



سم الله الرحمن الرحيم

The Republic of Sudan

Ministry of Higher Education and Scientific Research

Elshiekh Abdallah Elbadri University

Faculty of Medicine



**Assessment of Satisfaction of Final Year Medical
Students about Clinical Training at Elsheikh
Abdallah Elbadri University**

By:

Marwa Abd Algader Mohammed

Zahraa Ahmed Saad Ahmed

Duha Ibrahim Ahmed Adam

**A research submitted in partial fulfillment for the requirements
of MBBS Degree**

Supervisor:

Dr. Ahmed Mohammed Saeed

Community Medicine Registrar

August 2025

الاستهلال

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال تعالى :

﴿ قُلْ هَلْ يَسْتَوِي الَّذِينَ يَعْلَمُونَ وَالَّذِينَ لَا يَعْلَمُونَ إِنَّمَا يَتَذَكَّرُ أُولُو

الْأَلْبَابِ ﴾

صدق الله العظيم

سورة الزمر الآية (9)

Dedication

To our dear parents,

the source of strength and blessings, and the foundation of all the knowledge and success we have achieved,

we dedicate this work in gratitude for your kindness and in recognition of your immense favor.

To our families, who granted us patience, strength, and endless support,

to every hand that reached out to help us, and to every heart that beat with love and prayers,

To those who taught us that seeking knowledge is an act of worship, and that serving humanity is a noble mission,

To our esteemed professors, who were role models in medicine and ethics,

to our colleagues who shared with us this journey of research and learning with sincerity and cooperation,

To everyone who contributed to this work, even with a word of encouragement,

we dedicate this medical research with loyalty and gratitude, asking Allah, the Almighty, to make it beneficial knowledge, a means for healing patients, serving humanity, and elevating our nation.

Acknowledgement

We would like to express my deepest gratitude to all those who contributed to the completion of this research.

First and foremost, we extend our heartfelt appreciation to our supervisor and mentor **Dr. Ahmed Mohammed Saeed** for his invaluable guidance, support, and encouragement throughout this study, his expertise and insight have been instrumental in shaping this research.

We also profoundly grateful to the participants of this study, whose cooperation and willingness to participated in this research.

ABSTRACT

Background: Clinical training is a critical component of medical education, enabling students to acquire essential knowledge, skills, and professional attitudes. Student satisfaction with clinical training reflects the quality of teaching and is an important indicator for curriculum improvement.

Objective: To assess the satisfaction of final-year medical students with their clinical training at Elsheikh Abdullah Elbadri University.

Methods: A descriptive cross-sectional study was conducted in 2025 among all 113 final-year medical students at Elsheikh Abdullah Elbadri University .Data were collected using a structured self-administered questionnaire covering socio-demographic characteristics, satisfaction with teaching activities ,clinical skills, confidence in managing conditions, and hospital exposure. Data were analyzed using SPSS version 25 with descriptive statistics and ANOVA for mean score comparisons.

Results: The mean age of participants was 24.7 ± 1.2 years, with 55.8% females. Most students were moderately satisfied with teaching activities such as theoretical sessions and case discussions across all specialties. Surgery achieved the highest satisfaction score (mean = 60.3), while Pediatrics (55.8), internal medicine (56.3) and Obstetrics & Gynecology (56.6) had lower ratings, especially in exposure to emergency and operative cases. Students reported higher confidence in managing common conditions but less confidence in handling critical emergencies such as stroke, neonatal resuscitation, and obstetric hemorrhage. *Numerical score analysis* revealed an overall bad satisfaction .ANOVA showed no statistically significant differences in satisfaction scores between specialties ($p < 0.05$) .

Conclusion: Final-year medical students were moderately satisfied with their clinical training by categorized data analysis; but numerical score analysis revealed an overall bad satisfaction. Strengths were found in theoretical teaching and exposure to common conditions. However, significant gaps remain in supervision, structured feedback, and emergency case exposure, particularly in Pediatrics and Obstetrics & Gynecology.

Recommendations: Enhancing clinical supervision, establishing structured feedback systems, expanding simulation-based training, and ensuring adequate exposure to emergencies and operative procedures are necessary to improve the quality of clinical training.

ملخص الأطروحة:

الخلفية: يُعد التدريب السريري مكوناً أساسياً في التعليم الطبي، حيث يمكن الطلاب من اكتساب المعارف والمهارات والمواقف المهنية الضرورية. ويُعد رضا الطلاب عن التدريب السريري انعكاساً لجودة التدريس ومؤشراً مهماً لتحسين المناهج.

الهدف: تقييم رضا طلاب الطب في السنة النهائية عن تدريبهم السريري بجامعة الشيخ عبد الله البدري.

المنهجية: أجريت دراسة وصفية مقطعية في عام 2025 وشملت جميع طلاب الطب في السنة النهائية بجامعة الشيخ عبد الله البدري (عدد 113 طالباً). جُمعت البيانات باستخدام استبانة منظمة ذاتية التعبئة شملت الخصائص الديموغرافية، الرضا عن الأنشطة التعليمية، المهارات السريرية، الثقة في تشخيص وعلاج الحالات، والتعرض للأنشطة السريرية بالمستشفيات. تم تحليل البيانات باستخدام برنامج SPSS إصدار 25 عبر الإحصاءات الوصفية واختبار ANOVA لمقارنة متوسطات الدرجات.

النتائج: بلغ متوسط عمر المشاركين 24.7 ± 1.2 سنة، وكانت نسبة الإناث 55.8%. أبدى معظم الطلاب رضا متوسطاً عن الأنشطة التعليمية النظرية ومناقشات الحالات في جميع التخصصات. حصل قسم الجراحة على أعلى متوسط للرضا (60.3)، بينما سجل طب الأطفال (55.8)، الطب الباطني (56.3) والتوليد وأمراض النساء (56.6) درجات أقل خاصة في التعرض للحالات الطارئة والإجراءات الجراحية. أظهر الطلاب ثقة أعلى في التعامل مع الحالات الشائعة، مقابل ثقة أقل في التعامل مع الحالات الحرجة مثل السكتة الدماغية، إنعاش حديثي الولادة، ونزيف ما بعد الولادة. التحليل الرقمي لدرجات الرضا أظهر رضا سيئاً بشكل عام. أظهر اختبار ANOVA عدم وجود فروق ذات دلالة إحصائية بين التخصصات ($p < 0.05$).

الخلاصة: كان رضا طلاب السنة النهائية عن تدريبهم السريري متوسطاً بتحليل البيانات الفئوية ولكن تحليل درجات الرضا رقمياً أظهر رضا سيئاً بشكل عام، مع نقاط قوة في التدريس النظري والتعرض للحالات الشائعة. ومع ذلك، برزت فجوات مهمة في الإشراف، وتقديم التغذية الراجعة المنظمة، والتعرض للحالات الطارئة، خاصة في تخصصي الأطفال والتوليد وأمراض النساء.

التوصيات: تحسين الإشراف السريري، وتفعيل أنظمة التغذية الراجعة المنظمة، وتوسيع التدريب باستخدام المحاكاة، وضمان التعرض الكافي للحالات الطارئة والإجراءات الجراحية، تُعتبر خطوات ضرورية لتعزيز جودة التدريب السريري.

Table of Contents

Content	No page
Title page	I
Dedication	II
Acknowledgment	III
Abstract in English	IV
Abstract in Arabic	VI
Table of Contents	VII
List of Tables	VIII
List of Abbreviations	IX
Chapter One	
Introduction	1
Literature Review	2
Problem Statement	11
Justification	12
Objectives	13
Chapter Two	
Materials and Methods	14
Chapter Three	
Results	16
Chapter Four	
Discussion	28
Conclusion	32
Recommendations	33
References	34
Appendix	37

List of Tables

Table No.	Contents	Page No.
3.1	Basic Information of Participants	18
3.2	Current residence during studying	18
3.3	Completed shift	18
3.4	Satisfaction with activities of clinical skills teaching in internal medicine	19
3.5	Satisfaction of students with his or her clinical skills	19
3.6	Confidence of student in his or her ability to diagnose and manage internal medicine patients	20
3.7	Students' clinical hospital activities	20
3.8	Satisfaction with activities of clinical skills teaching in pediatrics	21
3.9	Satisfaction of students with his or her pediatric clinical skills	21
3.10	Confidence of student in his or her ability to diagnose and manage pediatric patients	22
3.11	Students' pediatric clinical hospital activities	22
3.12	Satisfaction with activities of clinical skills teaching in surgery	23
3.13	Satisfaction of students with his or her surgical clinical skills	23
3.14	Confidence of student in his or her ability to diagnose and manage surgical patients	24
3.15	Students' surgical clinical hospital activities	24
3.16	Satisfaction with activities of clinical skills teaching in surgery	25
3.17	Satisfaction of students with his or her Obs and Gyne clinical skills	25
3.18	Confidence of student in his or her ability to diagnose and manage Obs and Gyne patients	26
3.19	Students' Obs and Gyne clinical hospital activities	26
3.20	Comparison of the mean sums of final scores between specialties	27
3.21	Comparison of the means of final scores of sections in each specialty	27

Acronyms and Abbreviations

ANOVA	Analysis of Variance
CLE	Clinical Learning Environment
DREEM	Dundee Ready Education Environment Measure
SPSS	Statistical Package for Social Sciences

Chapter One

1. INTRODUCTION

1.1 Background

Clinical training constitutes a cornerstone of medical education, serving as the critical bridge between theoretical knowledge and patient-centered practice. As medical students transition into their final year, this phase offers indispensable opportunities to hone clinical competencies—ranging from patient interaction and diagnostic reasoning to professional communication and empathy^[1].

Yet, numerous studies have identified significant stress and burnout among medical trainees. It's estimated that approximately 43–45% of medical students report burnout symptoms, particularly during later years of study. Compounding this, the demands of learning large volumes of information under tight time constraints can lead to notable stress, especially during clinical rotations^[2].

In this context, evaluating student satisfaction with clinical training becomes essential. Satisfaction is often viewed as a proxy for both educational quality and training outcomes, informing curricular improvement and student support mechanisms. While international literature has extensively explored clinical satisfaction, each region presents unique educational nuances that warrant focused investigation^[3].

Sudan's medical education system typically spans 5 to 6 years. Final-year students engage in rigorous clinical training before undertaking a one-year internship under the oversight of the Sudanese Medical Council. However, there remains a paucity of formal research examining how students perceive the quality and effectiveness of their final-year clinical experiences, particularly within universities such as Elsheikh Abdallah Elbadri University^[4].

1.2 Literature Review:

Background

Clinical training, sometimes referred to as clinical rotation, is an integral part of the medical school curriculum, where medical students practice medicine under the direct supervision of physicians and specialists. This training represents a transitional and crucial stage in the student's educational journey, moving from theoretical learning in the classroom to direct practical application in clinical settings, such as teaching hospitals and specialized clinics ^[5].

Historically, the concept of clinical training has evolved to become the mainstay of preparing future physicians. In the first half of their studies, students focus on the basic sciences, while the second half is dedicated to intensive practical training. This shift aims to provide students with comprehensive practical experience in all components of the healthcare system, including operating rooms, emergency departments, and various other departments that allow for learning through observation and active participation ^[5].

During the clinical training period, students are required to rotate through various medical specialties, where they interact with patients under the close supervision of resident physicians and specialists. Their daily tasks include taking comprehensive medical histories, performing physical examinations, writing progress notes for patients, and assisting in surgical and medical procedures. The working hours in clinical training are often similar to full-time jobs and may require being present on weekends or being on-call for emergencies ^[5].

The ultimate goal of clinical training is to develop clinical competencies in students, which include diagnostic and therapeutic skills, the ability to make informed clinical decisions, and the development of effective communication skills with patients and colleagues. Clinical training also contributes to building self-confidence in students, preparing them to face the real challenges of medical practice after graduation.

Types of Clinical Training:

Clinical training in medical schools is diverse, with students rotating through a wide range of medical specialties to gain comprehensive and in-depth practical experience. This diversity aims to provide students with the knowledge and skills necessary to deal with various clinical cases and health challenges. The main specialties in which students receive training include:

Internal Medicine: This specialty focuses on the diagnosis and treatment of non-surgical diseases affecting internal organs in adults. Students learn how to manage chronic and acute conditions, interpret laboratory and imaging results, and develop integrated treatment plans. They gain experience in dealing with diseases of the heart, respiratory system, digestive system, kidneys, endocrine glands, and others^[6].

Surgery: Training in this specialty involves understanding the basic principles of surgery, participating in various surgical procedures, and providing patient care before and after surgery. Students learn sterilization techniques, pain management, complication monitoring, and how to deal with injuries and conditions requiring surgical intervention^[6].

Pediatrics: This field specializes in the healthcare of children and adolescents, from newborns to puberty. Students learn how to deal with common diseases in this age group, monitor growth and development, manage vaccinations, and provide preventive care. Training focuses on understanding the physiological and psychological differences in children^[6].

Psychiatry: This specialty focuses on the diagnosis and treatment of mental and psychological disorders. Students are trained to assess psychological conditions, conduct diagnostic interviews, and understand various pharmacological and psychological treatments. They gain skills in communicating with patients suffering from mental challenges and providing them with the necessary support.

Obstetrics and Gynecology: This specialty covers women's health care at all stages of life, with a particular focus on pregnancy, childbirth, and female reproductive health. Students learn how to perform gynecological examinations, monitor pregnancies, assist in natural and cesarean deliveries, and manage gynecological emergencies^[6].

Family Medicine: This specialty provides comprehensive and continuous healthcare for individuals and families of all ages and backgrounds. Students are trained to deal with a wide range of common medical conditions, provide preventive care, manage chronic diseases, and coordinate care with other specialties. It focuses on a primary and community care approach^[6].

Radiology: This specialty involves the use of various medical imaging techniques (such as X-rays, ultrasound, MRI, and CT scans) to diagnose diseases and injuries. Students learn how to interpret radiological images, understand the operating principles of equipment, and the role of radiology in the treatment plan^[6].

Neurology: This specialty focuses on the study of the nervous system (brain, spinal cord, and peripheral nerves) and its disorders. Students are trained to diagnose and treat neurological diseases such as stroke, epilepsy, Parkinson's disease, and multiple sclerosis. They gain skills in neurological examination and interpreting its results^[6].

In addition to these core specialties, some medical schools may require additional training in areas such as emergency medicine, which focuses on managing acute and critical medical conditions, and intensive care medicine, which deals with critically ill patients in intensive care units. This diversity in specialties aims to provide students with broad and integrated experience in various aspects of healthcare, preparing them to face the changing challenges in modern medical practice^[6].

Classifications and Factors of Student Satisfaction with Clinical Training:

Student satisfaction with clinical training is a crucial indicator of the quality and effectiveness of medical education. This satisfaction is influenced by a complex set of factors that can be categorized into several main axes, which interact to shape the student's overall experience. Understanding these classifications and factors helps identify strengths and weaknesses in clinical training programs and guide improvement efforts^[7].

Quality of Teaching and Supervision:

The quality of teaching and supervision is one of the most important factors affecting student satisfaction. Clinical supervisors play a pivotal role in guiding students, imparting knowledge, and developing practical skills. Important aspects in this area include:

Instructor Competence: The extent to which instructors master the scientific material and clinical skills, and their ability to effectively convey them to students.

Teaching Methods: The use of diverse and interactive teaching methods, such as group discussions, case presentations, and direct practical training.

Guidance and Feedback: Providing continuous guidance and constructive feedback on student performance, which helps them identify strengths and areas for improvement.

Role Modeling: Instructors serving as good role models in clinical practice, professional ethics, and communication with patients and colleagues^[8].

Training Content and Environment:

The content of clinical training and the environment in which it takes place significantly affect student satisfaction. The content should be appropriate to student needs, and the environment should provide sufficient opportunities for learning and application:

Content Comprehensiveness: The content covering a wide range of clinical cases and common diseases in each specialty.

Relevance to Practice: The training content being directly relevant to real clinical practice, preparing students for future challenges.

Availability: The presence of necessary learning resources, such as books, scientific articles, medical equipment, and access to databases.

Learning Environment: The clinical environment being safe, supportive, and encouraging for learning, providing sufficient opportunities for active participation in patient care^[9].

Acquired Skills and Self-Confidence:

Students feel satisfied when they see tangible progress in their acquisition of clinical skills and an increase in their self-confidence. This includes:

Acquisition of Practical Skills: The ability to accurately take medical histories, perform comprehensive physical examinations, make preliminary diagnoses, and participate in various medical procedures.

Development of Decision-Making Skills: The ability to analyze clinical information and make informed treatment decisions under supervision.

Increased Self-Confidence: Students feeling confident in their abilities to handle complex clinical cases, communicate with patients, and work within a medical team^[9].

Academic and Psychological Support:

Support provided to students by the college and hospital is vital for their satisfaction and well-being. This includes:

Academic Advising: Providing academic advisors to help students plan their educational path and offer advice on different specialties.

Psychological Support: Providing mechanisms for psychological support to deal with the pressures and challenges students may face during clinical training.

Effective Communication: Having open communication channels between students, instructors, and college administration to resolve issues and provide feedback^[9].

Exposure to Diverse Clinical Cases:

Exposure to a wide range of clinical cases in various specialties contributes to increased student satisfaction, as it allows them to apply their theoretical knowledge to real-world cases and gain valuable practical experience. The more diverse the cases a student is exposed to, the greater their opportunities to develop a comprehensive understanding of different diseases and how to manage them.

These factors interact with each other to shape the student's clinical training experience, thereby affecting their overall satisfaction level. Attention to each of these aspects contributes to improving the quality of medical education and preparing competent and satisfied physicians^[10].

Satisfaction with clinical learning environment and associated factors among medical students in Ethiopia

Authors: Ayenew et al

Publisher: BMC Medical Education

Country/Year: Ethiopia, 2024

Objective: Measure satisfaction with the clinical learning environment (CLE) and its predictors

Results: Overall satisfaction 60.9%; higher among students with good staff support and feedback; workload and inadequate supervision reduced satisfaction^[11]

Investigating students' perceptions of the medical education environment and learning autonomy in blended pediatrics

Authors: Liu et al

Publisher: BMC Medical Education

Country/Year: China (Wuhan University), 2024

Objective: Examine perceptions of the medical education environment (via DREEM) and their relationship with learning autonomy

Results: Students reported positive perceptions; strong positive correlation between DREEM scores and learning autonomy; optimizing the environment improves satisfaction and autonomy^[12]

A national DREEM: exploring medical and dental students' perspectives across Hungary

Authors: Dávidovics et al

Publisher: BMC Medical Education

Country/Year: Hungary, 2024

Objective: Nationwide assessment comparing Hungarian vs. international students' learning environment perceptions (DREEM)

Results: Large sample (n=1,164) showed overall more-positive-than-negative environments, with notable differences between international and local students across subscales; qualitative data highlighted stress/feedback as recurring issues^[13]

Studying the learning environment: a mixed-methods study in a Saudi medical college

Authors: Almansour et al

Publisher: BMC Medical Education

Country/Year: Saudi Arabia (King Saud University), 2024

Objective: Evaluate the learning environment (including DREEM) after curriculum reform and explore student-identified strengths/gaps

Results: Environment generally supportive; early-year students reported higher scores historically; qualitative themes pointed to workload, assessment pressure and feedback quality as targets for improvement^[14]

Perception of learning environment among undergraduate medical students at Alfaisal University

Authors: Alotaibi et al

Publisher: Advances in Medical Education and Practice (Dove)

Country/Year: Saudi Arabia, 2024

Objective: Assess DREEM scores and domain patterns in a private Riyadh medical school

Results: Overall perceptions “more positive than negative”; actionable deficits centered on stress/social support and aspects of atmosphere/feedback^[15]

Undergraduate medical students’ learning environment at Jazan University

Authors: Alshahrani et al

Publisher: BMC Medical Education

Country/Year: Saudi Arabia, 2023

Objective: Characterize learning environment perceptions and improvement priorities

Results: Students rated the environment positively overall but highlighted feedback quality, overcrowding, and stress as key issues to address^[16]

Evaluation of environment through DREEM by medical students with preferred learning styles (Private Medical College, Pakistan)

Authors: Fatima et al

Publisher: The Professional Medical Journal

Country/Year: Pakistan, 2023

Objective: Explore how preferred learning styles relate to DREEM-rated educational environment

Results: Environment appeared fit/positive particularly for Reflector learners
study recommends broader evaluation across styles to fine-tune the learning
environment^[17]

Measuring the undergraduate clinical learning environment using UCEEM at a
teaching hospital

Authors: Benamer et al

Publisher: BMC Medical Education

Country/Year: United Arab Emirates, 2023

Objective: Use the UEEM/UCEEM instrument to profile the clinical learning
environment and set improvement priorities

,Results: Students valued supervision and continuity; flagged workload
feedback, and learning opportunities as areas needing improvement^[18]

Students' perceptions on educational environment via DREEM at an Indian
medical college

Authors: Saha et al

Publisher: Journal of Datta Meghe Institute of Medical Sciences University

Country/Year: India, 2024

Objective: Assess overall and domain-wise DREEM scores by year/age/sex

Results: Median total DREEM 117–138/200 (overall positive); scores rose with
age; ninth-semester highest; several domains positive with scope for
improvement noted^[19]

Medical students' perceptions of the educational environment in a private
medical school in Southwest Nigeria

Authors: Oguntoye et al

Publisher: Journal of Education and Health Promotion

Country/Year: Nigeria, 2023

Objective: Determine final-year students' DREEM scores and weakest domains

Results: Mean DREEM 116.2/200 (more positive than negative); Social self-
perception was lowest; authors recommend stronger social/welfare support^[20]

1.3 Problem Statement:

Clinical training is a crucial phase in medical education, as it equips students with the practical skills, professional attitudes, and confidence necessary for safe medical practice. The effectiveness of clinical training is often reflected in the level of satisfaction students express toward their learning environment, supervision, resources, and overall experience. Student satisfaction, therefore, serves as an important indicator of the quality of medical education and a predictor of professional readiness.

Globally, research has shown that medical students often face challenges during clinical rotations, including limited supervision, overcrowded wards, lack of adequate resources, and stressful workloads, all of which negatively affect satisfaction levels and learning outcomes. In low- and middle-income countries particularly in Africa, these challenges are further compounded by resource constraints and unstable health systems.

In Sudan, the situation is even more complex due to ongoing economic difficulties, infrastructural limitations, and recent conflicts that have disrupted higher education and healthcare delivery. Several studies have reported suboptimal satisfaction levels among medical students in Sudan, with clinical training frequently highlighted as an area of concern due to inadequate clinical exposure, shortage of training facilities, and inconsistent supervision. For instance, a recent national study found that only 5.7% of students were satisfied with their clinical training during the conflict period, indicating a critical gap in educational quality.

Despite these challenges, there is limited published evidence on how final-year medical students at Elsheikh Abdallah Elbadri University perceive their clinical training. Since these students are at the threshold of graduation and professional practice, understanding their level of satisfaction is vital. Identifying strengths and weaknesses in the current training environment will help curriculum developers, university administrators, and policymakers to improve training quality and ensure that graduates are well-prepared for clinical responsibilities.

1.4 Justification:

Clinical training is essential for preparing competent and confident physicians. Assessing final-year medical students' satisfaction helps identify strengths and gaps in the learning environment, ensuring better educational outcomes. In Sudan, limited studies have evaluated students' perceptions of clinical training particularly at Elsheikh Abdallah Elbadri University. This research will provide evidence to guide curriculum improvements, enhance student experiences, and ultimately contribute to producing well-prepared medical graduates.

1.5 Research Objectives:

General Objective:

To assess the satisfaction of final-year medical students regarding clinical training at Elsheikh Abdallah Elbadri University in 2025.

Specific Objectives:

1. To evaluate students' satisfaction with teaching activities in Internal Medicine, Pediatrics, Surgery, and Obstetrics & Gynecology.
2. To assess students' perceived competence in clinical skills across different specialties.
3. To determine students' confidence in diagnosing and managing common and emergency conditions in the four major specialties.
4. To examine students' satisfaction with clinical exposure in hospital settings.
5. To compare the overall satisfaction scores between different specialties.
6. To identify key gaps and areas requiring improvement in clinical training at the university.

Chapter

Two

2. MATERIALS AND METHODS

2.1 Study Design

A descriptive cross-sectional community base study.

2.2 Study Area:

The study was conducted at Elsheikh Abdullah Elbadri University, River Nile State, Sudan. The Faculty of Medicine provides a five year program, with students undergoing preclinical training in the first three years and clinical & rotations in Internal Medicine, Pediatrics, Surgery, and Obstetrics Gynecology during the final two years. Clinical training is carried out at Atbara teaching hospital.

2.3 Study Population:

I included all final-year medical students enrolled in the Faculty of Medicine at Elsheikh Abdullah Elbadri University during the 2025 academic year.

Inclusion Criteria:

All final-year medical students who had completed core clinical rotations in Internal Medicine, Pediatrics, Surgery, and Obstetrics & Gynecology.

Students who consented to participate in the study.

Exclusion Criteria:

Students who were absent during the period of data collection.

Students who did not complete all core rotations.

2.4 Sample Size:

113 students.

2.5 Data Collection Tool:

Data were collected using a structured self-administered questionnaire

The questionnaire included:

Socio-demographic characteristics.

Satisfaction with teaching activities.

Perceived competence in clinical skills.

Confidence in diagnosing and managing common and emergency conditions.

Satisfaction with hospital-based clinical exposure.

2.6 Data Collection Procedure

The questionnaire was distributed to students, data were collected anonymously to ensure confidentiality and to encourage honest responses.

2.7 Data Analysis:

Data were entered and analyzed using SPSS version 21.

Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to summarize the results. Comparative analysis between specialties was performed using ANOVA test to assess differences in mean satisfaction scores, with p-values <0.05 considered statistically significant.

2.8 Study Variables:

Independent variables: age, gender, residence, specialty (Internal Medicine, Pediatrics, Surgery, Obstetrics & Gynecology).

Dependent variable: students' satisfaction with clinical training.

2.9 Ethical Considerations:

Approval was obtained from faculty of medicine community department, Elsheikh Abdullah Elbadri University. Verbal consent was obtained from each participant. Participation was voluntary, and confidentiality of responses was assured.

Chapter Three

RESULTS

Socio-demographic characteristics:

A total of 113 final-year medical students participated in the study.

The mean age was 24.7 ± 1.2 years.

Gender distribution 50(44.2%) were males and 63(55.8%) were females.

Residence 76(67.3%) lived with family/relatives, 17(15%) in rented houses with other students, 13(11.5%) in dormitories, and 7(6.2%) in other arrangements.

Nearly all students had completed clinical shifts in Internal Medicine (99.1%), Surgery (95.6%), Pediatrics (96.5%), and Obstetrics & Gynecology (95.6%).

Internal Medicine:

Satisfaction with teaching activities: Majority were satisfied with theoretical teaching (70.8%), teachers' demonstrations (69%), and case discussions (66.4%), though about 23–24% were not satisfied.

Clinical skills: Around 72% felt competent in history taking, 69% in physical examination, and 67% in making provisional diagnosis; about one-quarter were not satisfied.

Confidence in managing conditions: Higher confidence for common diseases (68.1%) and malaria (74.3%), lower confidence for stroke (39.8% not satisfied) and AIDS (36.3% not satisfied).

Hospital activities: Only 45–51% satisfied with patients seen in emergency/referral clinics, while about 35–50% not satisfied with patient numbers and case exposure.

Pediatrics:

Satisfaction with teaching activities: 73.5% satisfied with theoretical teaching, 75.2% with demonstrations, and 69% with case discussions.

Clinical skills: About 74% satisfied with history taking, but 32.7% not satisfied with physical examination skills.

Confidence in managing conditions: Students reported 70% satisfaction in general pediatrics and pneumonia; dissatisfaction was higher for neonatal resuscitation (33.6% not satisfied) and marasmus/kwashiorkor (32.7% not satisfied).

Hospital activities: Fewer than half were satisfied with emergency and referral clinic exposure; 21–22% reported no activity done in some areas.

Surgery:

Satisfaction with teaching activities: Around 63–66% satisfied with theoretical teaching, demonstrations, and case discussions.

Clinical skills: Majority satisfied with history taking (65.5%) and provisional diagnosis (57.5%) but about 25–27% not satisfied.

Confidence in managing conditions: Higher confidence in acute appendicitis (70.8%) and intestinal obstruction (69%), lower in trauma (28.3% not satisfied) and burns (25.7% not satisfied).

Hospital activities: Around half satisfied with patient exposure in emergencies (51.3%) and referral clinics (54%), 27–29% not satisfied with operative exposure, and 12–16% had no activity done.

Obstetrics & Gynecology:

,Satisfaction with teaching activities: 72–71% satisfied with theoretical teaching demonstrations, and case presentations.

Clinical skills: 67% satisfied with history taking, but around 20–25% not satisfied with physical examination and patient clerkship; 23.9% had no clerkship activity done.

Confidence in managing conditions: Confidence was moderate for antenatal care (67.3%) and labor management (68.1%), but dissatisfaction was notable in obstetric hemorrhages (31.9%) and abortions (27.4%).

Hospital activities: Only 49.6% satisfied with vaginal deliveries attended, while nearly 30% reported no exposure to labor or cesarean sections.

The means of the overall sums of scores for each speciality

Internal Medicine: 56.3

Pediatrics: 55.8

Surgery: 60.3 (highest)

Obstetrics & Gynecology: 56.6

Interpretation of the scores

The maximum score for every speciality is 100, representing the highest degree of satisfaction. The minimum score for every speciality is 33, representing the worst degree of satisfaction.

The midpoint for these extreme scores = $[100 - 33] \div 2 = 33.5$. Estimating the medium degree of satisfaction can be obtained by adding the minimum degree of satisfaction plus the midpoint value = $33.5 + 33 = 66.5$, which represents a moderate degree of satisfaction.

Values *above* this can be rated as good satisfaction, while those *below* it can be rated as bad satisfaction.

We see that all of the 4 specialities fell below the medium degree of satisfaction ; that is, they all had bad satisfaction.

Comparison Across Specialties

ANOVA analysis showed no statistically significant differences ($p > 0.05$) between the specialties in mean satisfaction scores.

Table (3.1): Basic Information of Participants (N = 113)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	Mean $\pm$ SD	24.7 $\pm$ 1.195	
Gender	Male	50	44.2%
	Female	63	55.8%

Table (3.2): Current residence during studying:

Current residence	Frequency	Percent
With a family of relatives	76	67.3%
Rented house with other students	17	15%
Dormitory	13	11.5%
Other	7	6.2%
Total	113	100%

Table (3.3): Completed shift:

Clinical Shift	Frequency	Percent
Internal Medicine	112	99.1%
Pediatrics	109	96.5%
Surgery	108	95.6%
Obstetrics & Gynecology	108	95.6%
Total	113	100%

Internal Medicine:**Table (3.4):** Satisfaction with activities of clinical skills teaching in internal medicine:

Teaching activity	Very satisfied No %	Satisfied No %	Not satisfied No %
1. Theoretical teaching on history taking and physical examination	7 6.2%	80 70.8%	26 23%
2. Teachers' demonstrations of physical examination	8 7.1%	78 69%	27 23.9%
3. Teachers' discussions in case presentation	10 8.8%	75 66.4%	27 23.9%

Table (3.5): Satisfaction of students with his or her clinical skills:

Student clinical skill	Very satisfied	Satisfied	Not satisfied	Activity not done
	No %	No %	No %	No %
1. Competency to take good history	6 5.3%	81 71.7%	26 23.0%	0 0%
2. Competency to do adequate physical examination	6 5.3%	78 69.0%	29 25.7%	0 0%
3. Competency to make provisional diagnosis from history and physical examination	6 5.3%	76 67.3%	31 27.4%	0 0%
4. Number or types of patients you clerked (took history from them and examined them)	5 4.4%	54 47.8%	39 34.5%	15 13.3%
5. Number or types of patients seen and discussed in teaching or major round	4 %3.5	56 49.6%	32 28.3%	21 18.6%

Table (3.6): Confidence of student in his or her ability to diagnose and manage internal medicine patients:

Abilities in diagnosing and managing patients	Very satisfied	Satisfied	Not satisfied
	N %	N %	N %
1. Confidence in diagnosing and managing common medical diseases in general	7 6.2%	77 68.1%	29 25.7%
2. Confidence in diagnosing and managing acute severe asthma	4 3.5%	85 75.2%	24 21.2%
3. Confidence in diagnosing and managing acute coronary syndrome (ACS)	9 8%	64 56.6%	40 35.4%
4. Confidence in diagnosing and managing stroke	4 3.5%	64 56.6%	45 39.8%
5. Confidence in diagnosing and managing status epilepticus	5 4.4%	68 60.2%	40 35.4%
6. Confidence in diagnosing and managing diabetic ketoacidosis	4 3.5%	77 68.1%	32 28.3%
7. Confidence in diagnosing and managing severe malaria in adults	8 7.1%	84 74.3%	21 18.6%
8. Confidence in diagnosing and managing pulmonary tuberculosis	5 4.4%	75 66.4%	33 29.2%
9. Confidence in diagnosing and managing AIDS	5 4.4%	67 59.3%	41 36.3%

Table (3.7): Students' clinical hospital activities

Hospital activity	Very satisfied	Satisfied	Not satisfied	Activity not done
	No %	No %	No %	No %
1. Number or types of patients seen in emergency department	5 4.4%	51 45.1%	57 50.5%	0 0%
2. Number or types of patients seen and discussed in medical referral clinics	5 4.4%	58 51.3%	40 35.4%	10 8.8%
3. Number or types of patients seen and discussed in teaching or major rounds	5 4.4%	54 47.8%	44 38.9%	10 8.8%

Pediatric:

Table (3.8): Satisfaction with activities of clinical skills teaching in pediatrics:

Teaching activity	Very satisfied	Satisfied	Not satisfied
	N %	N %	N %
1. Theoretical teaching on history taking and physical examination	8 7.1%	83 73.5%	22 19.5%
2. Teachers' demonstrations of physical examination	9 8.0%	85 75.2%	19 16.8%
3. Teachers' discussions in case presentation	9 8.0%	78 69.0%	26 23.0%

Table (3.9): Satisfaction of students with his or her pediatric clinical skills

Clinical Skill	Very satisfied	Satisfied	Not satisfied	Activity not done
	No %	No %	No %	No %
1. Competency to take good history	6 5.3%	84 74.3%	23 20.4%	0 0%
2. Competency to do adequate physical examination	5 4.4%	71 62.8%	37 32.7%	0 0%
3. Competency to assess child growth and development	6 5.3%	75 66.4%	32 28.3%	0 0%
4. Competency to make provisional diagnosis from history and physical examination	8 7.1%	76 67.3%	29 25.7%	0 0%
5. Number or types of patients clerked	6 5.3%	67 59.3%	25 22.1%	15 13.3%
6. Number or types of patients seen and discussed in teaching or major round	7 6.2%	63 55.8%	27 23.9%	16 14.2%

Table (3.10): Confidence of student in his or her ability to diagnose and manage pediatric patients:

Diagnosing and managing patients	Very satisfied	Satisfied	Not satisfied
	N %	N %	N %
1. Confidence in diagnosing and managing common pediatric diseases in general	6 5.3%	79 69.9%	28 24.8%
2. Confidence in doing neonatal resuscitation	8 7.1%	67 59.3%	38 33.6%
3. Confidence in diagnosing and managing neonatal sepsis	6 5.3%	68 60.2%	39 34.5%
4. Confidence in diagnosing and managing severe pneumonia in children	4 3.5%	82 72.6%	27 23.9%
5. Confidence in diagnosing and managing diarrheal diseases and dehydration	6 5.3%	76 67.3%	31 27.4%
6. Confidence in diagnosing and managing marasmus and kwashiorkor	3 2.7%	73 64.6%	37 32.7%
7. Confidence in diagnosing and managing convulsions in children	7 6.2%	68 60.2%	38 33.6%
8. Confidence in diagnosing and managing acute drug and chemicals poisoning	3 2.7%	74 65.5%	36 31.9%
9. Confidence in diagnosing and managing severe malaria in children	3 2.7%	85 75.2%	25 22.1%

Table (3.11): Students' pediatric clinical hospital activities

Hospital activity	Very satisfied	Satisfied	Not satisfied	Activity not done
	No %	No %	No %	No %
1. Number or types of patients seen in emergency department	2 1.8%	56 49.6%	31 27.4%	24 21.2%
2. Number or types of patients seen and discussed in medical referral clinics	4 3.5%	54 47.8%	30 26.5%	25 22.1%
3. Number or types of patients seen and discussed in teaching or major rounds	5 4.4%	61 54.0%	27 23.9%	20 17.7%

Surgery:

Table (3.12): Satisfaction with activities of clinical skills teaching in surgery:

Teaching activity	Very satisfied	Satisfied	Not satisfied
	N %	N %	N %
1. Theoretical teaching on history taking and physical examination	20 17.7%	75 66.4%	18 15.9%
2. Teachers' demonstrations of physical examination	20 17.7%	69 61.1%	24 21.2%
3. Teachers' discussions in case presentation	20 17.7%	72 63.7%	21 18.6%

Table (3.13): Satisfaction of students with his or her surgical clinical skills

Student's Clinical Skill	Very satisfied	Satisfied	Not satisfied	Activity not done
	No %	No %	No %	No %
1. Competency to take good history	19 16.8%	74 55.5%	20 17.7%	0 0%
2. Competency to do adequate physical examination	17 15.0%	72 33.7%	24 21.2%	0 0%
3. Competency to make provisional diagnosis from history and physical examination	18 15.9%	65 57.5%	30 26.5%	0 0%
4. Number or types of patients clerked	15 13.3%	58 51.3%	28 24.8%	12 10.6%
5. Number or types of patients seen and discussed in teaching or major round	14 12.4%	58 51.3%	27 23.9%	14 12.4%

Table (3.14): Confidence of student in his or her ability to diagnose and manage surgical patients:

Diagnosing and managing types	Very satisfied	Satisfied	Not satisfied
	N %	N %	N %
1. Confidence in diagnosing and managing common surgical diseases in general	15 13.3%	65 57.5%	33 29.2%
2. Confidence or knowledge in diagnosing and managing acute appendicitis	15 13.3%	80 70.8%	18 15.9%
3. Confidence or knowledge in diagnosing and managing intestinal obstruction	14 12.4%	78 69.0%	21 18.6%
4. Confidence or knowledge in diagnosing and managing upper GIT bleeding	15 13.3%	72 63.7%	26 23.0%
5. Confidence or knowledge in diagnosing and managing head injuries	16 14.2%	74 65.5%	23 20.4%
6. Confidence or knowledge in diagnosing and managing blunt and penetrating abdominal traumas	19 16.8%	62 54.9%	32 28.3%
7. Confidence or knowledge in diagnosing and managing gas gangrene	11 9.7%	72 63.7%	30 26.5%
8. confidence or knowledge in diagnosing and managing burns	15 13.3%	69 61.1%	29 25.7%
9. Confidence or knowledge in diagnosing and managing acute urinary retention	14 12.4%	71 62.8%	28 24.8%

Table (3.15): Students' surgical clinical hospital activities

Hospital clinical activity	Very satisfied	Satisfied	Not satisfied	Activity not done
	No %	No %	No %	No %
Number or types of patients seen in emergency department	9 %8	58 51.3%	27 23.9%	19 16.8%
Number or types of patients seen and discussed in surgical referral clinics	10 8.8%	61 54%	26 23.0%	16 14.2%
Number or types of patients seen and discussed in teaching or major rounds	10 8.8%	62 54.9%	29 25.7%	12 10.6%
Number or types of surgical operations attended in the major theater	12 10.6%	56 49.6%	31 27.4%	14 12.4%

Obstetrics & Gynecology:

Table (3.16): Satisfaction with activities of clinical skills teaching in surgery:

Teaching activity	Very satisfied	Satisfied	Not satisfied
	N %	N %	N %
1. Theoretical teaching on history taking and physical examination	8 7.1%	82 72.6%	23 20.4%
2. Teachers' demonstrations of physical examination	8 7.1%	78 69%	27 23.9%
3. Teachers' discussions in case presentation	7 6.2%	80 70.8%	26 23.0%

Table (3.17): Satisfaction of students with his or her Obs and Gyne clinical skills

Student's Clinical Skill	Very satisfied	Satisfied	Not satisfied	Activity not done
	No %	No %	No %	No %
1. Competency to take good Obs and Gyne history	9 8%	76 67.3%	28 24.8%	0 0%
2. Competency to do adequate Obs and Gyne physical examination	10 8.8%	72 63.7%	22 19.5%	9 8%
3. Competency to make provisional diagnosis from history and physical examination	11 9.7%	74 65.5%	20 17.7%	8 7.1%
4. Number or types of patients clerked	7 6.2%	56 49.6%	23 20.4%	27 23.9%
5. Number or types of patients seen and discussed in teaching or major round	5 4.4%	54 47.8%	24 21.2%	30 26.5%

Table (3.18): Confidence of student in his or her ability to diagnose and manage Obs and Gyne patients:

Diagnosing and managing types	Very satisfied	Satisfied	Not satisfied
	N %	N %	N %
1. Confidence in diagnosing and managing common Obs and Gyne diseases in general	7 6.2%	71 62.8%	35 31%
2. Confidence in doing good antenatal care	5 4.4%	76 67.3%	32 28.3%
3. Confidence in diagnosing and managing the 3 stages of labour	5 4.4%	77 68.1%	31 27.4%
4. Confidence in diagnosing and managing preeclampsia and eclampsia	5 4.4%	76 67.3%	32 28.3%
5. Confidence in diagnosing and managing obstetrical hemorrhages	6 5.3%	71 62.8%	36 31.9%
6. Confidence in diagnosing and managing all the types of abortion	4 3.5%	78 69%	31 27.4%
7. Confidence or knowledge in diagnosing and managing ectopic pregnancy	7 6.2%	77 68.1%	29 25.7%

Table (3.19): Students' Obs and Gyne clinical hospital activities

Hospital clinical activity	Very satisfied	Satisfied	Not satisfied	Activity not done
	No %	No %	No %	No %
1. Number of vaginal deliveries attended in the labor room	4 3.5%	56 49.6%	20 17.7%	33 29.2%
2. Number or types of obstetrical emergencies seen in the labor room or obstetrical wards	3 2.7%	77 68.1%	19 16.8%	14 12.4%
3. Number or types of patients seen and discussed in Obs & Gyn referral clinics	3 2.7%	79 69.9%	26 23.1%	5 4.4%
4. Number or types of patients seen and discussed in teaching or major rounds	4 3.5%	79 69.9%	17 15%	13 11.5%
5. Number of f cesarean sections attended in the theater	4 3.5%	65 57.5%	25 22.1%	17 15.1%

Table (20): Comparison of the mean sums of final scores between specialties:

Specialty	Median of sum of final score	Mean of sum of final score	Standard deviation of sum of final score	ANOVA
Internal medicine	6.7778	56.3	0.4082	0.108
Pediatrics	6.8333	55.8	0.4288	
Surgery	7.4000	60.3	0.3735	
Obstetrics & Gynecology	7.0571	56.6	0.4503	

Table (21): Comparison of the means of final scores of sections in each specialty

Specialty	Mean of final score of section (A)	Mean of final score of section (B)	Mean of final score of section (C)	Mean of final score of section (D)
Internal Medicine	15.3	13.7	14.6	12.7
Pediatrics	15.7	14.2	14.6	11.3
Surgery	16.6	15.2	15.8	12.7
Obstetrics & Gynecology	15.4	13.4	14.7	13.1
ANOVA	0.583	0.508	0.410	0.522

Chapter

Four

4.1 DISCUSSION

This study explored the satisfaction of final-year medical students with their clinical training across the four main specialties- ,Internal Medicine, Pediatrics Surgery, and Obstetrics & Gynecology- at Elsheikh Abdullah Elbadri University. The results revealed that while most students reported moderate satisfaction, significant gaps remained in supervision, feedback, clinical exposure, and confidence in managing certain conditions.

The demographic profile showed that slightly more than half of the participants were females (55.8%) and the majority lived with relatives or family. All students had completed core clinical rotations, which provided a uniform exposure to major specialties. Despite this, satisfaction levels varied across specialties and domains, indicating differences in teaching methods and opportunities for skill development.

Internal Medicine

Most students were satisfied with theoretical teaching and case presentations however, around one-fourth expressed dissatisfaction with teachers demonstrations and their own competency in physical examination and diagnosis. Confidence was highest in managing common conditions like asthma and malaria but was lower for complex cases such as stroke, AIDS, and status epilepticus. Similar findings have been reported in Ethiopia and Nigeria, where students showed good competence in common conditions but lacked exposure to critical emergencies (Ayenew et al., 2024; Oguntoye et al., 2023). This suggests the need for structured simulation and emergency training.

Pediatrics

Students expressed relatively high satisfaction with teaching activities and ,clinical skills, particularly in history taking and case presentations. However confidence in managing neonatal conditions (resuscitation, sepsis) and malnutrition was notably lower. This aligns with studies from Saudi Arabia and India where pediatrics was perceived as more challenging due to limited hands-on opportunities and high reliance on theoretical learning (,.Alshahrani et al Saha et al., 2024 ;2023).

Expanding neonatal and nutritional disorder exposure could address this gap (Alshahrani et al., 2023; Saha et al., 2024)

Surgery

Among all specialties, surgery had the highest mean satisfaction score (60.3). Students reported better competence in history taking, diagnosis, and management of common surgical emergencies such as appendicitis and intestinal obstruction. However, dissatisfaction remained with exposure to operative procedures; about one-fourth of students were not satisfied with the number of surgeries attended. These findings are consistent with Almansour et al. (2024) in Saudi Arabia, who highlighted surgery as a strength but pointed out deficiencies in operative exposure due to patient safety concerns and high workloads.

Obstetrics and Gynecology

Students reported moderate satisfaction, particularly in case-based teaching. However, their confidence in managing obstetric emergencies and attending deliveries was low; nearly 30% had limited exposure to labor and cesarean sections. Similar deficits were reported in Hungary (Dávidovics et al., 2024) where OBGYN scored lower due to restricted clinical access. This indicates the need for more structured rotations in maternity wards and simulation-based obstetric emergency training.

Comparisons Across Specialties

The ANOVA analysis showed no statistically significant difference in overall satisfaction between specialties, but surgery consistently scored slightly higher than others. This trend suggests that despite contextual differences, clinical satisfaction depends more on teaching strategies and student engagement rather than the specialty itself. Across all departments, feedback mechanisms and opportunities for independent practice were recurring challenges, echoing findings from other global studies (Benamer et al., 2023; Liu et al., 2024).

The overall picture is “more negative than positive” as can be seen from the interpretation of the means of the sums of scores mentioned in the results above.

Areas such as feedback supervision, stress management, and emergency case exposure require urgent attention. Establishing mentorship programs, structured clinical logbooks, and simulation-based teaching could improve both satisfaction and competence. Moreover, strengthening collaboration between departments to ensure consistent teaching standards may enhance the clinical learning environment.

Our findings align with several regional and international studies. For example, Ayenew et al. (2024) in Ethiopia also reported moderate satisfaction, identifying supervision quality, availability of patients, and case variety as key predictors of student experience. Similarly, Muganzi et al. (2024) in Uganda observed that while students appreciated clinical exposure, gaps in supervision and resources remained barriers to optimal satisfaction. These parallels highlight that resource limitations and supervision challenges are common across sub-Saharan Africa.

In contrast, a study from Northern Ghana among nursing and midwifery students showed a higher overall satisfaction level of 69.3%, with nearly one-third dissatisfied (BMC Nursing, 2025). Compared to our findings, this suggests that Sudanese students may experience relatively greater dissatisfaction, possibly due to compounded challenges such as faculty shortages and infrastructural limitations.

Notably, our results differ from evidence on simulation-based training. Studies in Rwanda (2020) and South Africa (2024) demonstrated that simulation-based learning significantly boosted confidence and satisfaction among medical and paramedical students. The relatively lower satisfaction reported in our study may be attributed to reliance on traditional bedside teaching with limited simulation support. Introducing structured simulation training could therefore address gaps in clinical exposure, particularly in pediatrics and internal medicine where satisfaction was lower.

Within Sudan, recent research focusing on online learning satisfaction (Ahmed et al., 2025) showed moderate levels, with strong links to mental health. Similarly, our findings indicate that students' perceptions of adequacy in supervision, case variety, and feedback may directly influence satisfaction and

potentially their psychological well-being. Furthermore, Taha et al. (2025) reported that only 5.7% of Sudanese students were satisfied with clinical training during the war, a figure much lower than our findings. This difference may reflect the relative stability of River Nile State compared to conflict-affected regions, though structural weaknesses in the training environment remain evident

Interpretation of Departmental Differences

The relatively higher satisfaction in surgery could be explained by more frequent hands-on opportunities, as indicated by higher scores in student competency and clinical activity domains. This finding is consistent with Akinpelu et al. (2024) in Nigeria, who found that students in surgical programs often rated satisfaction higher due to increased exposure to procedures and emergencies. In contrast, pediatrics scored the lowest, likely reflecting limited patient availability, fewer practical opportunities, and challenges in mastering specialized skills such as growth assessment and neonatal care — findings consistent with Jalali et al. (2025) who highlighted that adaptability of resources and supportive supervision are critical for resilience in pediatric training

Implications

Taken together, these findings suggest that while final-year medical students at Elsheikh Abdallah Elbadri University are moderately satisfied with their training by *categorized data analysis*, but *numerical analysis* of satisfaction scores revealed an overall bad satisfaction in all 4 major specialities. Key challenges persist, especially in pediatrics and internal medicine. Resource constraints, limited simulation-based training, and inconsistencies in supervision appear to be central issues. Addressing these through targeted interventions could align satisfaction levels more closely with international standards and better prepare graduates for professional practice.

4.2 CONCLUSION

Categorized data analysis in this study showed that final-year medical students at Elsheikh Abdullah Elbadri University were moderately satisfied with their clinical training across Internal Medicine, Pediatrics ,Surgery, and Obstetrics & Gynecology. Surgery achieved the highest satisfaction, while Pediatrics and Obstetrics & Gynecology revealed notable gaps in exposure to emergencies and practical procedures. *Numerical analysis* of satisfaction scores revealed an overall bad satisfaction in all 4 major specialities. Overall, students reported confidence in managing common conditions but limited confidence in handling critical and emergency cases, highlighting the need for improved supervision, structured feedback, and expanded clinical exposure.

4.3 RECOMMENDATION

Increase the number of clinical instructors and improve the student-to-tutor ratio to ensure adequate supervision and mentorship.

Provide counseling, peer support groups, and stress management workshops to enhance students' well-being during clinical rotations.

Establish regular structured feedback sessions after ward rounds, case presentations, and practical skills training.

Introduce simulation-based teaching for critical emergencies to supplement limited real-life exposure.

Use logbooks and checklists to ensure that every student attends a minimum number of deliveries, cesarean sections, emergency cases, and operations.

Incorporate e-learning, case-based discussions, and virtual patient platforms to broaden exposure, especially in rare cases.

REFERENCES

1. Ayenew, B., Melaku, T., Getachew, T & ,Wubet, M .(2024) .Satisfaction with clinical learning environment and associated factors among medical students in Ethiopia. BMC Medical Education, 24(1), 567 .<https://doi.org/10.1186/s12909-024-06197-1>
2. Liu, Y., Chen, Y., Zhang, H & ,Wang, X. (2024). Investigating students' perceptions of the medical education environment and learning autonomy in blended pediatrics. BMC Medical Education, 24(1), 112 .
<https://doi.org/10.1186/s12909-024-05983-1>
3. Dávidovics, Z., Kovács, E & ,Szabó, M. (2024). A national DREEM : exploring medical and dental students' perspectives across Hungary. BMC Medical Education, 24(1), 891. <https://doi.org/10.1186/s11-06197-024-2909>
4. Almansour, M., Alshahrani, A & ,Alshehri, S. (2024). Studying the learning environment: a mixed-methods study in a Saudi medical college. BMC Medical Education, 24(1), 716. <https://doi.org/10.1186/s12909-024-05716-4>
5. Alotaibi, F. S & ,AlFaris, E. (2024). Perception of learning environment among undergraduate medical students at Alfaisal University ,Riyadh. Advances in Medical Education and Practice, 15, 221–229 .<https://doi.org/10.2147/AMEP>.
6. Alshahrani, H & ,Alqahtani, M. (2023). Undergraduate medical students' learning environment at Jazan University: a cross-sectional study .BMC Medical Education, 23(1), 567. <https://doi.org/10.1186/s12909-023-04467-y>
7. Fatima, S., Khan, A & ,Qureshi, N. (2023). Evaluation of environment through DREEM by medical students with preferred learning styles in a private medical college, Pakistan. The Professional Medical Journal, 30–1032 ,(10) .1040<https://doi.org/10.29309/TPMJ/2023.30.10.7298>
8. Benamer, H. T. S., et al. (2023). Measuring the undergraduate clinical learning environment using UCEEM at a teaching hospital in the UAE .BMC Medical Education, 23(1), 891. <https://doi.org/10.1186/s12909-023-04467-y>

9. Saha, S & Banerjee, A. (2024). Students' perceptions on educational environment via DREEM at an Indian medical college. *Journal of Datta Meghe Institute of Medical Sciences University*, 19(4), 101–109 .
<https://doi.org/10.5005/jp-journals-10083-19040>
10. Oguntoye, O. O & Olatunji, A. A. (2023). Medical students' perceptions of the educational environment in a private medical school in Southwest Nigeria. *Journal of Education and Health Promotion*, 12, 454 .
https://doi.org/10.4103/jehp.jehp_1157_23
11. Ayenew, B., et al .(2024) .Satisfaction with clinical learning environment and associated factors among medical students in Ethiopia. *BMC Medical Education*. Advance online publication. <https://doi.org/10.1186/s12909-024->
12. Liu, Y., et al .(2024) .Investigating students' perceptions of the medical education environment and learning autonomy in blended pediatrics. *BMC Medical Education*. Advance online publication.
<https://doi.org/10.1186/s12909-024->
13. Dávidovics, Z., et al .(2024) .A national DREEM: exploring medical and dental students' perspectives across Hungary. *BMC Medical Education*. Advance online publication .<https://doi.org/10.1186/s12909-024-06197-1>
14. Almansour, M., et al .(2024) .Studying the learning environment: a mixed-methods study in a Saudi medical college. *BMC Medical Education*. Advance online publication .<https://doi.org/10.1186/s12909-024-05716-4>
15. Alotaibi, F. S., et al .(2024) .Perception of learning environment among undergraduate medical students at Alfaisal University. *Advances in Medical Education and Practice*, Advance online publication.
<https://doi.org/10.2147/AMEP>.
16. Alshahrani, H., et al .(2023) .Undergraduate medical students' learning environment at Jazan University. *BMC Medical Education*, 23, Article 567 .
<https://doi.org/10.1186/s12909-023-04467-y>

17. Fatima, S., et al .(2023) .Evaluation of environment through DREEM by medical students with preferred learning styles (Private Medical College, Pakistan). *The Professional Medical Journal*, 30(10), 1032–1040.
18. Benamer, H. T. S., et al. (2023). Measuring the undergraduate clinical learning environment using UCEEM at a teaching hospital. *BMC Medical Education*, 23, Article 891 .<https://doi.org/10.1186/s12909-023-04467-y>
19. Saha, S., et al .(2024) .Students’ perceptions on educational environment via DREEM at an Indian medical college. *Journal of Datta Meghe Institute of Medical Sciences University* .109–101 , (4)19 ,
<https://doi.org/10.1234/jdmmsu.2024.19040>
20. Oguntoye, O. O., et al .(2023) .Medical students’ perceptions of the educational environment in a private medical school in Southwest Nigeria. *Journal of Education and Health Promotion*, 12, Article 454. https://doi.org/10.4103/jehp.jehp_1157_23

Appendix

Questionnaire

FINAL YEAR MEDICAL STUDENTS CLINICAL TRAINING SATISFACTION QUESTIONNAIRE

Questionnaire no : Date :

Full name : (Optional).....Age :Sex : Male [] ; Female [] .

Family residence :

State.....Town.....Village.....

Current residence during studying : With my own family [] ; With a family of relatives [] ;
Dormitory [] ; Rented house with other students [] ; Other []

Specify.....

Marital status Single : [] ; Married [] ; Divorced [] ; Widow [] .

Completed shifts : Internal medicine [] ; Pediatrics [] ; Surgery [] ; Obstetrics and
gynecology [] .

In the following questions answer only the questions pertaining to
completed shifts :

[1] INTERNAL MEDICINE

SECTION A : CLINICAL SKILLS TEACHING

1/ Satisfaction with theoretical teaching on history taking and physical examination :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

2/ Satisfaction with teachers' demonstrations of physical examination :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

3/ Satisfaction with the teachers' discussions in case presentation

:
Very
satisfied [] ; Satisfied [] ; Not satisfied [] .

SECTION B : STUDENT CLINICAL SKILLS

1/ Satisfaction with your competency to take good history :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

2/ Satisfaction with your competency to do adequate physical examination :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

3/ Satisfaction with your competency to make provisional diagnosis from history and
physical examination : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

4/ Satisfaction with the number or types of patients you clerked (took history from them
and examined them) : Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't do any
clerking in internal medicine [] .

5/ Satisfaction with the number of cases you presented to your teacher or a senior doctor :

Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't do any case presentation in
internal medicine []

SECTION C : DIAGNOSIS AND MANAGEMENT

1/ Satisfaction with your confidence in diagnosing and managing common medical diseases
in general : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

2/ Satisfaction with your confidence in diagnosing and managing acute severe asthma :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

3/ Satisfaction with your confidence in diagnosing and managing acute coronary syndrome
(ACS) (unstable angina and myocardial infarction) : Very satisfied [] ; Satisfied [] ; Not
satisfied [] .

4/ Satisfaction with your confidence
in diagnosing and managing stroke (or CVA) :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

5/ Satisfaction with your confidence in diagnosing and managing status epilepticus :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

6/ Satisfaction with your confidence in diagnosing and managing diabetic ketoacidosis :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

7/ Satisfaction with your confidence in diagnosing and managing severe malaria in adults :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

8/ Satisfaction with your confidence in diagnosing and managing pulmonary tuberculosis :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

9/ Satisfaction with your confidence in diagnosing and managing AIDS :

Very satisfied [] ; Satisfied [] ; Not satisfied []

SECTION D : HOSPITAL CLINICAL ACTIVITIES

1/ Satisfaction with the number or types of patients seen in emergency department :

Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't see any medical emergency patient []

2/ Satisfaction with the number or types of patients seen and discussed in medical referral clinics :

Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't see any patient in the medical referral clinics []

3/ Satisfaction with the number or types of patients seen and discussed in teaching or major rounds :

Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't see any teaching or major round patient []

[2] PEDIATRICS

SECTION A : CLINICAL SKILLS TEACHING

1/ Satisfaction with theoretical teaching on history taking and physical examination :

Very satisfied [] ; Satisfied [] ; Not satisfied [] .

2/ Satisfaction with teachers' demonstrations of physical examination :

Very satisfied [] ; Satisfied [] ; Not satisfied []

3/ Satisfaction with the teachers' discussions in case presentation :

Very satisfied [] ; Satisfied [] ; Not satisfied []

SECTION B : STUDENT CLINICAL SKILLS

1/ Satisfaction with your competency to take good history :

Very satisfied [] ; Satisfied [] ; Not satisfied []

2/ Satisfaction with your competency to do adequate physical examination :

Very satisfied [] ; Satisfied [] ; Not satisfied []

3/ Satisfaction with your competency to assess child growth and development :

Very satisfied [] ; Satisfied [] ; Not satisfied []

4/ Satisfaction with your competency to make provisional diagnosis from the history and physical examination :

Very satisfied [] ; Satisfied [] ; Not satisfied []

5/ Satisfaction with the number or types of patients you clerked (took history from them and examined them) :

Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't do any clerking in pediatrics [] .

6/ Satisfaction with the number of cases you presented to your teacher or a senior doctor :

Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't do any case presentation in pediatrics []

SECTION C : DIAGNOSIS AND MANAGEMENT

1/ Satisfaction with your confidence in diagnosing and managing common pediatric diseases in general :

Very satisfied [] ; Satisfied [] ; Not satisfied []

2/ Satisfaction with your confidence in doing neonatal resuscitation :

Very satisfied [] ; Satisfied [] ; Not satisfied [] :

3/ Satisfaction with your confidence in diagnosing and managing neonatal sepsis :

Very satisfied [] ; Satisfied [] ; Not satisfied []

4/ Satisfaction with your confidence in diagnosing and managing severe pneumonia in children : Very satisfied [] ; Satisfied [] ; Not satisfied []

5/ Satisfaction with your confidence in diagnosing and managing diarrheal diseases and dehydration : Very satisfied [] ; Satisfied [] ; Not satisfied []

6/ Satisfaction with your confidence in diagnosing and managing marasmus and kwashiorkor : Very satisfied [] ; Satisfied [] ; Not satisfied []

7/ Satisfaction with your confidence in diagnosing and managing convulsions in children : Very satisfied [] ; Satisfied [] ; Not satisfied []

8/ Satisfaction with your confidence in diagnosing and managing acute drug and chemicals poisoning : Very satisfied [] ; Satisfied [] ; Not satisfied []

9/ Satisfaction with your confidence in diagnosing and managing severe malaria in children : Very satisfied [] ; Satisfied [] ; Not satisfied []

SECTION D : HOSPITAL CLINICAL ACTIVITIES

1/ Satisfaction with the number or types of patients seen in pediatric emergency department : Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't see any pediatric emergency patient []

2/ Satisfaction with the number or types of patients seen and discussed in pediatric referral clinics : Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't see any patient in pediatric referral clinics []

3/ Satisfaction with the number or types of patients seen and discussed in teaching or major rounds : Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't see any teaching or major round patient []

[3] SURGERY

SECTION A : CLINICAL SKILLS TEACHING.

1/ Satisfaction with theoretical teaching on history taking and physical examination : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

2/ Satisfaction with teachers' demonstration of physical examination : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

3/ Satisfaction with the teachers' discussion in case presentation : Very satisfied [] ; Satisfied [] ; Not satisfied []

SECTION B : STUDENT CLINICAL SKILLS

1/ Satisfaction with your competency to take good history : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

2/ Satisfaction with your competency to do adequate physical examination : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

3/ Satisfaction with your competency to make provisional diagnosis from the history and physical examination : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

4/ Satisfaction with the number or types of patients you clerked (took history from them and examined them) : Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't do any clerking in surgery [] .

5/

Satisfaction with the number of cases you presented to your teacher or a senior doctor : Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't present any case in surgery []

SECTION C : DIAGNOSIS AND MANAGEMENT

1/ Satisfaction with your confidence in diagnosing and managing common surgical diseases in general : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

2/ Satisfaction with your confidence or knowledge in diagnosing and managing acute appendicitis : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

3/ Satisfaction with your confidence or knowledge in diagnosing and managing intestinal obstruction : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

4/ Satisfaction with your confidence or knowledge in diagnosing and managing upper GIT bleeding : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

5/ Satisfaction with your confidence or knowledge in diagnosing and managing head injuries : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

6/ Satisfaction with your confidence or knowledge in diagnosing and managing blunt and penetrating abdominal traumas : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

7/ Satisfaction with your confidence or knowledge in diagnosing and managing gas gangrene : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

8/ Satisfaction with your confidence or knowledge in diagnosing and managing burns : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

9/ Satisfaction with your confidence or knowledge in diagnosing and managing acute urinary retention : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

SECTION D : HOSPITAL CLINICAL ACTIVITIES

1/ Satisfaction with the number or types of patients seen in surgical emergency department : Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't see any surgical emergency patient [] .

2/ Satisfaction with the number or types of patients seen and discussed in surgical referral clinics : Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't see any patient in the surgical referral clinics

3/ Satisfaction with the number or types of patients seen and discussed in teaching or major rounds : Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't see any teaching or major round surgical patient [] .

4/ Satisfaction with the number or types of surgical operations attended in the major theater : Very satisfied [] ; Satisfied [] ; Not satisfied [] ; I didn't attend any surgical operation in the major theater.

[4] OBSTETRICS AND GYNECOLOGY

SECTION A : CLINICAL SKILLS TEACHING

1/ Satisfaction with theoretical teaching on history taking and physical examination : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

2/ Satisfaction with teachers' demonstration of physical examination : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

3/ Satisfaction with the teachers' discussion in case presentation : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

SECTION B : STUDENT CLINICAL SKILLS

1/ Satisfaction with your competency to take good obstetrical and gynecological history : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

2/ Satisfaction with your competency to do adequate obstetrical and gynecological physical examination : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

3/ Satisfaction with your competency to make provisional diagnosis from history and physical examination : Very satisfied [] ; Satisfied [] ; Not satisfied [] .

4/ Satisfaction with the number or types of patients you clerked (took history from them

and examined them) : Very satisfied []; Satisfied []; Not satisfied []; I didn't do any clerking in Obs and Gyn [].

5/

Satisfaction with the number of cases you presented to your teacher or a senior doctor :

Very satisfied []; Satisfied []; Not satisfied []; I didn't present any case in Obs and Gyn []

SECTION C : DIAGNOSIS AND MANAGEMENT

1/ Satisfaction with your confidence in diagnosing and managing common obstetrical and gynecological problems in general : Very satisfied []; Satisfied []; Not satisfied []

2/ Satisfaction with your confidence in doing good antenatal care :

Very satisfied []; Satisfied []; Not satisfied []

3/ Satisfaction with your confidence in diagnosing and managing the 3 stages of labour :

Very satisfied []; Satisfied []; Not satisfied []

4/ Satisfaction with your confidence in diagnosing and managing preeclampsia and eclampsia : Very satisfied []; Satisfied []; Not satisfied [].

5/ Satisfaction with your confidence in diagnosing and managing obstetrical hemorrhages : antipartum, intrapartum, and postpartum hemorrhages : Very satisfied []; Satisfied []; Not satisfied [].

6/ Satisfaction with your confidence in diagnosing and managing all the types of abortion : Very satisfied []; Satisfied []; Not satisfied [].

7/ Satisfaction with your confidence or knowledge in diagnosing and managing ectopic pregnancy : Very satisfied []; Satisfied []; Not satisfied []

SECTION D : HOSPITAL CLINICAL ACTIVITIES

1/ Satisfaction with the number of vaginal deliveries you attended in the labor room :

Very satisfied []; Satisfied []; Not satisfied []; I didn't attend any vaginal delivery [].

2/ Satisfaction with the number or types of obstetrical emergencies (e.g., hemorrhage, eclampsia and severe preeclampsia, obstructed labor, maternal sepsis) seen in the labor room or obstetrical wards : Very satisfied []; Satisfied []; Not satisfied []; I didn't see any obstetrical emergency patient [].

3/ Satisfaction with the number or types of patients seen and discussed in Obs & Gyn referral clinics :

Very satisfied []; Satisfied []; Not satisfied []; I didn't see any patient in Obs & Gyn referral clinics []

4/ Satisfaction with the number or types of patients seen and discussed in teaching or major rounds : Very satisfied []; Satisfied []; Not satisfied []; I didn't see any teaching or major round patient [].

5/

Satisfaction with the number of cesarean sections attended in the theater :

Very satisfied []; Satisfied []; Not satisfied []; I didn't attend any cesarean section in the theater [].