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Clinical Learning Experiences of Displaced Sudanese Medical Students During Conflict: A Mixed-Methods Study

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Abstract

Background: Clinical learning is of paramount importance for developing competent and confident medical graduates. In 2023, final-year medical students from the University of Medical Sciences and Technology (UMST), Sudan, were displaced and continued their learning at Muhimbili National Hospital (MNH), Tanzania, because of a war in their home country.

Aim: This study aimed to determine the clinical learning experience and satisfaction among students attending Muhimbili Hospital following forced displacement due to conflict in Sudan and to explore the contributors to satisfaction and challenges of the learning experience.

Methods: A mixed-methods explanatory sequential study design was conducted among 5th-year students. Quantitative data were collected using the Clinical Learning Evaluation Questionnaire (CLEQ) and a satisfaction questionnaire. Qualitative data were obtained through semi-structured interviews based on the results from the questionnaires.

Results: Quantitative data were collected from 140 participants. Semi-structured interviews were conducted with 10 participants, achieving thematic saturation. The results were analyzed using Braun and Clarke's inductive thematic analysis. The CLEQ scores reflected suboptimal exposure to diverse cases, limited supervision, and organizational inefficiencies, with average scores of 2.28, 2.7, and 2.9, respectively. Despite these scores, the satisfaction questionnaire yielded low satisfaction with an average score of 3.68 on a Likert scale, and the qualitative findings revealed strong themes of personal and professional growth, cultural adaptation and resilience. The major obstacles highlighted were language barriers, inconsistent supervision, and overcrowding of clinical settings.

Conclusion: Although the clinical learning environment at MNH presented significant challenges, the participants claimed that they gained meaningful personal and professional development there. Strengthening supervision, improving organizational structures, and providing language support may help mitigate the implications of the displacement of medical students.

Categories: Medical Education
Keywords: clinical learning, cultural competence, international placement, medical education, mixed methods, sudan, tanzania

Introduction

In 2023, because of the war in Sudan, the University of Medical Sciences and Technology (UMST) relocated its final-year medical students to Muhimbili National Hospital (MNH) in Dar es Salaam, Tanzania. This unprecedented shift created a unique natural experiment involving a large cohort of students from a Sudanese university completing their final clinical year in a foreign health system. This provided a rare opportunity for situated learning in the context of international displacement amidst conflict.

Medical education has transformed significantly over the past two decades. It was initially considered sufficient for students to acquire the knowledge and skills. However, despite the importance of acquiring knowledge and skills, they are not the only drivers of the creation of professional healthcare professionals. Professional identity is a relatively new concept that has been established as a core element in professional education, including medicine. This includes supporting the development of the clinician rather than "just teaching" professionalism, giving rise to the ideology of "think, act, and feel like a physician," hence cultivating professional identity [1].

Clinical education is a cornerstone of undergraduate medical training, shaping students' competence,

confidence, and readiness for professional medical practice. Clinical educators play a significant role in shaping students' clinical experience [2,3]. In addition, high-quality clinical exposure allows students to learn, integrate theoretical knowledge with real-world patient care, develop communication and procedural skills, and acquire a professional identity. The effectiveness of clinical learning is also influenced by case diversity, supervision quality, organizational structure, and learning environment [4].

The most powerful predictors of professional identity are role models, mentors, and experiential learning. The three work optimally when there is constant reflection on experiential learning, and they are guided by a role model/mentor. Situated learning is also known to be an effective theory for learning in medicine to aid in professional identity. It states that learning occurs through practice, collaboration, and social interaction, with an emphasis on the social nature of learning, the requirements of the profession, and its importance in taking place in an authentic environment [1]. One previous study found that nursing students highlighted that most staff nurses in their placement did not engage with them, except their clinical supervisor. They also reported that their supervisor was more of an evaluator than an educator. Therefore, they were unable to provide educational value [2]. This represents the importance of the effect the environment has on situated learning, which in turn impacts professional identity. Evidence on the experiences of medical students is limited. However, by identifying and arranging for situated learning as a concept in education, clinical experience in placements abroad can be enhanced.

International placements and experiences constantly compel individuals to reflect. The evidence of the effect of reflection on the learning process agrees with previous studies and emphasizes ongoing reflection as quintessential for professional identity formation and its principles. Active learner engagement is proven to be a building block, and participation in clinical encounters with experts is also crucial [5].

Medicine has become increasingly globalized and interconnected because elective placements and exchanges abroad are currently more accessible to students. These commonly take place during medical students' senior years in undergraduate studies [5]. However, this generally occurs during a period of stability, such as regular student exchange programs. On the other hand, this study is about students displaced following conflict, which offers a different perspective given the circumstances in which the placements abroad took place.

While cultural competency is well-established as crucial for healthcare professionals, particularly nurses, there remains a notable evidence gap concerning its development and impact on medical students and doctors. Furthermore, literature concerning the perspectives of medical students on medical placements is scarce [6]. Limited evidence despite the high likelihood of a physician encountering patients of different cultures and backgrounds, the limited evidence shows that this needs to be addressed. Multiple studies have revealed that medical schools increasingly aim to broaden students' perspectives and enhance their cultural competence through international experiences which expose them to diverse health systems, disease patterns, and sociocultural contexts, contributing to their personal and professional development [5,7,8]. Furthermore, insufficient cultural competency has been linked to poorer patient care outcomes [9]. Importantly, healthcare professionals must be culturally competent, as these characteristics help determine patient satisfaction [8,10]. Despite this emphasis, there is a dearth of evidence on the development of cultural competency in medical students as opposed to other professions, such as nursing. This was discussed in a meta-narrative review covering three professions: medicine, nursing, and allied health. Studies originated from North America, Europe, Australia, New Zealand, Southeast Asia, Africa, and the Middle East. Africa and the Middle East had three and one study, respectively. Notably, international placements positively impacted medical students in terms of cultural competency, linguistic skills, clinical skills, and public health learning. At the institutional level, it positively impacts them through the sharing of knowledge and experiences of challenges. It was found that reflection improved the learning process [6]. However, the limited coverage of countries in Africa and the Middle East creates a form of bias, where results are largely influenced by countries in the West. One cannot be sure that a placement in Europe and Africa will yield the same outcome or benefits. This study effectively evaluated the clinical learning experience of displaced medical students following conflict in their home country.

Further evidence shows that students who participate in cross-cultural exchanges or placements grow intellectually, personally, and professionally. Therefore, they are predicted to have a more satisfying undergraduate experience than their counterparts [10]. However, a different study revealed that medical students from high-income countries are more likely to have opportunities for international placements than those from low- or middle-income countries [6]. Therefore, students from low/middle income countries are less likely to have elective placements.

In 2024, a study on the experiences and problems faced during clinical placements was undertaken [11]. Several themes were derived, including belonging and acceptance, familiarity and continuity, confidence and competence, preparation and preparedness, supervision and support, feelings of stress, and the impact on social and emotional health [11]. Further issues that may arise include language barriers, discrimination, and fear of the unknown [7,12,13].

The literature consistently reports positive outcomes for international placements among nursing

specialties [8,9,14]. Some studies on medical students report positive impacts of international placements at the individual and institutional levels [7]. On the other hand, the problems faced are in a setting where there is stability and no evidence of conflict in the area; the current study targets students who have been displaced. This could differ in the setting of displacement.

As previously mentioned, the literature predominantly covers elective international placements and does not necessarily reflect conflict-affected countries.

In 2026, the preservation of medical education in armed conflict zones was studied [15]. Medical schools and hospitals in Gaza, Palestine, and Kyiv, Ukraine, have been severely impacted. Joint partnerships have been arranged among clinicians/educators and international institutions to preserve the continuity of medical teaching, even in such dire circumstances. Two locations with different practical approaches were proven to be efficient when faced with armed conflict. Transnational support served as an important mitigator [15]. However, it fails to explain the experience students had and whether they personally benefitted.

This study offers unique insights into the continuation of medical education in the context of displacement. Understanding their experiences is essential for improving future placements during conflict, supporting displaced students, and shaping educational policies, such as emphasizing professional identity in regional medical education collaboration in this context.

There is a lack of evidence of displaced medical students undertaking clinical education in a new country as a result of armed conflict. This study aimed to assess the clinical learning experiences of 5th-year UMST medical students at MNH following displacement due to conflict, with a focus on clinical exposure, supervision, satisfaction, cultural adaptation, and challenges encountered.

Materials And Methods

Aim

The aim of this research was to determine the clinical learning experience and satisfaction among students attending MNH, Dar es Salaam, following forced displacement due to conflict in Sudan (between the army and the Rapid Support Forces) and to explore the contributors to satisfaction and the challenges of the learning experience.

Specific objectives

To assess the clinical learning experience of fifth-year UMST medical students at MNH, in terms of clinical cases, motivation, supervision, and organization. To determine the level of satisfaction with the clinical learning experience among fifth-year UMST medical students at MNH. To explore students' experiences of cultural adaptation, personal and professional growth, and barriers to meaningful clinical participation during their clinical rotations at MNH.

Study design and setting

A mixed-methods sequential explanatory study design (Figure *1*) was used. The study was conducted at MNH, a major tertiary referral centre in Dar es Salaam, Tanzania.

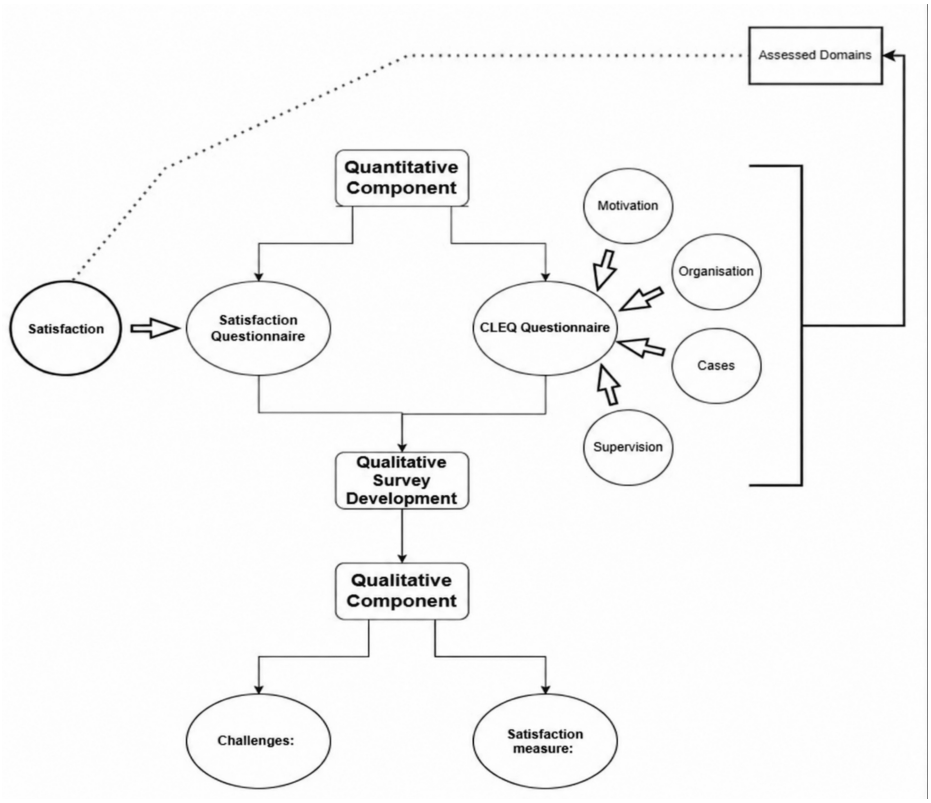


FIGURE 1: Relationship between qualitative and quantitative data

Firstly, the quantitative component was conducted and composed of the Clinical Learning Evaluation Questionnaire (CLEQ) [16] and a satisfaction questionnaire [17]. CLEQ assessed supervision, cases, organization, and motivation. It was subsequently analyzed to find the association with satisfaction. Secondly, the qualitative section explored challenges and satisfaction measures.

Participants

The study population included 216 fifth-year UMST medical students who completed their clinical rotations at MNH.

Data collection

Quantitative: Participants were recruited through systematic random sampling. The sample population included 140 participants who were invited via direct messages. Eligible participants received a questionnaire on Google Forms (Google LLC, Mountain View, CA, USA), which included an informed consent section prior to completing the questionnaire. It took approximately five minutes to complete. The questionnaire focused on supervision, motivation, organization, cases, and satisfaction. Participants who agreed to participate completed a quantitative questionnaire. Confidence was ensured by anonymizing the responses to the questionnaire; therefore, no identifiable data were collected.

The participants completed the Clinical Learning Evaluation Questionnaire (CLEQ) [16] and an adapted satisfaction scale [17] to assess their clinical learning experiences, including cases, supervision, motivation, organization, and overall satisfaction with clinical learning.

The Clinical Learning Evaluation Questionnaire (CLEQ) [16] assesses four domains: cases, supervision, motivation, and organization. A Likert scale (1-5) was used to assess the responses: 1 to highly disagree, 3 being neutral, and 5 to highly agree (Figure *2*). An open-ended question regarding the three common challenges faced was added to the questionnaire.



FIGURE 2: Mean Likert score

Visualization of average agreeableness according to CLEQ responses.

CLEQ: Clinical Learning Evaluation Questionnaire

A satisfaction scale assessing overall clinical learning satisfaction adapted from a previous study by Nehyba et al. (2017) in Western Australia was used [17]. Questions six to eleven were extracted from the original questionnaire with no change to the wording. The tool was modified by only removing questions that were not used. Permission has been obtained from the original author of the study. A Likert scale (1-7) was used to measure the responses: 1 was highly dissatisfied, 4 was neutral, and 7 was highly satisfied.

Qualitative: Participants for the semi-structured interviews were selected via simple random sampling from the sample population. Simple random sampling from the pool of participants who completed the questionnaire was used to provide each eligible participant with an equal opportunity to be selected, to ascertain the varied learning experiences, and to minimize researcher selection bias. These interviews were conducted to further explore satisfaction results from quantitative data collection and challenges, including but not limited to cultural competency, as reported by participants.

The interviews were conducted in English or Arabic as required, according to the participants' level of English proficiency. The interviews were transcribed verbatim and translated as needed. A qualitative survey via semi-structured interviews 21 was developed based on the responses to the CLEQ and the satisfaction questionnaires. They included the most common challenges that emerged from the CLEQ results and the exploration of the outcomes of the satisfaction questionnaire.

Data analysis

Quantitative

The data were cleaned using Microsoft Excel (Microsoft Corporation, Redmond, WA, USA) and analyzed using descriptive statistics, Mann-Whitney U analysis, and Spearman rank correlations using IBM SPSS Statistics for Windows, version 31 (IBM Corp., Armonk, NY, USA). Reliability was assessed using Cronbach's α.

Qualitative

The semi-structured interviews were conducted by the first author of this paper. The first author was a fellow student and was therefore excluded from the study population. He occupied an insider positionality due to the shared background of being part of the same cohort of students.

Strict reflexive protocols were followed to minimize the risk of confirmation bias due to the first author's positionality.

Semi-structured interview questions were used as prompts for the interview and were derived from the results of the satisfaction questionnaire (to answer how and why there was mild dissatisfaction) and the CLEQ (to explore how the challenges that were reported in the questionnaire have impacted them). An explanation of the nature of the interview was provided, and informed consent was obtained prior to

initiating the interview. The interviews were audio-recorded and subsequently transcribed verbatim by the first author.

The data were analyzed using the Delve qualitative analysis software (https://delvetool.com/). Data analysis was conducted using Braun and Clarke's six phases of reflexive thematic analysis [18]. Dependability was achieved through well-documented audit trails. Confirmability was ensured through an audit trail and peer debriefing. Quality assurance was ensured by double-checking the accuracy of the transcripts and coding and engaging in reflective discussions to critically examine analytic choices and reduce bias. Credibility was met through reflexive journalism to identify the lead author's perspective and biases; additionally, another layer included peer debriefing.

Results

Quantitative findings

Participant Characteristics

A total of 140 participants were included in the quantitative data collection. Among the 140 participants, 75 were female, and 65 were male. The participants' ages ranged from 19 to 28 years, with a mean age of 22.3 years. The most common age was 22 years, which accounted for half of the total population.

Reliability Analysis

The analysis for internal consistency was conducted using Cronbach's alpha for the five variables present in the data collection tool. The cases subscale consisted of 4 items and had an a=.768. The motivation subscale consisted of 5 items and had an a=.721. The supervision subscale consisted of 4 items had an a=.852. The organization subscale consisted of 5 items and had an a=.737. The satisfaction subscale consisted of 6 items and had an a=.845.

Overall, there was mild low satisfaction. Supervision, cases, and organization had low agreeableness, with cases being the lowest, while motivation showed mild agreeableness (Table *1*).

Descriptive statistics		Cases	Motivation	Supervision	Organization	Satisfaction
N	Valid	140	140	140	140	140
	Missing	0	0	0	0	0
Mean		2.28	3.2914	2.7750	2.9043	3.6833
Median		2.25	3.2000	2.7500	3.0000	3.8333
Skewness		0.433	-.045	.145	-.026	-.178
Std. Error of Skewness		.205	.205	.205	.205	.205
Minimum		1.00	1.40	1.00	1.00	1.00
Maximum		4.50	5.00	5.00	5.00	6.67

TABLE 1: CLEQ/satisfaction domain statistics

Descriptive statistics showing the mean and median of the responses for each of the domains assessed.

Cases, Motivation, Supervision, Organization: "Range from 1-5 (1 is strongly disagree, 2 is disagree, 3 is neutral, 4 is agree, 5 is strongly agree)."

Satisfaction: "Range from 1-7 (4 is neutral, <4 dissatisfied, >4 satisfied)."

CLEQ: Clinical Learning Evaluation Questionnaire

On average, female participants reported being less satisfied than male participants. However, male participants reported higher levels of agreeableness regarding supervision and organization (Table *2*). Regarding cases and motivation, comparison between males and females was not included as it did not yield any significant results.

Demographic		Cases	Motivation	Supervision	Organization	Satisfaction
		Mean				
Gender	Male	2.29	3.45	3.01	3.09	3.97
	Female	2.27	3.15	2.57	2.75	3.43
	p-value	0.444	0.075	0.006*	0.010*	0.007*

TABLE 2: Comparison using Mann-Whitney U analysis

Descriptive statistics by gender.

Cases, Motivation, Supervision, Organization: "Range from 1-5 (1 is highly disagree, 2 is disagree, 3 is neutral, 4 is agree, 5 is highly agree)."

Satisfaction: "Range from 1-7 (4 is neutral, <4 dissatisfied, >4 satisfied)."

(*) denotes a statistically significant difference between the male and female groups.

Spearman's correlation was used to evaluate the relationships between satisfaction and organization, supervision, motivation, and cases (Table 3). Supervision and organization showed the strongest positive correlations with satisfaction. Motivation was moderately correlated. Case exposure was weakly correlated.

Analytic statistics			Cases	Motivation	Supervision	Organization	Satisfaction
Spearman's rho	Satisfaction	Correlation Coefficient	.326**	.512**	.641**	.659**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000	
		N	140	140	140	140	140

TABLE 3: Correlations between satisfaction and CLEQ domains

Supervision (.641) and organization (.659) showed the strongest positive correlations with satisfaction. Motivation (.512) was moderately correlated. Case (.326) exposure was weakly correlated.

** Correlation is significant at the 0.01 level (2-tailed).

CLEQ: Clinical Learning Evaluation Questionnaire

Figures 3, 4 were self-reported by the participants. During their one-year placement, they encountered many cases (Figure 3), but the lack of diversity meant that the cases were often repetitive.

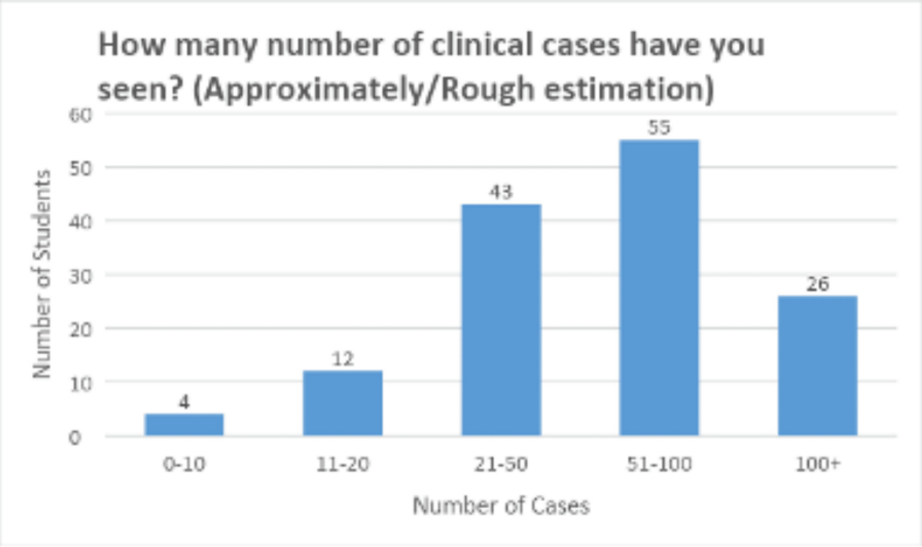


FIGURE 3: Number of total cases

This represents an estimate of the number of clinical cases seen by each student during their placement. Self-reported in the Clinical Learning Evaluation Questionnaire (CLEQ).

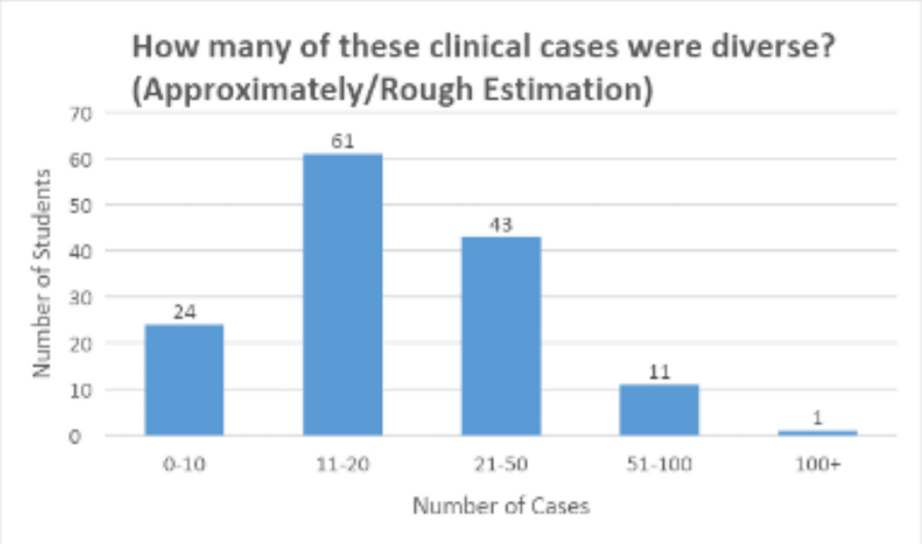


FIGURE 4: Number of diverse cases

This represents an estimate of the number of diverse clinical cases seen by each student during their placement. Self-reported in the Clinical Learning Evaluation Questionnaire (CLEQ).

Participants reported a low variety of cases (limited diversity, few rare cases) (Figure 4), low supervision quality (inconsistent teaching, limited feedback), low organizational efficiency (unclear schedules, overcrowding), and moderate motivation

Qualitative findings

From the ten interviews conducted, 13 categories have emerged, and a total of five themes have emerged in this study: Satisfaction, Cultural Adaptation, Personal Reflection, Opportunities and Growth, and Challenges. Each theme has approximately two to four categories, according to the respective theme.

Supportive Relationships as Pathways to Integration

Participants described the social environment as central to their integration into the clinical setting. Supportive doctors, welcoming patients, and helpful MUHAS (Muhimbili University of Health and Allied

Sciences, Tanzania) students reduced language and cultural barriers, increased confidence, and enabled fuller participation in clinical learning. This theme encompassed the following sub-themes that have been widely reported by several of the participants. The categories included (1) doctors, (2) welcoming patients, and (3) MUHAS students.

Doctors and staff: This category emerged because of the proximity the participants had to the staff and doctors. This was inevitable. This was a crucial factor because doctors would be their source of learning in the clinical setting.

They outlined the role that the doctors played during their clinical experience when they were struggling.

“They speak English, doctors and students welcome us, and they offer us help; if you guys need any help, we will be more than willing to offer our help” (Student 1).

“If you don’t understand, you can ask the doctor, and he’ll show you; it will make me love the rounds” (Student 6).

“The doctors and the students were with us to smooth things over for us; they helped us with the barriers” (Student 7).

It was also mentioned that it took time for them to get accustomed to the doctors and that initially it was not the best experience.

“At the beginning it was challenging, but as we got to know the doctor then it got easier to communicate with them” (Student 8).

However, not all the responses presented a positive outlook on their experience with doctors in general.

“Finding the cases, we might come across but few doctors that do go out of their way that help us but they’re a minority” (Student 5).

It is evident that supportive doctors rendered positive experiences, such as by mitigating language barriers and providing a point of contact if there is anything confusing. Giving the participants a sense of support. On the other hand, the limited availability of doctors was a drawback despite them offering support.

Welcoming patients: In the early days of a medical career as a student, the patient’s attitude and response can influence your confidence and subsequently influence the overall experience a student can attain.

All the participants had a shared opinion about the patients and the general population of Tanzanians.

“The patients were very welcoming and understanding because they knew I did not know how to speak Swahili” (Student 2).

“The first thing I want to say is that the patients are very kind and generous and they are prepared to do anything. They are welcoming, and if they feel you are scared, they will encourage you” (Student 5).

“The majority of patients are cooperative” (Student 6).

Participants believed that they were very nice and welcoming, encouraging them. They mentioned that this improved the overall experience. The patient’s behaviour provided a safe space for the participants, helping them feel less scared. Additionally, they were patient with the participant in view of their limited fluency in Swahili. This directly encouraged the participants to continue being involved and exert further effort.

Students: There were many encounters with the MUHAS students who also attended the same teaching hospital. This category highlights the key role played by the Tanzanian MUHAS students in the UMST students’ clinical experience.

“The youth treated us very well; we felt like we were one and were integrated” (Student 1).

“The interaction with the patients would have been difficult if it was not for the help from the staff or students” (Student 2).

This shows that being welcomed by the students improved their learning.

“We also bonded with the students, so we just followed their schedule, and whatever they did we did the same. They were welcoming, and we learned a lot” (Student 8).

The participants expressed their appreciation to their fellow MUHAS students. The role they played in reducing the language barrier by translating, accepting the participants as if they were not foreign, and showing a sense of involvement by being included in their schedules and different teachings.

Adapting to Belong and Learn

Participants described cultural adaptation and cultural competence as essential to becoming integrated into the clinical environment. Developing this competence helped them interact professionally with staff and patients, feel more accepted, and gain greater access to hands-on clinical learning, especially when contrasted with their experiences in Sudan. This was the second major theme that emerged among the respondents, and the categories include cultural adaptation, cultural competency in clinical experience, and comparison between the clinical experience in Tanzania and Sudan.

Cultural adaptation: Participants generally stated the importance of adapting to the environment they are in.

“At first you will feel different, but over time you will be integrated into their culture” (Student 1).

“It makes me a bit more self-conscious about my actions, and it shows the cultural diversity in the world and how other people think and how you have to change your thinking when you’re around those types of people” (Student 3).

“It helps us to deal with people in a professional manner” (Student 5).

Participants emphasized that adapting to a new cultural environment had affected them both personally and professionally.

Cultural competency: “It will help you be more involved clinically because you are dealing with the staff. If you are not competent, you would not be able to deal with them properly” (Student 2).

“The more culturally competent you are, the more likely you will get opportunities than if you aren’t” (Student 5).

Bonding with the patient was the first step in taking a history, which can largely determine the outcome of their experience.

“To be honest, I think it helps to bond with the patient. If the patient looks at you as a foreigner and they get the hint that you are culturally competent, they feel more comfortable” (Student 7).

The participants emphasized the importance of being culturally competent. If they know how to deal with doctors and patients of different cultures, it will help them become more involved clinically. Getting involved clinically and obtaining opportunities directly improved their personal clinical experience.

Comparison with Sudan: Almost all the participants compared their clinical experience at MNH in Tanzania with their clinical experience in Sudan. Some of the respondents were influenced by relative advancement.

The concept of being more hands-on clinically was very pleasing to the participants as it was not the same as back home. They mentioned that they did not have as much exposure in Sudan as they did here.

“I think it’s more hands-on clinical than it is theoretical because they expect you to know, so they tell you to go do it without supervision, and that is something that was not always provided back in Sudan” (Student 3).

“In Sudan we can assist in surgeries, but the doctor is as if he doesn’t explain to us, and we don’t even understand what’s going on in the surgery; however, here the doctor puts in the effort and explains, and even if you don’t want to learn, they encourage you. However, back in Sudan it’s as if they just want to finish the case or surgery and go to the next one” (Student 9).

Although several participants viewed the teaching and system here as beneficial, there were still some opposing views.

“Over time we started to realize that doctors are maybe challenging us just to prove us wrong. We come from Sudan, and our doctor knows how to teach us; have a discussion and leave the doctor with more knowledge” (Student 5).

An individual’s subjective perspective can influence their clinical experience, with reference to students 3,

9, and 5. On one hand, it is believed that they have opportunities for involvement. On the other hand, it is felt that they have been targeted; therefore, they feel like they aren't being taught adequately. This portrays the complexity of how one environment can be interpreted differently by two different individuals.

Reflection, Learning, and Professional Fulfillment

Participants described the clinical experience as prompting internal reflection that led to professional growth. Negative emotions, epiphanies, and moments of fulfillment together shaped a deeper awareness of self, strengthened motivation, and encouraged a more humble and patient approach to learning and practice. The third major theme that emerged involved participants looking within themselves and understanding themselves more. It includes reflecting on their feelings, realizations, and fulfillment. Reflecting on how they felt throughout the clinical experience and why they felt as such. Epiphanies or realizations they might have attained through events or situations they have experienced or witnessed, and finally the sense of personal fulfillment and what initiated that.

Feelings: In this category, we had dived into the positive and negative feelings with the participants. To understand what they are feeling. To try and understand the reason why they are feeling what they are feeling. Struggles and difficulties were the most common feelings throughout the experience; however, some of the feelings were positive.

Some feelings of self-fulfillment and encouragement were reported.

"It makes you feel like what you're doing is worthwhile, and it reminds you that's what a doctor is all about" (Student 2).

However, the majority were negative, and the good clinical experience was being hindered.

"We feel as if we're roaming around" (Student 5).

"Here, when we discuss with the doctors and ask them to repeat questions or answer any, we feel attacked" (Student 5).

"The language barrier is causing a disconnect. In addition, I feel me not caring more about the patients" (Student 7).

"I feel like the priority was for the MUHAS students and that we are just guests" (Student 8).

Surprisingly, feelings varied, with the majority being negative. While the clinical learning environment provided some feelings of affirmation of the duty of a doctor, the limited integration with home students made them feel alienated. This is an important aspect since they previously reported that students and doctors helped to mitigate their integration. This shows that sometimes an individual's feelings can conflict with reality. In addition, there was a lack of inclusion in ward rounds.

Realizations: This category was thoroughly discussed with the participants about the impact these realizations that had on their clinical experience. The value of these realizations and what would have been the case if there had not been any moment of realization or epiphany.

"Communication is key" (Student 3).

"This teaches us unimaginable patience; in Sudan we could get what we want" (Student 5).

"There's a whole lot of information that I didn't pay attention to but turned out to be truly important" (Student 7).

"The person who wants to learn will learn" (Student 6).

"I used to blame them; any problems we had, the issue was them, but then I realized that if I take the first step then they will respond" (Student 8).

All the realizations reported were seemingly for the better: to better communicate, to have patience, to realize the more you know, the more you do not know. These factors allow a future doctor to be humble and grow professional.

Fulfillment: A shared objective among all the participants was the goals and targets during their clinical experience. The category of fulfillment was expected to be driven by intrinsic motivation to pursue this objective. This result was related to their level of fulfillment.

"I was attending surgeries and carrying out procedures. I want to thank the doctor because I had a confidence barrier; he encouraged me and gave me an opportunity to do a paracentesis" (Student 1).

"By now, many people are burnt out and lost any incentive, although it's too late. However, when you see someone getting their health back or feeling better, it makes you feel like what you're doing is worthwhile, and it reminds you that's what a doctor is all about" (Student 2).

"The most thing that fulfilled me was when I first came, the cases that I see in the books I see here in front of me, which I loved. I usually like to read and then see the case practically, so the info sticks with me" (Student 6).

"The reason why I'm fulfilled is because in Sudan it was difficult to get access to these things, now I have the option, and I feel like if I want to benefit then I will benefit" (Student 8).

Effort as the Engine of Growth

Participants described personal effort as a major determinant of whether clinical exposure became a meaningful learning opportunity. Persistence, adaptability, and proactive engagement helped them build confidence, independence, and resilience, turning everyday challenges into professional growth. This was the fourth major theme. It involved the student's perception of what personal endeavour and growth look like in their clinical setting. Their perception of the impact of clinical experience on their growth.

Personal endeavour: This included the specific attitudes, approaches, or actions that put participants in a situation where it might be an opportunity for them to learn more efficiently. Whether there was a positive impact during their experience was unknown.

"The most important one is persistence; that's the main thing that sets me apart" (Student 3).

"In their culture they have specific behaviours, so an individual who can understand and overlook these behaviors will benefit, but for someone like me that doesn't accept them will not truly benefit" (Student 5).

"You can see it in the students that are hardworking. You'd see the environment around them. You'd see the doctors, they are very welcoming. If they see a student that they recognize, they are so much more receptive" (Student 7).

"There was an instance where some students know some Swahili, the doctors wouldn't teach us very passionately, but when the students who knew minimal Swahili came with us, the doctor became much more responsive" (Student 8).

All the participants understood and realized that personal effort had a massive impact on how their clinical experience turned out to be. Whether they exhibited that personal effort or saw it in their colleagues. By proxy, they appreciated that it could potentially help them grow by opening opportunities.

Growth and confidence: All the participants reported, in some way, they had grown in one way or another. Examples include being more independent and being confident in one's abilities, etc.

"Well, facing challenges now gives you experience on how to deal with challenges. Adapting to the challenges" (Student 4).

"It impacts me personally; even despite the anger and sadness and randomness, they are good things for me. Because I came as naive, used to spoon-feeding, and realized that the real world is not spoon-feeding" (Student 5).

"Personally, I think I became more confident. If I want something, I'll just ask for it. I'm not as afraid of rejection because it happened a lot. I don't take things personally anymore, but at first, I used to take things personally to the point I wanted to go back home and not wanting to continue" (Student 8).

"Personally, I think we learned how to set boundaries and deal with people different from us" (Student 10).

This provides evidence that challenges helped them regulate their emotions more effectively and become more grounded in the face of adversity. Allowing them to effectively navigate through the clinical space.

Barriers to Meaningful Clinical Participation

Participants described multiple barriers that constrained their clinical learning, with language discordance emerging as the most consistent obstacle. In addition, poor scheduling, ineffective teaching, and weak

communication with organizers limited their ability to engage meaningfully in the clinical environment. The final theme broadly included the problems that the participants faced during their clinical experience and their perspectives and solutions to them.

Problems: Referring to the quantitative questionnaire, several of the participants reported the presence of challenges or problems that they have faced within the clinical setting. Not all reported having problems. The problems noted were not all the same; however, there was only one unanimous problem, which was the language barrier between the participants and the patients themselves.

“It’s kind of irritating because it’s the only barrier between me and the patient because we can literally manage the patient but the only reason we can’t is because we don’t speak their language” (Student 9).

“The language barrier is enormous; you can’t truly form much of a connection with the patient. In addition, once the patient sees you don’t understand them, there’s a very big disconnect” (Student 7).

“We don’t have time as final year medical students to learn the new language” (Student 4).

Other problems that have been reported include the organization of schedules, the teaching of doctors, and overall communication between the participants and the organizers of the program.

“The timings and schedules are bad, with the fingerprint. The fact you force me to attend at 7:30, where am I meant to stay until the round starts?” (Student 5).

“Throughout the year, I discovered that in the schedules, we haven’t been given what we are meant to do; we do the same thing every day when we go to the wards” (Student 5).

“Some of the doctor’s teaching techniques are ineffective; they just tell you to go read if we get the answer wrong. Demotivating the students” (Student 3).

There’s a disconnect due to language and teaching techniques, lack of structure, and sense of direction from the problems they have faced, making their clinical experience suboptimal.

It is worth noting that, quantitatively, participants expressed mildly low satisfaction with regard to clinical learning according to questionnaire results. On the other hand, during interviews, the participants expressed some degree of satisfaction, which was primarily due to personal and professional growth, which they claim despite poor clinical learning.

My (Montasir Ismail) positionality as an insider allowed me to navigate the subcultural nuances of the group, though I actively used reflexive journaling to challenge my pre-existing assumptions during data analysis.

Discussion

There is scarce literature regarding cross-cultural experiences among medical students [14]. This study provides a unique evaluation of cross-border clinical placements involving displaced medical students within Africa. This study addresses the gap in limited evidence, as it is not adequately researched, as noted in this meta-narrative.

The findings reveal a complex experience: while students faced significant challenges, interview participants reported satisfaction and fulfilment throughout their placement, which was not reflected in the quantitative data collected. This shows the complexity of clinical learning; a holistic approach must be taken, not just a quantitative measure.

The concerning point from the literature is the limited research on medical students’ clinical experience during international placements. On the other hand, there is an ocean of evidence for nursing placements. This could be an opportunity as an area to improve for enhancement of care provided by doctors.

Cultural competency is an expected skill from nursing students, while there is limited expectation from medical students. Due to the nature of the profession, including contact with individuals of different backgrounds, it would be assumed that doctors would be culturally competent. Qualitative findings indicate that cultural competence is a key physician skill in an increasingly interconnected world as reported by participants. It improves their personal clinical experience and helps them to connect with the patients and doctors, an important factor in developing rapport.

However, despite the limited evidence on medical students' learning experiences during international placements, it shows that international placements were beneficial for both their cultural competence and professional development [5,12,19]. It is important to consider that the evidence is largely attributed to elective placements. However, the findings from this study provide similar results to the literature; it

analyzes further why placements are more beneficial rather than stating that they are beneficial. It gives a foundation for educators to target for improving their teaching.

An interesting finding is that among all domains from the quantitative results, motivation had the highest agreeableness. This is extremely important as it implies that the consensus is that students are motivated to learn and to be proactive. Some participants in the interview believe that learning should start with the student and that if they put in the effort and engage, then their experience will be optimized. Interview participants reported that learning starts with the individual. Both findings reflect the foundational concept of developing professional identity. Situated learning stresses engagement and participation in clinical settings and that medical education should support the students' learning rather than just teach knowledge. Once teaching, organization, and guidance are optimized, medical education can be enhanced significantly. As a result, professional identity may then be enhanced.

Low scores in supervision and organization provide evidence aligning with the literature, showing that clinical teaching quality is a major determinant of student satisfaction, negatively impacting clinical learning. In previous studies, nursing students highlighted that most staff nurses in their placement did not engage with them, except their clinical supervisor. They also reported that their supervisor was more of an evaluator than an educator and thus was unable to provide educational value [2]. Absent or inconsistent teaching by supervisors was a hallmark of this study. Therefore, effective teaching should encompass not only the acquisition of knowledge but also the development of professional identity through active engagement, participation, reflection, and guidance by mentors and supervisors.

Due to limited research on this topic among medical students, challenges have been compared with those of nursing students. Fear of the unknown, difficult access to supervisors, and limited faculty availability likely contributed to reduced supervision. One study on nursing placement in Australia revealed limited opportunities for hands-on experience in addition to being alienated in a new country [7]. Language barriers further impeded learning, which is consistent with studies showing that communication challenges reduce clinical confidence and the quality of patient interaction. Language was an issue that negatively impacted all students. This can be mitigated in the future by conducting pilot studies of a small group of students with pre-placement language skills by the hosting educational body. Identifying these obstacles is of paramount importance, as they act as the initial stepping stone for improving students' clinical learning experience [10]. This emphasizes the importance of supporting learning by developing professional identity and not just arranging the placements and allowing students to create their own path.

According to the results, satisfaction was not attributed to the clinical learning provided by educators, as it was not reflected in the interviews and was not evident in the questionnaires; however, it was attributed to the individual experiences that the students faced, leading them to overcome their fears, which was revealed through the interviews. They demonstrated resilience and adaptability. This aligns with the literature, as one study reported that while there were potential challenges, the students developed previously unknown abilities and confidence, and ultimately, these cultural and organizational differences translated into personal and professional enrichment [2]. Qualitative findings highlighted strong peer support networks and substantial personal growth. In addition, the quantitative results show that satisfaction is below neutral, whereas participants reported in the interviews a sense of satisfaction. This discrepancy could be attributed to the acquisition of self-reliance and self-growth despite poor supervision and organization from the CLEQ domains, rendering the participants a sense of satisfaction. This is further reinforced by the claims of self-development, personal endeavour and ongoing reflection by the participants [20]. The origin of the motivation and self-reliance, etc., remains unclear in view of poor supervision and organization; one hypothesis is that it may be as a result of the influence of their fellow Tanzanian students who exert a lot of effort. It was worth mentioning that one report of a participant feeling like a guest may have also contributed to the challenges and barriers, but since it was only one report, it could represent only a minority.

Culture has played an immense role in shaping students' medical careers early on, as it helps them build cultural competence and acquire and hone the skills and qualities that are necessary for a physician [14]. Students who adapted and were proactive were also the students who reported better experiences, which also emphasizes the role of the student in their own journey of clinical learning.

An unfortunate realization is that opportunities for international placements are more accessible to medical students from high-income countries. It showed that the medical placements predominantly exhibit a unidirectional flow from high-income countries to middle/low-income countries. Furthermore, studies originated predominantly from Western countries [6]. This means this unique experience is mostly accessible to specific populations. This could be explained by the lack of opportunities, resources, and funding for populations in middle- or low-income countries. The findings of this study give us a different perspective, a perspective of students from low-income countries and in a context of displacement.

Some institutions in conflict-affected countries such as Ukraine and Palestine have successfully been able to preserve the continuity of medical education, like UMST. Each institution had different approaches, with Kyiv mostly resembling the approach of UMST, which involved partnering with other countries to host their

students for ongoing clinical education [15]. The clinical years are an important part of creating physicians. This highlights the outcomes of the adaptation and perseverance of the results of these major choices in difficult times and the benefits and outcomes of these decisions. In this study, despite the surveys revealing poor organization and supervision, participants revealed that they have developed in ways they have never expected.

The mixed-methods approach allowed for deeper insight: quantitative dissatisfaction with supervision, cases, and organization. Qualitative satisfaction was explained by resilience, cultural competence, and personal and professional growth from the interview responses. Furthermore, the nature of the challenges provided was explored. Negative experiences included overcrowding, language barriers, and inconsistent teaching.

Implications

African medical schools may benefit from establishing structured regional partnerships for clinical training in times in displacement. Additionally, provision of resources for language preparation (e.g., basic Swahili modules) can significantly improve learning. Implementing regular feedback mechanisms may help to identify and resolve issues early. Finally, strengthening supervision and clarifying clinical schedules may increase student satisfaction.

Strengths and limitations

The strengths of this study include having a large quantitative sample, rich qualitative data, and a novel context (displaced students following conflict).

Limitations include this study being a single-center study and conducted during a forced displacement, limiting generalizability. The short duration of the study limits long-term predictions. Self-reported data; interviews were conducted by the first author. Limited literature on medical students' international placements, with further scarcity in contexts of displacement during armed conflict. Purposive sampling could have strengthened the qualitative section as opposed to simple random sampling to get a more in-depth review. Additionally, the absence of a comparison group as a control increases bias.

Conclusions

This study targets a gap of significant importance. It addresses the international learning experiences of medical students in African placements and in times of conflict. It's mixed method nature gives a holistic view in terms of quantitative scores of clinical learning but also an authentic insight in their personal perspectives. The clinical learning experience of UMST students at MNH was shaped by both challenges and personal growth. While supervision, organization, insufficient case variety and language barriers negatively affected clinical learning, however despite this, participants reported significant personal and professional development in their clinical learning. One can attribute this to the acquisition of self-reliance and motivation. Improving structural support, supervision quality, and cultural preparation can enhance clinical learning and subsequently future cross-border placements in Africa among displaced students. This study shows that despite the setting has occurred during conflict in their home country, clinical learning has still continued. Despite the results of the questionnaire showing low satisfaction, students reported overall satisfaction from the interviews conducted.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

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