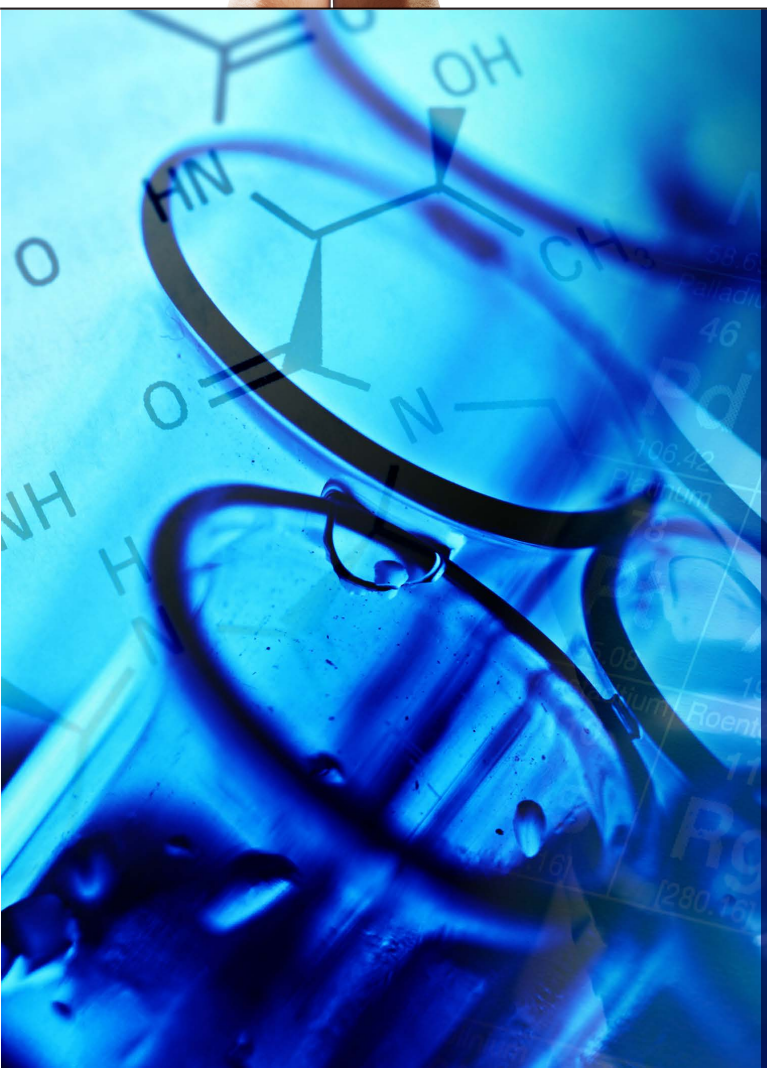
Iraqi Medical Students' Perceptions Towards Undergraduate Breast Curricula During the COVID-19 Pandemic

Nojoum MMS, Macaskill J, Al-Barrak SM, Al-Khairalla M

WJMER

World Journal of Medical Education and Research

An Official Publication of the Education and Research Division of Doctors Academy



DOCTORS ACADEMY

BETTER EDUCATION. BETTER HEALTH.

ISSN 2052-1715

Introduction

The World Journal of Medical Education and Research (WJMER) (ISSN 2052-1715) is an online publication of the Doctors Academy Group of Educational Establishments. Published on a quarterly basis, the aim of the journal is to promote academia and research amongst members of the multi-disciplinary healthcare team including doctors, dentists, scientists, and students of these specialties from around the world. The principal objective of this journal is to encourage the aforementioned, from developing countries in particular, to publish their work. The journal intends to promote the healthy transfer of knowledge, opinions and expertise between those who have the benefit of cutting edge technology and those who need to innovate within their resource constraints. It is our hope that this will help to develop medical knowledge and to provide optimal clinical care in different settings. We envisage an incessant stream of information flowing along the channels that WJMER will create and that a surfeit of ideas will be gleaned from this process. We look forward to sharing these experiences with our readers in our editions. We are honoured to welcome you to WJMER.

Volume 32, Issue 1, 2026, World Journal of Medical Education and Research (WJMER). An Official Publication of the Education and Research Division of Doctors Academy Group of Educational Establishments.

Electronic version published at	:	Doctors Academy UK, 189 Whitchurch Road, Cardiff, CF14 3JR, South Glamorgan, United Kingdom
Print version printed and published at	:	Abbey Bookbinding and Print Co., Unit 3, Gabalfa Workshops, Clos Menter, Cardiff CF14 3AY
ISBN	:	*978-93-80573-96-0.*
Designing and Setting	:	Doctors Academy, DA House, Judges Paradise, Kaimanam, Trivandrum, 695018, Kerala, India
Cover page design and graphics	:	Sreekanth S.S
Type Setting	:	Lakshmi Sreekanth
Contact	:	wjmer@doctorsacademy.org.uk

A WELCOME MESSAGE FROM THE EDITORS

Dear Reader,

It is our great pleasure to present the thirty-second edition of the World Journal of Medical Education and Research (WJMER). This issue brings together a diverse collection of scholarly articles that reflect current innovations, challenges, and opportunities in medical education, health sciences, and public health across global contexts. The contributions highlight the evolving nature of healthcare education, with a particular emphasis on learner development, equity, pedagogy, and improvement at a systems level.

The opening article by Alarar et al. evaluates the effectiveness of an online scientific research methodology course for undergraduate students at Syrian universities. Using pre- and post-course assessments, the authors demonstrate significant improvements in students' research knowledge and skills, underscoring the value of structured e-learning approaches in strengthening research capacity, particularly in crisis-affected and resource-limited settings.

In the following article, Ponce-Garcia et al. explore microaggressions in medical education and reframe them as cumulative, identity-based trauma rather than isolated interpersonal incidents. Drawing on interdisciplinary evidence, the paper highlights the biological, psychological, and educational consequences of chronic identity-based stress and calls for trauma-informed institutional reforms to foster inclusive and supportive learning environments.

The next study by Nojoum et al. examines Iraqi medical students' perceptions of undergraduate breast curricula during the COVID-19 pandemic. Through qualitative interviews, the authors identify key themes related to e-learning, gaps in breast disease education, and barriers to clinical examination. The findings reveal widespread dissatisfaction with current teaching approaches while highlighting structural challenges that were exacerbated by the pandemic.

Farooq et al. investigate the relationship between emotional intelligence and academic performance amongst undergraduate medical students in Pakistan. The study demonstrates a significant positive correlation between emotional intelligence and academic success, suggesting that emotional competencies may play an important role in student performance, stress management, and motivation within demanding medical programmes.

This issue also includes a narrative review by Pratham and Bhalekar on the therapeutic potential of natural compounds in neurotransmitter-related diseases such as Parkinson's and Alzheimer's disease. The authors discuss emerging evidence on compounds such as curcumin and flavonoids, highlighting their neuroprotective and anti-inflammatory properties while emphasising the need for further research to translate these findings into effective clinical applications.

Singha and Majumder focus on medical education for community health workers. The paper synthesises evidence on educational strategies that enhance competencies, motivation, and public health outcomes, advocating for competency-based, digitally-supported, and rights-based approaches to professional development as a foundation for equitable health systems.

The effectiveness of integrative case-based learning and case seminar approaches in teaching pathology laboratory concepts to PharmD students is examined by Garalla and Burgeia in the next study. The findings indicate that active learning strategies significantly improve knowledge acquisition, critical thinking, and clinical preparedness compared to traditional teaching methods, reinforcing the value of learner-centred pedagogies.

In the subsequent article, Ayub Khan et al. assess alumni perceptions of a Master in Health Professions Education (MHPE) program in Pakistan. Using the RE-AIM framework, the study highlights perceived gains in teaching capacity, curriculum development, and leadership skills, while identifying areas for improvement in educational evaluation and mentorship to maximise programme impact across career stages.

The final article by John et al. explores the use of data analytics in improving health education outcomes, presenting a human-centred framework that integrates technology, pedagogy, ethics, and organisational capability. The paper offers practical recommendations for education leaders, demonstrating how analytics can enhance learner engagement, institutional decision-making, and community health literacy when implemented responsibly.

We sincerely hope that you find the articles in this edition educational, thought-provoking, and relevant to your academic and professional interests. Together, these contributions reflect WJMER's ongoing commitment to advancing scholarship that informs practice, promotes equity, and strengthens health education globally.

Ms Karen Au-Yeung
Associate Editor

Dr Rebecca Williams
Associate Editor

Medical Education
DAUIN 20260224

World Journal of Medical Education and Research:
An Official Publication of the Education and Research Division of Doctors Academy

Iraqi Medical Students' Perceptions Towards Undergraduate Breast Curricula During the COVID-19 Pandemic

Nojoum MMS[1], Macaskill J[1], Al-Barrak SM[1], Al-Khairalla M[1]

Institution
University of Dundee, Nethergate, Dundee DD1 4HN, United Kingdom

Abstract:
Purpose: In Iraq, breast cancer is a leading cause of death amongst females, with a mortality rate of 23%[1]. There is a gap in the literature regarding medical students' experience of breast disease teaching and study methods in the setting of low income countries. This project aims to assess the availability of educational resources about breast disease available to medical students; and assess the advantages and disadvantages of breast curriculum for Iraqi medical students.
Methods: A qualitative approach and semi-structured interview was utilised. A purposive sample was used, and students were invited to an interview on a virtual platform. Transcripts were analysed using methodology outlined by Braun and Clarke[2].
Results: The findings of the study illustrate three key themes in relation to medical students' perspectives of breast teaching in Iraq: eLearning in the midst of a pandemic, learning about breast disease, and barriers to breast examination.
Conclusion: Overall, there was a sense of dissatisfaction regarding teaching experience of breast. Nevertheless, there are some key underlying issues which were potentially exacerbated by the pandemic. It is important to address these issues due to the predominance of breast disease in this region[3].

Key Words:
Breast Cancer; COVID-19; Developing Country; Iraq

WJMER, Vol 32: Issue 1, 2026

Corresponding Author:
Mr Magd M. S. Nojoum; E-mail: mmsnojoum@dundee.ac.uk

Introduction

In Iraq, breast cancer is a leading cause of death amongst females, with a mortality rate of 23%[1]. Females in Iraq tend to present later than their western counterparts,[4] with up to 47% of women presenting with advanced disease[5]. Therefore, there is a need to address the issues of breast cancer awareness and training[1].

There are many challenges regarding medical education in Iraq, key issues identified by physicians include a need to change the culture of medical education, such as changes to teaching style, and increasing educational opportunities[6]. However, provision of adequate clinical case exposure, and limited resources are issues in this country[6]. Unfortunately, these issues have been further exacerbated by the COVID-19 pandemic, and has led to the closure of universities, and medical teaching has been suspended and replaced with online teaching[7].

A literature search on medical students' experiences of breast teaching in low-income countries illustrated that there was an insufficient level of knowledge surrounding breast disease[8,9]. In this way, there is a need to explore medical students' experience of learning about breast disease. There is a gap in the literature regarding medical students' experience of breast disease teaching and study methods in the setting of low or low-middle income countries. This is a critical area of inquiry, particularly due to the changes implemented out of necessity during the COVID-19 pandemic, such as online learnin[7]. This project aims to assess the availability of online resources about breast disease; and assess the advantages, challenges, and areas of improvement for the breast curriculum for Iraqi medical students.

Materials and Methods

Data Collection

A pro forma for the interview was developed as shown in ***Table 1***. Participants were invited to discuss various aspects of breast teaching; guided by the Royal College of Surgeons undergraduate curriculum for breast disease[10]. All participants were interviewed in a private room on a virtual platform. Interviews lasted 18-46 minutes. Respondents all answered all of the researchers' questions.

Proforma
1. Breast Teaching Discuss resources/study methods/teaching methods used for each outcome by the student and by the university: 1. Breast Examination 2. Breast basic sciences including Anatomy & Genetics 3. Breast Investigations 4. Benign Breast Conditions 5. Management of Breast cancer 6. Breast History-taking 7. Exposure to breast surgery/medicine/pathology/MDT in clinical practice 2. E-learning Impact of the COVID-19 pandemic Perceived/current role of e-learning in relation to medical education Applicability of eLearning in medical education Pros & cons of eLearning in medical education?

Table 1: Proforma

Sample

A purposive sample was used. Boundaries informed appropriate selection criteria, this included: Senior medical students attending a medical school in Iraq. Invitations to participate were distributed via word of mouth, and interested participants contacted the researcher via email or telephone (n=15). Information leaflets regarding the study were distributed, and any queries were discussed via email or telephone. A convenient time and virtual platform were arranged for each participant. All participants gave written, informed consent. Interviews were conducted by one of the research team (MN). The interviewer had no previous or ongoing relationship with the people they interviewed.

Data Analysis

Transcripts were analysed using methodology outlined by Braun and Clarke [2]. Data was analysed using primary and secondary cycle methodology [11].

Results

Of the students invited, ten completed the interview. See ***Table 2***.

Name (Pseudonym)	University	Gender	Stage
Najla	University Al-Iraqia	Female	6th
Zeinab	University of Wasit	Female	6th
Souad	University of Baghdad	Female	6th
Rahaf	University Al-Mustansiriyah	Female	5th
Maryam	University of Wasit	Female	5th
Zakiya	University of Baghdad	Female	5th
Nassir	University of Baghdad	Male	6th
Qadr	University of Baghdad	Male	6th
Yahya	University Al Mustansiriyah	Male	6th
Hashim	University of Baghdad	Male	5th

Table 2: Data Sample

The table below illustrates the overarching themes and descriptive codes used to analyse the transcribed data.

Themes	Descriptive codes
eLearning & the pandemic	Uncertainty Limited Clinical Exposure Significant Drawbacks of eLearning Potential Role of eLearning Preference for Active Learning
Learning about breast disease	Paternalism Lecture & textbooks based Passive learning Little Teaching Missing pieces Video-based resources Websites
Barriers to breast examination	Needs Improvement Limited experience Mannequin-based Teaching Gender Sensitivity Culture/family issues Distrust of Medical Students

Table 3: Themes and Descriptive Codes

eLearning and the Pandemic

The first theme that appeared from the study was the impact of the COVID-19 pandemic on students' education. The pandemic presented many challenges for senior students, particularly as they were approaching entering the workforce. One hundred percent of students reported that inability to experience clinical learning – including experiences such as patient communication, observing surgical operations, and seeing the management of medical cases had a negative impact on their studies. Fifty percent of the students interviewed reported that they had not met any patients with breast disease.

"I think that it's because of the pandemic most of the time we stayed at home and it was like e-learning and doctors would upload their lectures on YouTube and it was a self-study most of the time…We didn't see any patients the doctor said there were no patients that had breast problems at the time maybe that's why we didn't get to see patients and take history and examination"

Zakiya

Sixty percent of students reported that they felt a large degree of anxiety surrounding the COVID-19 pandemic and preparedness to enter the workforce. Of these students, there was an equal distribution between male and female gender.

"Actually because of the covid 19 situation I feel like I'm not prepared at all. I'm doing my best. But you know how it is, its covid and we take online classes… we don't know what will happen tomorrow, or if I go to, if I leave my home will I come back or not? This is the question. So, you don't have a lot of opportunities, being an Iraqi actually you don't have a lot of opportunities, you should like make your own path. Like you have to make your own path. Like if I was in their situation, I won't stay for one second in our country. Because today is stable but tomorrow you don't know, what will happen tomorrow."

Souad

Limitations of eLearning

Students unanimously reported that there were significant drawbacks in the utilisation of eLearning in medical education.

"I think it's not useful to us, we are medical students, we just study papers and that's it. We should go to see the patient and do the examination by ourselves, see operations with our eyes. And I think the system used now is useless. We are just memorising but not understanding. So, it's useless actually, useless and difficult at the same time."

Najla

Furthermore, 100% of participants reported a preference for active learning. The general definition

of active learning is "any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing". Medical students interviewed discussed the drawbacks of eLearning as primarily focused on the loss of active learning. Students expressed that patient interaction, simulated teaching, and teacher-interaction were better methods of learning about breast disease.

"It's important in theoretical subjects but clinically you need a patient in front of your eyes to feel it to examine it with your hands otherwise it will not become in your mind… We need to see them in clinical life and real life. Okay I'm studying that subject breast cancer and its features and how to investigate it, examine and so on but so as I said till now I don't see any patients with this case so it's difficult"
Yahya

Nonetheless, 90% of students expressed that there were benefits to eLearning, and that there was potentially a role for eLearning in medical education.

"..from the aspect of time we don't have to get up early and go to college, and in lectures while the doctor is explaining the student might miss stuff, and they don't catch it to write it down, so they don't get the whole information, but with eLearning if we miss something we can stop the recording and revise it. For theoretical stuff yes, the e-learning is so much better, and for us as medical student for theoretical stuff eLearning is better than in person"
Zeinab

Learning About Breast Disease

With regards to teaching and learning styles, all students reported that breast teaching was heavily based on lectures and textbooks. There was no literature on how undergraduate breast curriculum is taught in low-income settings. Most students expressed dissatisfaction with the level of teaching they received for Breast.

"(For Breast) 100 slides given in about 1-2 lectures only and the source they use they return to Bailey and Love Book of surgery… In our study we return to our surgery book Bailey and Love. It's our book, it is very popular here in Iraq and most of the college medical schools in Iraq we depend on it in surgery, so me and my colleagues we will return to Bailey and Love to study the breast in a better way."
Najla

All participants interviewed identified weak areas within the breast teaching curriculum. Firstly, 60% of students felt there was not enough breast teaching in their respective college curriculum. The gender divide was equal, with (n=3) females and males reporting that there should be more teaching for breast. 40% of students specifically expressed that they felt breast disease was an important topic within the Iraqi community, most students expressing this opinion were male (n=3).

"During the whole final year just one clinical session on the breast. It lasted about less than one hour. We only took one eLearning session for the breast, and I think it's not sufficient - I think we didn't learn the breast efficiently compared to how significant the breast issues are."
Qadr

An important area of discussion was factors that contribute to dissatisfaction with breast teaching. Firstly, 60% of students identified low resources, and large numbers of students as a reason contributing to limited teaching. Low resources identified included availability of simulated teaching mannequins, laboratory equipment, and private spaces to perform intimate examinations on patients.

Despite the barriers and issues medical students faced regarding breast teaching, many students displayed resourcefulness in overcoming the gaps in their learning. Seventy percent of students reported that they felt their curriculum was very self-directed, particularly in the advent of the COVID-19 pandemic. Ninety percent of students utilised online resources to supplement their learning and perceived missing pieces within the breast curriculum, this primarily included video-hosting websites and online Multiple-Choice Question (MCQ) banks. Other methods mentioned included spaced repetition, and peer learning. Fifty percent of students also reported going to clinical settings or seeking senior teaching out with formal hours to gain additional experience and learning. All students interviewed demonstrated the ability to identify and address their learning needs.

"One of our professors said that to be a good clinician you have to take history at least once every week, like you can't go a week without taking a history or doing a physical examination; so I try to stick to this advice. I double-masked and wore a face shield and just went to the hospital. That's the least I can do because it's important. I had my 3rd and 4th, and half of my 5th year, so why waste the skills I already have? I have to keep them."
Nassir

Barriers to Mastering Breast Examination

Eighty percent of students reported that breast examination was an area of concern within the breast curriculum. One hundred percent of male

students reported that this was a key area for improvement, and 66.6% of female students reported the same sentiment. Students reported that teaching of breast examination skills was reliant on simulated learning using mannequins and medical models, and 80% of students interviewed had not performed breast examination on a real patient, this included both male (n=3) and female (n=4) students. The remainder of students had performed breast examination on a real patient once (n=2), and one student had performed breast examination twice (n=1). Eighty percent of students reported that skill-lab based teaching using mannequins to simulate real -life were the basis of breast examination teaching.

"As I tell you, now that I've completed my studies, I haven't examined a breast pathology as simple as fibroadenoma whatsoever, I didn't feel a breast lump last year or axillary lymph node or such pathology. So, if our doctors can help us to examine the patient that would be more helpful."
Qadr

Seventy percent of participants reported gender dynamics as a barrier to mastering breast examination. One hundred percent of male participants expressed this view.

"(Breast examination) teaching is sometimes difficult; you know we are in the Middle East so in the female clinical exam with females is sometimes very difficult… sometimes our doctors tell female students to do that (breast examination) we just look at them and sometimes the patient doesn't even accept for us to watch"
Hashim

Fifty percent of participants reported that distrust of medical students was a barrier to performing breast examination on patients.

Discussion

As a result of the COVID-19 pandemic medical schools across the world began to remove students from clinical environments as infection rates increased. Educators opted to move teaching online, as social distancing measures prohibited the gathering of medical students [12]. Previous studies in low-resource settings indicate that anxiety and uncertainty was prevalent in the medical student population. Students felt that inability to participate or learn actively from patient interaction was extremely challenging, as they felt that these experiences were beneficial for establishing competence [13]. These findings were echoed in the views of senior Iraqi medical students.

Earlier studies of the utilisation of distance learning as an educational platform illustrates that students generally struggle with eLearning compared to in-person learning. Reasons for this include poor internet connection, limited communication opportunities and unfamiliarity with online study [14]. Indeed, this study illustrated that students preferred seeing patients in real time to further their learning and similar boundaries to benefitting from online learning were discussed.

Studies examining self-directed learning readiness in low-income settings illustrated that high readiness was more likely to be present in males compared to females. There was also a positive relationship between students that attended medical schools that implemented problem-based learning versus schools which encouraged rote learning [15]. Self-directed learning and the ability to persevere despite setbacks is a key skill for any medical professional, particularly as medicine is an ever-growing and ever-changing field [16]. In this way, it is a positive point that Iraqi medical students were able to be creative in their learning methods and take responsibility for their learning needs.

Cultural or religious beliefs may prevent learning opportunities for medical students, in particular male students. Furthermore, studies examining the effect of gender on learning clinical examination skills in the Arab world, found that patients of all sexes were more accepting of female students. In addition, tutors were more likely to select female students to perform intimate examinations. Conversely, male students did not feel encouraged or supported in conducting intimate examinations [17]. This may present a barrier for medical students learning to perform breast examination on a real patient.

As far as the researchers are aware, there is no good quality research on patient perspectives on the role of medical students in the setting of the developing world.

Improving Breast Teaching

Low resources following financial crises in Iraq have had a negative impact on medical education [6]. Moving towards a student-centred curriculum is a key priority for medical education in Iraq, and this can be achieved by introducing more clinical sessions, improving infrastructure, resources and facilities and increasing student-teacher interaction [18]. Senior medical students demonstrated a passion for medicine and were enthusiastic about improving teaching methods for upcoming generations of future doctors. This readiness to learn can be met by including breast clinics in surgical teaching blocks to increase student exposure to the breast speciality. Moreover, including a smaller number of

students per teaching session would allow for more opportunities to learn and engage with patients and teachers. Another advantage of smaller groups is the likelihood of increasing patient readiness to consent to student examination. In addition to this, seniors need to take more responsibility with regards to ensuring students obtain enough experience of examining real patients. Senior supervised patient-student interactions are more likely to be acceptable to patients, although gender remains a barrier for breast examination.

Conclusions

The main findings of the study illustrate three key themes in relation to medical students' perspectives of breast teaching in Iraq: eLearning in the midst of a pandemic, learning about breast disease, and barriers to breast examination. Overall, there was a sense of dissatisfaction regarding teaching experience of breast, largely due to limitations imposed by the pandemic and sudden introduction of eLearning in the curriculum. Nevertheless, there are some key underlying issues which were potentially exacerbated by the pandemic. These included difficulties of limited resources, predominance of passive learning in the curriculum, and cultural barriers to learning breast examination. The authors recommend harnessing the enthusiasm and passion of the medical students to learn and improve learning by restructuring the inclusion of breast teaching into smaller groups for examination with good supervision and active learning opportunities.

References

1. Alwan N. Breast Cancer Among Iraqi Women: Preliminary Findings From a Regional Comparative Breast Cancer Research Project. JCO Global Oncology. 2016;2(5).
2. Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006;3:77–101.
3. Salem H, Daher-Nashif S. Psychosocial Aspects of Female Breast Cancer in the Middle East and North Africa. International Journal of Environmental Research and Public Health. 2020;17:6802.
4. Karim SA, Ghalib HH, Abdullah S. The incidence, age at diagnosis of breast cancer in the Iraqi Kurdish population and comparison to some other countries of Middle-East and West. International Journal of Surgery. 2016;32:185.
5. Alwan N. Breast cancer: demographic characteristics and clinico-pathological presentation of patients in Iraq. East Mediterr Health Journal. 2010;16(11):1159–64.
6. Al Shamsi M. Medical education in Iraq: issues and challenges. International Journal of Medical Education. 2017;8:88–90.
7. Al-Mendalawi MD. Teaching Paediatrics in Iraq Amid the COVID-19 Pandemic. Sultan Qaboos Univ Med J. 2020;20:e408–9.
8. Noreen M, Murad S, Furqan M. Knowledge and awareness about breast cancer and its early symptoms among medical and non-medical students of Southern Punjab, Pakistan. Asian Pac J Cancer Prev. 2015;16:979–84.
9. Sedrak AS, Galal YS, Amin TT. Cancer Screening Knowledge and Attitudes of Under- and Post-Graduate Students at Kasr Al Ainy School of Medicine, Cairo University, Egypt. Asian Pac J Cancer Prev. 2016;17:38-9–16.
10. London: Royal College of Surgeons. National undergraduate curriculum in surgery [Internet]. London: Royal College of Surgeons; 2015 [cited 2021 Sep 27]. Available from: https://www.rcseng.ac.uk/careers-in-surgery/careers-support/national-undergraduate-curriculum-in-surgery
11. Saldana J. The Coding Manual for Qualitative Researchers. 2nd ed. London: SAGE Publications Inc; 2013.
12. Rose S. Medical Student Education in the Time of COVID-19. JAMA. 2020 Jun;21(323).
13. Findyarti A, Anggraeni D, Husin JM. Exploring medical students' professional identity formation through written reflections during the COVID-19 pandemic. Journal of Public Health Research. 2020 Nov;9.
14. Tuma F, Nassar A, Kamel M. Students and faculty perception of distance medical education outcomes in resource-constrained system during COVID-19 pandemic. A cross-sectional study. Annals of Medicine & Surgery. 2021;62:377–82.
15. Kar SS, Premarajan KC, Ramalingam A. Self-directed learning readiness among fifth semester MBBS students in a teaching institution of South India. Educ Health. 2014;27(3):289–92.
16. Patra S, Khan AM, Upadhyay MK. Module to facilitate self-directed learning among medical undergraduates: Development and implementation. Journal of Education and Health Promotion. 2020;9(231).
17. Sabet F, Zoghoul S, Alahmad M. The influence of gender on clinical examination skills of medical students in Jordan: a cross-sectional study. BMC Medical Education. 2020;20(98).
18. Saleh AM, Al-Tawil NG, Al-Hadithi TS. Teaching methods in Hawler College of Medicine in Iraq: A qualitative assessment from teachers' perspectives. BMC Medical Education. 2012;12 (59).

The World Journal of Medical Education & Research (WJMER) is the online publication of the Doctors Academy Group of Educational Establishments. It aims to promote academia and research amongst all members of the multi-disciplinary healthcare team including doctors, dentists, scientists, and students of these specialties from all parts of the world. The journal intends to encourage the healthy transfer of knowledge, opinions and expertise between those who have the benefit of cutting-edge technology and those who need to innovate within their resource constraints. It is our hope that this interaction will help develop medical knowledge & enhance the possibility of providing optimal clinical care in different settings all over the world.

WJMER

World Journal of Medical Education and Research

An Official Publication of the Education and Research Division of Doctors Academy

9 789380 573960