary in response to treatment and disease presentation, which is when the physician's judgment and clinical expertise come into play [6].

The practicing physician should have the skills to efficiently and frequently search and evaluate medical literature [5,6] and have some understanding of statistical terminology [7,8]. However, the practice of EBM in clinical settings is not as transparent and does not come without its limitations; it is of extreme importance to address such issues [3,5]. Its principles are not always easily applicable because of barriers such as misinterpretation of literature, lack of training, and time to access evidence-based resources, and the attitude of the physicians themselves [4,9]. Several studies pointed out that the major barriers were a lack of time and skills [4,7,10,11,12].

Physicians have a key role in the evolving health care system at the level of both the public and private sectors. Their decisions are influenced by knowledge and skills attained across several years of studying and training. EBM has made its appearance as a tool with a huge impact on their clinical decision making, and thus it is integral to target attitudes, perception, and encountered barriers when it comes to clinical application. To the best of our knowledge, this topic has only been briefly addressed in general, and very little research has been done in the Middle East, especially when it comes to teaching universities and hospitals. Thus, the current study will concentrate on residents employed by Jordan University Hospital (JUH), which is situated in Amman, the country's capital. It was established in 1973 as the first university teaching hospital in Jordan and one of the first teaching hospitals at the level of the Arab World and the Middle East, with more than 25 specialized medical units and 64 specialties in different medical fields. Moreover, it offers high-quality teaching and training programs and research opportunities for healthcare students from different specialties at the University of Jordan.

The study aimed to evaluate medical resident trainees' attitude, knowledge, and practice of EBM and the encountered barriers in clinical settings, and determine the relationship between trainees at different levels and departments and implications on patient care.

METHODS

Study design

This is a descriptive cross-sectional observational study conducted at JUH. Our study population included all medical residents at different levels of training, juniors, and seniors, reaching a total of 175 residents.

All specialties were addressed, including non-surgical: internal medicine, pediatrics, family medicine, emergency medicine, radiology, rehabilitation, psychiatry, and sub-medicine (dermatology and forensic medicine), and surgical: general surgery, anesthesiology, gynecology and obstetrics, sub-surgery (orthopedics, neurosurgery, otolaryngology, urology, and ophthalmology). We adopted the validated "Evidence-Based Medicine Questionnaire, EBMQ" to assess the participants' knowledge, attitudes, and perceptions of different aspects of EBM [13].

The appropriate institutional review board (IRB) of the JUH approved the current study. All participants were aware that their responses would be used for a research study only and agreed to fill out the survey.

Data collection

The residents were contacted between June 2022 and December 2022. Trained researchers conducted face-to-face data collection in the clinics at JUH. After verbal consent, participants answered the structured questionnaire after being educated about the study's goals and giving their consent.

Apart from in-person collection, an online questionnaire was created and disseminated via hospital groups. The survey was completed by participants at their convenience. To guarantee uniformity in data gathering techniques, the content of the online survey matched that of the in-person questionnaire.

All collected data was stored securely and in compliance with data protection regulations. Participant information was anonymized and coded to maintain confidentiality. Access to data was restricted to authorized personnel involved in the research project.

Table 1

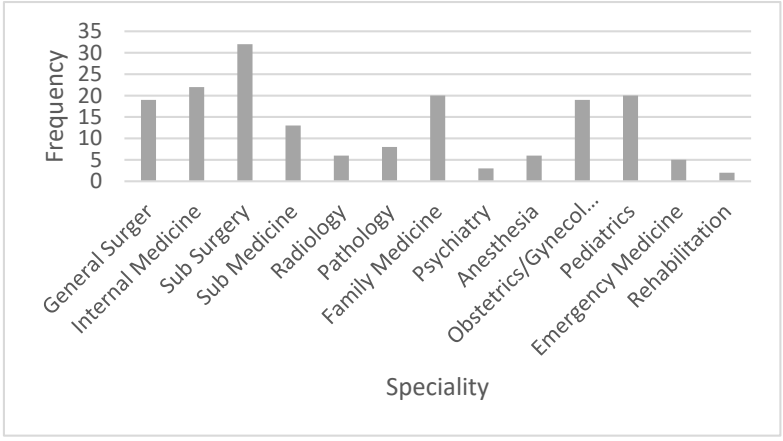
Characteristics of the sample		
Parameter	Median (IQR)	n (%)
Age	27 (2)	
24		3 (1.7)
25		26 (14.9)
26		34 (19.4)
27		44 (25.1)
28		27 (15.4)
29		24 (13.7)
30 or above		17 (9.7)
Gender		
Female		127 (72.6)
Male		48 (27.4)
Specialty		
Surgical		70 (40.0)
General Surgery		19 (10.9)
Sub Surgery		32 (18.3)
Obstetrics/Gynecology		19 (10.9)
Non-surgical		105 (60.0)
Internal Medicine		22 (12.6)
Sub Medicine		13 (7.4)
Radiology		6 (3.4)
Pathology		8 (4.6)
Family Medicine		20 (11.4)
Psychiatry		3 (1.7)
Anesthesia		6 (3.4)
Pediatrics		20 (11.4)
Emergency Medicine		5 (2.9)
Rehabilitation		2 (1.1)
Level of residency		
Junior		96 (54.8)
1st Year		52 (29.7)
2nd Year		44 (25.1)
Senior		79 (45.2)
3rd Year		33 (18.9)
4th Year		30 (17.1)
5th Year		16 (9.1)
Number of calls per month		
0-10		158 (90.3)
11-20		10 (5.7)
21-30		7 (4.0)
Total work spent in patient care, search, and education.		
0-48 hours/week		89 (50.9)
49-72 hours/week		37 (21.1)
>72 hours/week		49 (28.0)
Participation in continuing education courses		
Yes		146 (83.4)
No		29 (16.6)
Familiarity with medical research agencies		
Yes		108 (61.7)
No		67 (38.3)
IQR = Interquartile range.		

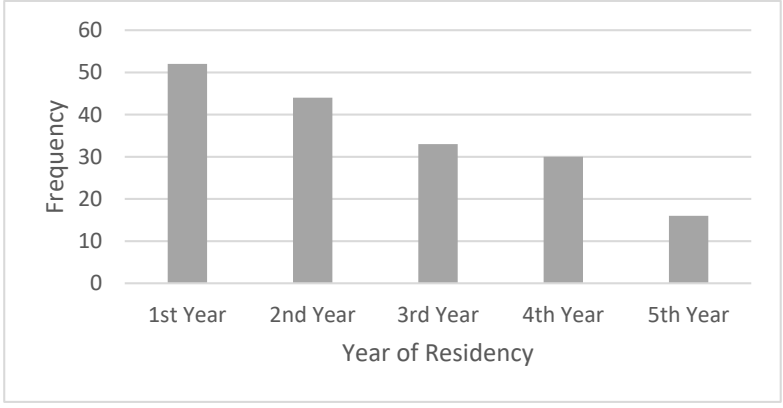
Statistical analysis

Statistical analysis was conducted using IBM SPSS Statistics v.26. Categorical variables were reported as frequencies and percentages, while continuous variables were reported as medians and interquartile ranges. Multiple graphs and charts were used to display responses when needed. Pearson Chi-square ($\chi 2$) was used to assess the associations between variables, and Mann Mann-Whitney U (MWU) test was used to assess for differences in the responses between groups. Results were reported as either p-values with crude odds ratios and 95% confidence intervals, or p-values with z-scores and mean ranks.

RESULTS

During the present study, 175 residents filled out the questionnaire. The sociodemographic characteristics of the sample are shown in Table 1. The median age of the participants was 27 years with an interquartile range of 2 years, with almost three-quarters of them being females (n=127, 72.6%). More than half of the participants reported being in a non-surgical specialty (n=105, 60%) while 70 participants (40%) reported specializing in a surgical specialty. Regarding their seniority, 96 residents (54.8%) were juniors, while the rest were seniors. There was a significant association between the residents' specialties and their gender, where female residents were more likely to specialize in a medical specialty while their male counterparts were more likely to specialize in a surgical one (p-value < 0.001). Further information regarding the participants' specialties and year of residency can be found in Figures 1 and 2.





Knowledge Regarding EBM

Participants' responses concerning their previous experiences with EBM are presented in Table 2. Almost all the participants (n=171, 97.7%) reported previously hearing the term 'Evidence-Based Medicine', and when asked about their research experiences about two thirds of them (n=121, 69.1%) reported conducting any research after graduation, and about half of them (n=94, 53.7%) reported publishing research. Further analysis of the participants showed a significant association between the seniority of the resident and both conducting and publishing previous research (p-values < 0.0001 and = .009, respectively), where senior residents were more likely to have conducted and published research compared to junior residents. On the other hand, junior residents reported receiving training in question formulation more frequently than their senior counterparts (p-value = 0.044). On the contrary, no significant association was found between the specialty and the research experience of the residents. Further information regarding the crude odds ratios and the confidence intervals of the studied associations can be found in Tables 3 and 4.

Table 2

Previous experience with evidence-based medicine	
Statement	n (%)
Have you ever heard of the term "evidence-based medicine" (EBM)?	
Yes	171 (97.7)
No	4 (2.3)
Have you ever attended a course or workshop on EBM?	
Yes	63 (36.0)
No	112 (64.0)
Have you ever received any formal training in the following areas?	
Question formulation	51 (29.1)
Literature search	73 (41.7)
Critical appraisal	37 (21.1)
Did you conduct any research after graduation from medical school?	
Yes	121 (69.1)
No	54 (30.9)
Have you published any article in a journal?	
Yes	94 (53.7)
No	81 (46.3)

Table 3

Association between multiple variables and the specialty of the residents					
		Specialty			
Variable		**Surgical[u]**	**Non-Surgical[u]**	**P-value**	**COR(CI)**
Gender	Female	40	87	<0.001*	0.28 (0.14 - 0.55)
	Male	30	18		
Participation in continuing education courses	Yes	58	88	0.87	1.07 (0.48 - 2.41)
	No	12	17		
Familiarity with medical research agencies	Yes	47	61	0.23	0.68 (0.36 - 1.28)
	No	23	44		
Heard the term "evidence-based medicine" (EBM)	Yes	69	102	0.65[9]	0.49 (0.05 - 4.84)
	No	1	3		
Attending a course or workshop on EBM	Yes	29	34	0.22	0.68 (0.36 - 1.27)
	No	41	71		
Receiving training in question formulation	Yes	17	34	0.25	1.49 (0.76 - 2.95)
	No	53	71		
Receiving training in literature search	Yes	29	44	0.95	1.02 (0.55 - 1.88)
	No	41	61		
Receiving training in critical appraisal	Yes	12	25	0.29	1.51 (0.70 - 3.25)
	No	58	80		
Conducting research after graduation	Yes	50	71	0.59	0.84 (0.43 - 1.61)
	No	20	34		
Publishing any article in a journal	Yes	35	59	0.42	1.28 (0.70 - 2.35)
	No	35	46		
Results obtained after conducting the Pearson chi-square test, * statistically significant at p-value <0.05, [9] Fischer's exact test					

Table 4

Association between multiple variables and the seniority of the residents					
		Seniority			
Variable		**Junior[u]**	**Senior[u]**	**P-value**	**COR(CI)**
Gender	Female	72	55	0.43	1.309 (0.673 - 2.548)
	Male	24	24		
Participation in continuing education courses	Yes	78	68	0.39	1.427 (0.630 - 3.231)
	No	18	11		
Familiarity with medical research agencies	Yes	56	52	0.31	1.38 (0.74 - 2.55)
	No	40	27		
Heard the term "evidence-based medicine" (EBM)	Yes	93	78	0.63[9]	2.51 (0.26 - 24.68)
	No	3	1		
Attending a course or workshop on EBM	Yes	35	28	0.89	0.96 (0.51 - 1.78)
	No	61	51		
Receiving training in question formulation	Yes	34	17	0.044*	0.50 (0.25 - 0.99)
	No	62	62		
Receiving training in literature search	Yes	45	28	0.13	0.62 (0.34 - 1.15)
	No	51	51		
Receiving training in critical appraisal	Yes	24	13	0.17	0.59 (0.28 - 1.26)
	No	72	66		
Conducting research after graduation	Yes	54	67	<0.001*	4.34 (2.08 - 9.06)
	No	42	12		
Publishing any article in a journal	Yes	43	51	0.009*	2.25 (1.22 - 4.14)
	No	53	28		
Results obtained after conducting the Pearson chi-square test, * statistically significant at p-value <0.05, [9] Fischer's exact test					

When prompted about their knowledge regarding different terms related to research, the residents' responses demonstrated a positive trend with most of them either having some understanding of the term or understand the term well enough and able to explain it to others. On the other hand, about 11% of the participants reported never hearing the term "heterogeneity" before, and 10.9% reported never hearing the term "confidence interval" before. Further data regarding the participants' responses can be found in Table 5.

Table 5

Knowledge of terms used in EBM					
Term	**Never heard of it**	**Heard of it but do not understand it**	**Do not understand it but would like to**	**Have some understanding of it**	**Understand it well and able to explain it**
Systematic review	2 (1.1)	14 (8.0)	5 (2.9)	58 (33.1)	96 (54.9)
Meta-analysis	5 (2.9)	12 (6.9)	16 (9.1)	64 (36.6)	78 (44.6)
Case-control study	2 (1.1)	8 (4.6)	12 (6.9)	53 (30.3)	100 (57.1)
Randomized controlled trial	2 (1.1)	11 (6.3)	11 (6.3)	54 (30.9)	97 (55.4)
Relative risk	7 (4.0)	13 (7.4)	22 (12.6)	65 (37.1)	68 (38.9)
Absolute risk	8 (4.6)	13 (7.4)	23 (13.1)	63 (36.0)	68 (38.9)
Odds ratio	7 (4.0)	12 (6.9)	38 (21.7)	65 (37.1)	53 (30.3)
P-value	5 (2.9)	17 (9.7)	24 (13.7)	67 (38.3)	62 (35.4)
Level of evidence	10 (5.7)	15 (8.6)	24 (13.7)	61 (34.9)	65 (37.1)
Number needed to treat	11 (6.3)	15 (8.6)	43 (24.6)	55 (31.4)	51 (29.1)
Confidence interval	19 (10.9)	18 (10.3)	41 (23.4)	50 (28.6)	47 (26.9)
Heterogeneity	20 (11.4)	19 (10.9)	47 (26.9)	55 (31.4)	34 (19.4)
Publication bias	8 (4.6)	18 (10.3)	35 (20.0)	51 (29.1)	63 (36.0)
Test sensitivity and specificity	5 (2.9)	14 (8.0)	13 (7.4)	40 (22.9)	103 (58.9)
Positive predictive value	5 (2.9)	12 (6.9)	21 (12.0)	51 (29.1)	86 (49.1)
Clinical effectiveness	8 (4.6)	14 (8.0)	31 (17.7)	51 (29.1)	71 (40.6)
Responses reported as frequencies (percentages)					

When cross analyzed with the seniority of the residents, differences in the understanding of the terms "level of evidence" and "test sensitivity and specificity" between juniors (mean ranks = 80.42 and 81.85) and seniors (mean ranks = 97.22 and 95.47) were found to be significant (z-score = -2.297 and -1.999, p-value = .022 and .046, respectively) indicating that senior residents reported having better understanding and ability to explain the terms to others in comparison with junior residents. Similar analysis was done with the specialty of the residents yielding one significant difference

regarding knowledge of the term "test sensitivity and specificity" where residents in surgical specialties reported lower levels of understanding (mean rank = 75.66) in comparison to those in non-surgical specialties (mean rank = 96.23) with the z-score = -2.973 and the p-value = .003. The effect of seniority and specialty can be found in Table 6.

Attitudes and Perceptions Regarding EBM

Participants' attitudes are highlighted in Table 7. Most of the participants (n=153, 87.4%) agreed that they support EBM, while only 10 (5.7%) reported that they do not support it. More than 80% of them stated that they trust the findings of research studies (n=149, 85.1%), with only 7 participants (4%) reporting that they do not trust them, and 19 (10.9%) were neutral regarding it. About half of the participants (n=90, 51.4%) did not agree that the implementation of EBM reduces the workload of the residents.

Table 6

Differences in responses regarding terms used in EBM according to specialty and seniority

	Specialty			**Seniority**		
Term	**Surgical[u]**	**Non-Surgical[u]**	**P-value**	**Junior[u]**	**Senior[u]**	**P-value**
Systematic review	88.73	87.51	0.862	84.38	92.40	0.243
Meta-analysis	92.04	85.30	0.353	87.84	88.19	0.961
Case-control study	88.40	87.73	0.923	90.02	85.54	0.512
Randomized controlled trial	88.43	87.71	0.919	89.76	85.87	0.572
Relative risk	83.70	90.87	0.331	84.40	92.38	0.271
Absolute risk	83.95	90.70	0.361	84.53	92.22	0.290
Odds ratio	94.21	83.86	0.165	82.63	94.53	0.105
P-value	91.78	85.48	0.395	83.94	92.93	0.217
Level of evidence	91.52	85.65	0.429	80.42	97.22	0.022*
Number needed to treat	82.51	91.66	0.225	82.29	94.94	0.088
Confidence interval	91.72	85.52	0.414	82.04	95.25	0.077
Heterogeneity	93.39	84.41	0.236	82.15	95.11	0.082
Publication bias	89.29	87.14	0.775	86.97	89.25	0.757
Test sensitivity and specificity	75.66	96.23	0.003*	81.85	95.47	0.046*
Positive predictive value	80.40	93.07	0.080	82.14	95.13	0.068
Clinical effectiveness	83.52	90.99	0.315	87.18	88.99	0.804

Results obtained after conducting Mann-Whitney U test, * statistically significant at p-value <0.05.

[u] mean ranks

Table 7

Attitudes related to evidence-based medicine					
Statement	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
I support EBM	8 (4.6)	2 (1.1)	12 (6.9)	52 (29.7)	101 (57.7)
I trust the findings from research studies	5 (2.9)	2 (1.1)	19 (10.9)	77 (44.0)	72 (41.1)
Reading research papers is important to me	8 (4.6)	4 (2.3)	23 (13.1)	76 (43.4)	64 (36.6)
EBM improves my patient care	7 (4.0)	5 (2.9)	16 (9.1)	64 (36.6)	83 (47.4)
EBM reduces my workload	9 (5.1)	21 (12.0)	60 (34.3)	51 (29.1)	34 (19.4)
I can implement EBM in my clinical practice	6 (3.4)	11 (6.3)	27 (15.4)	82 (46.9)	49 (28.0)
EBM guides my clinical decision making	7 (4.0)	8 (4.6)	28 (16.0)	73 (41.7)	59 (33.7)
I prefer to manage patients based on EBM	8 (4.6)	9 (5.1)	29 (16.6)	65 (37.1)	64 (36.6)
Responses reported as frequencies (percentages)					

While comparing the responses of the participants from different specialties, residents in surgical specialties had stronger agreement (mean rank=96.71) compared to residents from non-surgical specialties (mean rank=82.2) with a z-score = -1.994 and a p-value = .046. No other significant differences were found regarding attitudes between different specialties.

Additionally, further analysis was done to compare the attitudes between senior and junior residents. Significant differences were found between seniors and juniors regarding supporting the use of EBM, and believing that EBM improves patient care, reduces workload, should guide clinical decision-making, and their preference to manage their patients based on it. Senior residents were more likely to strongly agree with these attitudes in comparison to juniors, who were more likely to disagree with them. Further data regarding the difference in attitudes according to seniority and specialty of the residents can be found in Table 8.

Table 8

Differences in responses regarding attitudes used in EBM according to specialty and seniority

	Specialty			Seniority		
Term	**Surgical[u]**	**Non-Surgical[u]**	**P-value**	**Junior[u]**	**Senior[u]**	**P-value**
I support EBM	89.78	86.81	0.67	80.14	97.55	0.010*
I trust the findings from research studies	91.20	85.87	0.46	82.04	95.24	0.06
Reading research papers is important to me	96.71	82.20	0.046*	82.27	94.96	0.08
EBM improves my patient care	87.86	88.10	0.97	80.67	96.91	0.022*
EBM reduces my workload	91.69	85.54	0.41	80.73	96.83	0.030*
I can implement EBM in my clinical practice	92.65	84.90	0.29	84.44	92.33	0.27
EBM guides my clinical decision-making	92.79	84.80	0.28	79.62	98.18	0.010*
I prefer to manage patients based on EBM	92.49	85.01	0.31	76.13	102.43	0.000*

Results obtained after conducting the Mann-Whitney U test, * statistically significant at p-value <0.05

[u] mean ranks

On the other hand, regarding the participants' perceptions of the barriers they face when practicing EBM, more than half of them (n=98, 56%) did not agree that they can assess the quality of research, and 28 participants (16%) reported that they do not have access to the internet to practice EBM; 121 participants (69.1%) reported having access to the internet, and 26 participants (14.9%) were neutral. About two-thirds of the participants (n=116, 66.3%) reported that their organization supports the practice of EBM, and about three-quarters (n=126, 72%) reported that their colleagues support the practice of EBM. However, about three-quarters (n=127, 72.5%) did not agree that the clinic facilities are adequate to support the practice of EBM. The rest of the perceptions can be found in Table 9.

Table 9

Perceptions of barriers related to evidence-based medicine					
Statement	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
I can assess the quality of research.	5 (2.9)	38 (21.7)	55 (31.4)	68 (38.9)	9 (5.1)
I have access to internet to practice EBM	9 (5.1)	19 (10.9)	26 (14.9)	83 (47.4)	38 (21.7)
I have time to read research papers.	16 (9.1)	50 (28.6)	41 (23.4)	59 (33.7)	9 (5.1)
I have time to practice EBM in my clinic	10 (5.7)	50 (28.6)	52 (29.7)	52 (29.7)	11 (6.3)
My clinic facilities are adequate to support the practice of EBM	23 (13.1)	39 (22.3)	65 (37.1)	40 (22.9)	8 (4.6)
Research articles are easily available to me	8 (4.6)	35 (20.0)	38 (21.7)	76 (43.4)	18 (10.3)
My patients prefer me to practice EBM	13 (7.5)	25 (14.4)	83 (47.4)	41 (23.4)	12 (6.9)
My patients believe in information that is based on evidence	12 (6.9)	22 (12.6)	73 (41.7)	55 (31.4)	13 (7.5)
My colleagues support the practice of EBM	8 (4.6)	9 (5.1)	32 (18.3)	97 (55.4)	29 (16.6)
My organization supports the practice of EBM	10 (5.7)	13 (7.5)	36 (20.6)	87 (49.7)	29 (16.6)
Responses reported as frequencies (percentages)					

Differences between residents in different specialties were significant regarding their ability to assess the quality of research. Surgical residents (mean rank = 103.72) were more likely to report being able to assess the quality of research in comparison to non-surgical residents (mean rank = 77.52), who were more likely to report being unable to assess the quality of the research (z-score = -3.533, p-value < 0.0001). Another significant difference was in their perception of the time they must read research papers where non-surgical residents (mean rank=82.05) were more likely to report not having enough time to read research papers in comparison to surgical residents (mean rank=96.93); who reported having enough time to do so (z-score = -1.980, p-value = 0.048). On the other hand, there was only one difference in the perceptions between seniors and juniors. Senior residents were more likely to agree that their patients believed in information that is based on evidence (mean rank = 96.72), while junior residents were more likely to be neutral regarding it (mean rank = 80.83) compared to their seniors (z-score = -2.184, p-value = 0.029). Table 10 shows the differences in perceived barriers between different specialties and seniority levels.

Practices Regarding EBM

The participants were asked to report which sources of medical information they used, and their responses are recorded in Table 11. The most frequently used sources of information were medical websites, where 149 participants (85.1%) reported using them often or always, followed by general databases (n=134, 76.5%). and textbooks (n=133, 76%). The least frequently used sources of information were "family medicine specialists," where 89 participants (50.8%) reported that they were not available or that they never consulted them, followed by "social media," with 76 participants (43.4%) reporting as unavailable or never used them.

Table 10

Differences in responses regarding perceived barriers of EBM according to specialty and seniority						
	Specialty			**Seniority**		
Term	**Surgical[u]**	**Non-Surgical[u]**	**P-value**	**Junior[u]**	**Senior[u]**	**P-value**
I can assess the quality of research.	103.72	77.52	<0.001*	84.08	92.76	0.235
I have access to internet to practice EBM	93.79	84.14	0.188	86.77	89.50	0.705
I have time to read research papers.	96.93	82.05	0.048	89.52	86.15	0.649
I have time to practice EBM in my clinic	91.43	85.71	0.447	87.88	88.15	0.970
My clinic facilities are adequate to support the practice of EBM	84.47	90.35	0.434	89.10	86.66	0.742
Research articles are easily available to me	88.41	87.73	0.927	86.24	90.13	0.594
My patients prefer me to practice EBM	88.17	87.89	0.969	85.24	91.35	0.395
My patients believe in information that is based on evidence	93.34	84.44	0.229	80.83	96.72	0.029*
My colleagues support the practice of EBM	84.99	90.01	0.478	85.81	90.66	0.487
My organization supports the practice of EBM	83.41	91.06	0.293	86.39	89.96	0.617
Results obtained after conducting the Mann-Whitney U test, * statistically significant at p-value <0.05. [u] mean ranks						

Table 11

Frequency of using medical information sources						
Source	**Unavailable**	**Never**	**Rarely**	**Sometimes**	**Often**	**Always**
Medical Literature	0 (0.0)	4 (2.3)	8 (4.6)	30 (17.1)	49 (28.0)	84 (48.0)
Textbooks	0 (0.0)	1 (0.6)	11 (6.3)	30 (17.1)	56 (32.0)	77 (44.0)
Journal Articles	0 (0.0)	6 (3.4)	20 (11.4)	42 (24.0)	70 (40.0)	37 (21.1)
Clinical Practice Guidelines	0 (0.0)	2 (1.1)	4 (2.3)	17 (9.7)	41 (23.4)	49 (28.0)
Online Databases	6 (3.4)	9 (5.1)	30 (17.1)	43 (24.6)	41 (23.4)	46 (26.3)
Medical Websites	0 (0.0)	4 (2.3)	2 (1.1)	20 (11.4)	41 (23.4)	108 (61.7)
General Database	0 (0.0)	7 (4.0)	12 (6.9)	22 (12.6)	37 (21.1)	97 (55.4)
Social Media	16 (9.1)	60 (34.3)	33 (18.9)	15 (8.6)	21 (12.0)	30 (17.1)
Medical Apps	13 (7.5)	26 (14.9)	24 (13.7)	36 (20.6)	42 (24.0)	34 (19.4)
Peers and Colleagues	3 (1.7)	3 (1.7)	5 (2.9)	36 (20.6)	64 (36.6)	64 (36.6)
Family Medicine Specialist	30 (17.1)	59 (33.7)	29 (16.6)	21 (12.0)	20 (11.4)	16 (9.1)
Hospital Specialist	8 (4.6)	13 (7.5)	12 (6.9)	34 (19.4)	51 (29.1)	57 (32.6)
Pharmaceutical Representatives	18 (10.3)	46 (26.3)	38 (21.7)	35 (20.0)	29 (16.6)	9 (5.1)
Conferences/Talks/Seminars/ Forums	14 (8.0)	31 (17.7)	34 (19.4)	38 (21.7)	37 (21.1)	21 (12.0)

Responses reported as frequencies (percentages)

Table 12

Differences in responses regarding the frequency of using medical information sources according to specialty and seniority

	Specialty			Seniority		
Term	**Surgical[u]**	**Non-Surgical[u]**	**P-value**	**Junior[u]**	**Senior[u]**	**P-value**
Medical Literature	86.64	88.90	0.755	83.36	93.63	0.151
Textbooks	88.86	87.42	0.844	93.20	81.68	0.110
Journal Articles	100.78	79.48	0.004*	84.60	92.13	0.305
Clinical Practice Guidelines	94.91	83.39	0.12	84.05	92.80	0.236
Online Databases	87.17	88.55	0.856	90.6	84.84	0.442
Medical Websites	81.66	92.22	0.12	91.04	84.31	0.313
General Database	79.54	93.64	0.046*	91.00	84.35	0.340
Social Media	94.14	83.91	0.178	90.12	85.42	0.530
Medical Apps	83.46	91.03	0.324	84.23	92.58	0.269
Peers and Colleagues	72.88	98.08	0.001*	91.33	83.96	0.311
Family Medicine Specialist	85.73	89.51	0.62	88.80	87.03	0.813
Hospital Specialist	88.74	87.50	0.870	88.82	87 (49.7)	0.806
Pharmaceutical Representatives	84.29	90.47	0.419	83.89	93.00	0.226
Conferences/Talks/Seminars/ Forums	81.00	92.67	0.129	86.03	90.40	0.563

Results obtained after conducting the Mann-Whitney U test, * statistically significant at p-value <0.05.
[u] mean ranks

When comparing the responses of surgical residents with non-surgical residents, surgical residents reported using journal articles more frequently (mean rank=100.78) compared to non-surgical residents (mean rank=79.48) with z-score = -2.854 and p-value = 0.004. On the other hand, non-surgical residents reported obtaining information from general databases and colleagues more frequently (mean rank=93.64 and 98.08) than surgical residents (mean rank=79.54 and 72.88) with z-scores=-1.995 and -3.441 and p-values = 0.046 and 0.001, respectively. No significant differences were found according to the seniority of the residents. More details are in Table 12.

Also, the participants' awareness and utilization of different resources used in EBM were assessed, and the results are presented in Table 13. Most of the participants reported being unaware of almost all the resources assessed in the questionnaire. The resources with the highest awareness were Evidence- Based Medicine (from BMJ publishing group) with 102 participants (58.3%) being aware of it, and 33 participants (18.9%) using it in their clinical decision making, followed by BMJ clinical evidence with 91 participants (52%) being aware of it, and 22 participants (12.6%) using it in their clinical decision making.

Table 13

Awareness regarding sources of evidence-based medicine				
Resources	**Unaware**	**Aware but not used in clinical decision making**	**Have read it but not used in clinical decision making**	**Read and used in clinical decision making**
Bandolier (published in Oxford)	120 (68.6)	34 (19.4)	16 (9.1)	5 (2.9)
Evidence Based Medicine (from BMJ publishing group)	73 (41.7)	48 (27.4)	21 (12.0)	33 (18.9)
Database of abstracts of reviews of effectiveness	108 (61.7)	38 (21.7)	20 (11.4)	9 (5.1)
Centre of evidence-based medicine (CEBM)	108 (61.7)	35 (20.0)	20 (11.4)	12 (6.9)
ACP Journal Club	109 (62.3)	36 (20.6)	15 (8.6)	15 (8.6)
BMJ clinical evidence	84 (48.0)	44 (25.1)	25 (14.4)	22 (12.6)
Infoclinics	128 (73.1)	32 (18.3)	13 (7.5)	2 (1.1)
Centre of Reviews & Dissertation	127 (72.6)	29 (16.6)	15 (8.6)	4 (2.3)

Responses reported as frequencies (percentages)

Table 14

Differences in responses regarding awareness of sources of EBM according to specialty and seniority						
	Specialty			**Seniority**		
Term	**Surgical[u]**	**Non-Surgical[u]**	**P-value**	**Junior[u]**	**Senior[u]**	**P-value**
Bandolier (published in Oxford)	95.32	83.12	0.056	90.66	84.77	0.349
Evidence Based Medicine (from BMJ publishing group)	100.09	79.94	0.007*	84.63	92.1	0.305
Database of abstracts of reviews of effectiveness	95.96	82.7	0.051	86.85	89.39	0.704
Centre of evidence-based medicine (CEBM)	97.28	81.81	0.023	87.92	88.10	0.978
ACP Journal Club	93.56	84.3	0.171	90.26	85.25	0.452
BMJ clinical evidence	101.09	79.28	0.003*	81.88	95.44	0.059
Infoclinics	96.18	82.55	0.025*	89.73	85.89	0.520
Centre of Reviews & Dissertation	94.29	83.80	0.087	88.53	87.35	0.845

Results obtained after conducting the Mann-Whitney U test, * statistically significant at p-value <0.05.
[u] mean ranks

Multiple significant differences were found between surgical and non-surgical residents, in which surgical residents were more likely to report higher awareness and usage of the resources in comparison to non-surgical residents. Evidence-Based Medicine (z-score = -2.720, p-value = 0.007),

BMJ clinical evidence (z-score = -2.993, p-value = 0.003), Centre of evidence-based medicine (z-score = -2.276, p-value = 0.023), and Info clinics (z-score=-2.247, p-value=.025). The mean ranks of each group can be found in Table 14. It is noteworthy that differences were almost significant in the database of abstracts of reviews of effectiveness (z-score = -1.995, p-value = 0.051) and Bandolier published in Oxford (z-score = -1.928, p-value = 0.056). No significant differences were found between seniors and juniors regarding the resources used.

DISCUSSION

The response rate during the present study was 44.9%, and 175 surveys (paper and online) were collected. This is viewed as a considerable achievement as the response rate to questionnaire surveys has been dropping [14]. A study in Oman showed only a 21% response rate (93/450) [7], but our response is still lower than other studies, such as by L. V. Ulvenes *et. al* with a 70% response rate [15]. JUH residents are under a high workload, as seen in the number of calls and time spent in patient care, search, and education shown in **Table 1**, which might have influenced the response rate.

The present study showed a positive trend in the attitudes shown by JUH residents regarding EBM in several aspects**.** Upon formal analysis, 97.7% of the residents had heard of the term EBM. Another study had a similar percentage of 96% [16], and this percentage is higher than that of other studies by Zeidan *et al* [12] and Abdulwadud *et al* [17] that reported 46% and 78%, respectively.

Knowledge of EBM was assessed based on self-reported knowledge regarding terminologies used in EBM practice. The level of knowledge was on a scale ranging from "never heard of this term before" to "understand this term and able to explain what it means to others". This study survey has pointed out that JUH residents showed a positive outcome when it came to knowledge about different terms. 'Confidence interval' was shown to be the least familiar term among residents in our study (10.9%), with similar results reported across several studies [9,16,18,19,20]. Moreover, 'Heterogeneity' was one of the least known terms in a few studies [18,19], which is consistent with our results, as 11.4% reported never having heard of this term before. Nevertheless, a study conducted in Japan showed low knowledge of these terminologies among residents [4].

Results of the present study showed a significant difference in the knowledge and perception of EBM between senior and junior residents, as seniors had a better understanding of EBM. This is mostly due to higher exposure to EBM-related activities with more years in clinical training. A study conducted in Oman had similar results, with seniors being more knowledgeable with these terms [7]. Knowledge is a continuous field that exponentially increases with years of experience [19]; as a study showed that doctors with more years in training and those who published papers felt more confident in their EBM knowledge and ability to assess the study designs and research papers, similar to the results of our study [21].

It is important to keep in mind that self-reported knowledge differs from actual knowledge. A systematic review pointed out that there is a significant difference between these two terms, which is believed to contribute to an overestimation of the actual knowledge of physicians. Being knowledgeable of these terms may not be sufficient to apply EBM into clinical practice [11]. A study revealed disagreement between self-perceived EBM knowledge and actual knowledge [22]. Capraş *et al* pointed out that there is some confusion between EBM and clinical decision-making processes, as some clinicians felt hesitant whether their clinical judgement and the patient's choice should override published evidence. However, they stressed that EBM is essential to be integrated into practice [18].

Our results demonstrated a positive trend towards the support of EBM, as 87.4% agreeing to the support of EBM. This is comparable to results from studies with an 82.3%-84% positive response to EBM support [11,16]. Reported results of a systematic review showed a range of 70% to 98.4% supporting the promotion of EBM [11]. Studies conducted in Oman and Iran also showed that residents supported EBM and had a positive attitude [7,10]. Moreover, 64% agreed that EBM improves patient care, which is similar to the finding of the study conducted in Japan that had a 65% response [4].

A study in Iran conducted by Ghojazadeh *et al* stated that one of the most frequently encountered barriers was a lack of suitable facilities [9], which aligns with our findings since 72.5% reported disagreement with 'My clinic facilities are adequate to support the practice of EBM'. The study conducted in Ethiopia mentioned that one of the leading barriers to EBM implementation was that the team culture was not welcoming [20], in contrast to our study showed that 72% believe that their colleagues support EBM. Moreover, 51.4% of our cohort reported that EBM does not decrease their

workload, which is comparable to results of a study showing 54.4% stated the EBM adoption increases load on physicians [18].

Another study from Oman conducted by Al Wahaibi *et al* reported that 53% of the participants were confident to find relevant literature to address their clinical question, which supports our findings since only 24.6% of JUH residents reported disagreement with 'I am able to assess the quality of research'. Moreover, the same study reported 62% agreement (agree and strongly agree) that their facility supports the use of current research in practice, which is similar to our results showing a percentage of 66.3% [7]. Further supporting our findings, a study from Eastern Ethiopia showed 53.2% do not know how to find research reports [20], another showed that clinicians felt no confidence in evaluating a paper's design, generalizability and overall worth [21] and a study conducted in Canada also showed that less than half felt confident with critical appraisal of studies [23].

As to EBM practices, several studies have shown that the most frequently used resources among residents were medical websites, general databases, and textbooks [9,10,11,15,16]. which is consistent with the findings of our study. Moreover, a few studies pointed out the use of colleagues' opinions in clinical decisions [4,16,11,15,23], which also parallels our results. With regards to the assessment of the databases used, a systematic review showed that there is a low awareness regarding databases [11], and another study pointed out poor knowledge [16], as our results have shown that most residents have low awareness of the mentioned databases. In addition, a study pointed out that residents do not use these databases and associated resources appropriately [10].

A study conducted in Japan mentioned that one of the most highly used resources was BMJ clinical evidence [4], as this source takes the spot as the second most used among JUH residents. A study in Saudi Arabia pointed out that 56% of its study population used Evidence-Based Medicine (from BMJ publishing groups) [16], which almost aligns with our analyzed data, as 58.3% used it. Lastly, several conducted studies showed no significant association found between junior and senior residents in used resources and related awareness [4,10,16], all of which is consistent with our findings.

Strengths and limitations

The present study has significant strengths. First, our questionnaire is considered a rigorous and validated tool, as mentioned previously in the methods section. Second, we encountered a few missing responses as we made sure all questions were answered during the data collection phase. Moreover, we were able to collect responses from all specialties under training in JUH, which gave us an insight into different departments. It provides baseline information about the overall picture of EBM, its impact on clinical practice, and ways to further enrich its use, interpretation, and address knowledge gaps. However, our study has a few limitations. The data collection of some online forms may have resulted in selection bias by targeting a specific group. Moreover, our strategy is intended to evaluate issues at a specific point in time and lacks a control group to compare outcomes.

CONCLUSIONS & RECOMMENDATIONS

Despite having received no formal training in this area during their years of training, JUH residents demonstrated positive views regarding EBM, supporting it, and believing in its conclusions. They also generally had good terminology knowledge. More than 85% utilize medical websites, more than 50% have papers published, and more than 50% endorse EBM. However, their continued use of EBM was limited because of the heavy patient load, on-calls, and time spent studying and learning, since most felt that EBM would add to their burden.

Understanding EBM extends well beyond identifying obstacles, reading published research, or being familiar with concepts. To obtain a more thorough evaluation of physicians' knowledge and how they approach and critically evaluate research articles in order to discover the answers to their queries, we emphasize the significance of performing problem-based scenarios and their implementation in real-world settings. More work needs to be put into strengthening the abilities needed to apply EBM at the point of care. Three key components were highlighted in the study: education, weekly integration of EBM into activities, and creation of local practice guidelines.

Author contributions

Conceptualization, MA; methodology, DOS and OI; validation, RA and ZS; formal analysis, OI; investigation, FB; resources, AMA and NJA; writing—original draft preparation, FB, DOS, RA, ZS, AMA, NJA and OI; writing—review and editing, MA, AMA and NJA; visualization, FB; supervision, FB; project administration; FB. All authors made substantial contributions to the conception and design, acquisition of data, and drafted the article or revised it critically for

important intellectual content. All authors have read and agreed to the published version of the manuscript.

Funding

No funding was provided for this study.

Availability of data and materials

The datasets generated during and/or analyzed during the current study are not publicly available but may be made available by the corresponding author on reasonable request.

Conflict of interests

The authors declare that they have no competing interests.

Acknowledgement

The authors appreciate the efforts of the residents who filled in the survey.

.

REFERENCES

[1] S. I. Saarni and H. A. Gylling, "Evidence based medicine guidelines: a solution to rationing or politics disguised as science?," *Journal of Medical Ethics*, vol. 30, no. 2, p. 171, Apr. 2004, doi: 10.1136/jme.2003.003145.

[2] D. L. Sackett, W. M. C. Rosenberg, J. A. M. Gray, R. B. Haynes, and W. S. Richardson, "Evidence based medicine: what it is and what it isn't," *BMJ*, vol. 312, no. 7023, p. 71, Jan. 1996, doi: 10.1136/bmj.312.7023.71.

[3] W. F. Miser, "An Introduction to Evidence-Based Medicine," *Primary Care: Clinics in Office Practice*, vol. 33, no. 4, pp. 811–829, Dec. 2006, doi: 10.1016/j.pop.2006.10.001.

[4] R. R. Risahmawati, S. S. Emura, T. T. Nishi, and S. S. Koizumi, "Japanese Resident Physicians' Attitudes, knowledge, and Perceived Barriers on the Practice of Evidence Based Medicine: a Survey," *BMC Research Notes*, vol. 4, no. 1, p. 374, Dec. 2011, doi: 10.1186/1756-0500-4-374.

[5] A. Halalau *et al.*, "Evidence-based medicine curricula and barriers for physicians in training: a scoping review," *International Journal of Medical Education*, vol. 12, pp. 101–124, May 2021, doi: 10.5116/ijme.6097.ccc0.

[6] S. J. Lewis and B. I. Orland, "The Importance and Impact of Evidence Based medicine," *Journal of Managed Care Pharmacy*, vol. 10, no. 5 Supp A, pp. S3–S5, Sep. 2004, doi: 10.18553/jmcp.2004.10.S5-A.S3.

[7] A. Al Wahaibi *et al.*, "Knowledge and Attitudes of Oman Medical Specialty Board Residents towards Evidence-Based Medicine," *Oman Medical Journal*, vol. 29, no. 3, pp. 178–184, May 2014, doi: 10.5001/omj.2014.45.

[8] I. A. Mansi and D. E. Banks, "The challenge of evidence-based medicine.," *Southern medical journal*, vol. 105, no. 3, pp. 110–3, Mar. 2012, doi: 10.1097/SMJ.0b013e31824af18f.

[9] M. Ghojazadeh, S. Azami-Aghdash, F. Pournaghi Azar, M. Fardid, M. Mohseni, and T. Tahamtani, "A systematic review on barriers, facilities, knowledge and attitude toward evidence-based medicine in Iran," *J Anal Res Clin Med*, vol. 3, no. 1, pp. 1–11, 2015, doi: 10.15171/jarcm.2015.001.

[10] E. Rezazadeh *et al.*, "A study of resident′s attitude, knowledge and barriers towards the use of evidence based medicine," *International Journal of Health System and Disaster Management*, vol. 1, no. 1, p. 38, 2013, doi: 10.4103/2347-9019.122456.

[11] F. Barzkar, H. R. Baradaran, and J. Koohpayehzadeh, "Knowledge, attitudes and practice of physicians toward evidence-based medicine: A systematic review," *Journal of Evidence-Based Medicine*, vol. 11, no. 4, pp. 246–251, Nov. 2018, doi: 10.1111/jebm.12325.

[12] A. Z. Zeidan and M. M. Behairy, "Knowledge Attitudes and Practices of evidence based medicine among residence doctors in Sudan," *Sudan Journal of Medical Sciences*, vol. 5, no. 3, Nov. 2010, doi: 10.4314/sjms.v5i3.62009.

[13] R. Hisham *et al.*, "Development and validation of the Evidence Based Medicine Questionnaire (EBMQ) to assess doctors' knowledge, practice and barriers regarding the implementation of evidence-based medicine in primary care," *BMC Family Practice*, vol. 19, no. 1, p. 98, Dec. 2018, doi: 10.1186/s12875-018-0779-5.

[14] B. R. McAvoy and E. F. S. Kaner, "General practice postal surveys: a questionnaire too far?,"

BMJ, vol. 313, no. 7059, pp. 732–733, Sep. 1996, doi: 10.1136/bmj.313.7059.732.

[15] L. V. Ulvenes, O. Aasland, M. Nylenna, and I. S. Kristiansen, "Norwegian Physicians' Knowledge of and Opinions about Evidence-Based Medicine: Cross-Sectional Study," *PLoS ONE*, vol. 4, no. 11, p. e7828, Nov. 2009, doi: 10.1371/journal.pone.0007828.

[16] A. H. Altemani and A. H. Altemani, "Primary Health Care Physicians' Knowledge, Attitude and Practice towards Evidence-Based Medicine in Tabuk City, KSA," *The Egyptian Journal of Hospital Medicine*, vol. 70, no. 9, pp. 1475–1479, 2018.

[17] O. Abdulwadud *et al.*, "Cochrane, evidence-based medicine and associated factors: A cross-sectional study of the experiences and knowledge of Ethiopian specialists in training," *African Journal of Emergency Medicine*, vol. 9, no. 2, pp. 70–76, Jun. 2019, doi: 10.1016/j.afjem.2019.01.005.

[18] M. Al Omari, Y. Khader, K. Jadallah, A. S. Dauod, A. A. K. Al-shdifat, and N. M. Khasawneh, "Evidence-based medicine among hospital doctors in Jordan: awareness, attitude and practice," *Journal of Evaluation in Clinical Practice*, vol. 15, no. 6, pp. 1137–1141, Dec. 2009, doi: 10.1111/j.1365-2753.2009.01260.x.

[19] M. Baig, Z. Alamin, O. Almouteri, and M. Algarni, "Perceptions and practices of physicians' towards evidence-based medicine and physicians perceived barriers in Jeddah, Saudi Arabia," *Pakistan Journal of Medical Sciences*, vol. 32, no. 1, Dec. 1969, doi: 10.12669/pjms.321.8841.

[20] T. Worku, M. Yeshitila, T. Feto, S. Leta, F. Mesfin, and H. Mezmur, "Evidence-based medicine among physicians working in selected public hospitals in eastern Ethiopia: a cross-sectional study," *BMC Medical Informatics and Decision Making*, vol. 19, no. 1, p. 107, Dec. 2019, doi: 10.1186/s12911-019-0826-8.

[21] J. A. Hadley, D. Wall, and K. S. Khan, "Learning needs analysis to guide teaching evidence-based medicine: knowledge and beliefs amongst trainees from various specialities," *BMC Medical Education*, vol. 7, no. 1, p. 11, Dec. 2007, doi: 10.1186/1472-6920-7-11.

[22] R.-D. Capraş, A. E. Bulboacă, and S. D. Bolboacă, "Evidence-based medicine self-assessment, knowledge, and integration into daily practice: a survey among Romanian physicians and comparison between trainees and specialists," *BMC Medical Education*, vol. 20, no. 1, p. 19, Dec. 2020, doi: 10.1186/s12909-020-1933-z.

[23] F. A. McAlister, I. Graham, G. W. Karr, and A. Laupacis, "Evidence-based medicine and the practicing clinician," *Journal of General Internal Medicine*, vol. 14, no. 4, pp. 236–242, Apr. 1999, doi: 10.1046/j.1525-1497.1999.00323.x..

اتجاهات الطب المسند بين المقيمين في مستشفى الجامعة الأردنية. الإدراك والممارسة والحواجز المصادفة للتنفيذ في البيئات السريرية

فريهان برغوتي[1]، أسيل الربابعة[2]، ناديه المحلاوي[2]، دارا سليمان[3]، راوند العمايرة[3]، زينه صمادي[3]، عمر اسماعيل[3]

[1]قسم طب الأسرة والمجتمع، كلية الطب، الجامعة الأردنية، عمان، الأردن.

[2] قسم طب الأسرة والمجتمع، مستشفى الجامعة الأردنية، الجامعة الأردنية، عمان، الأردن.

[3] كلية الطب، الجامعة الأردنية، عمان، الأردن.

الملخص

الخلفية: الطب المبني على الأدلة (EBM) هو مصطلح اكتسب تعريفات مختلفة في أماكن مختلفة ويعتبر مفهومًا غامضًا. ومع ذلك، فهو يمثل نمطًا تجريبيًا للتفكير في الطب. خلال العقود القليلة الماضية، كان لـ EBM تأثير كبير على الممارسة السريرية. إن الطب المستند إلى الطب هو نهج يركز على المريض في الطب ويؤسس المعرفة السريرية على الأدلة.

الهدف: هدفت الدراسة إلى تقييم موقف المتدربين الطبيين ومعرفتهم وممارستهم للطب المسند بالأدلة والعقبات التي واجهتهم في البيئات السريرية. بهدف تحديد العلاقة بين المتدربين في مختلف المستويات والأقسام وانعكاساتها على رعاية المرضى.

الطريقة: أجريت هذه الدراسة الوصفية المقطعية العرضية في مستشفى الجامعة الأردنية (JUH)، وهو مستشفى جامعي مرجعي يضم 600 سرير. شمل مجتمع دراستنا جميع الأطباء المقيمين في مستويات مختلفة من التدريب والصغار وكبار السن، ووصل مجموعهم إلى 390 متدربًا. تم تناول جميع التخصصات، جراحية وغير جراحية. كان المسح المستخدم عبارة عن استبيان تم التحقق منه بعنوان "استبيان الطب المبني على الأدلة، EBMQ". تم الاتصال بالمقيمين إما مباشرة قبل أو بعد ساعات أو جولات العيادة وطُلب منهم ملء الاستبيان باستخدام الطريقة التقليدية من القلم والورق. تم الاتصال ببعض السكان عبر الإنترنت من خلال رقم WhatsApp الخاص بهم عبر مجموعة WhatsApp أو Facebook messenger ليتم ملؤها وفقًا لسرعتهم الخاصة وكانوا أكثر تعاونًا. كان الاستطلاع عبر الإنترنت عبارة عن رابط إلى نموذج Google بنفس الحقول مثل النموذج الورقي.

النتائج: تم التواصل مع 175 ساكن وملء الاستبيان. تم تحليل وتفسير المعرفة والمواقف والإدراك والممارسات المتعلقة بـ EBM. الخلاصة: أظهروا مواقف إيجابية تجاه EBM ودعمها والثقة في نتائجها، مع معرفة جيدة بشكل عام بالمصطلحات المستخدمة على الرغم من عدم وجود تدريب رسمي في هذا المجال خلال سنوات تدريبهم حيث أظهر الغالبية موقفًا إيجابيًا تجاه الأساليب المقاسة المختلفة. نشر أكثر من 50٪ أوراقًا بحثية وأكثر من 85٪ يستخدمون المواقع الطبية ويدعمون EBM. ومع ذلك، نظرًا لارتفاع عبء المرضى، أدى إجراء المكالمات والوقت الذي يقضونه في الدراسة والتعليم إلى الحد من استخدامهم الإضافي لـ EBM نظرًا لأن معظمهم يعتبر EBM لزيادة عبء العمل.

الكلمات الدالة: الطب المسند، الطب القائم على الأدلة، الرعاية الصحية الأولية، طب الأسرة، الرعاية الصحية الأولية في الأردن، المراكز الطبية الأكاديمية، الطب القائم على الأدلة / التعليم.