Instructors' feedback on Kenya Medical Training College students' clinical attachment

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https://doi.org/10.51867/ajernet.7.1.74

ABSTRACT

Kenya Medical Training College (KMTC) is the largest health training institution nationally that produces most mid-level health professionals. Clinical attachments are a primary focus of educational practice for health professions that allow students to link theory with practice. KMTC has institutionalized mentorship and feedback in their training framework; however, empirical studies show inconsistent feedback delivery, poor mentor preparation, and no models for standardization. This gap is critical as the quality of feedback directly determines the competencies of KMTC graduates and, hence, the backbone of Kenya's health workforce. The study used a descriptive cross-sectional design for KMTC students on attachments. The study was conducted in various KMTC-associated hospitals and practicing sites. Data were collected from 458 instructors using questionnaires, and a purposive sampling technique was used. The Statistical Package for the Social Sciences was used in the analysis, where descriptive statistics (frequencies, percentages) and inferential statistics (Chi-Square, Cramer's V test, Odds Ratio) were utilized. Data presentation was in tables and charts. Institutional review for ethical approval was done prior to commencement of the study. Feedback obtained from clinical instructors (n=458) showed that there were regional differences in terms of responses, including Nairobi having the highest (14.4%). Courses in nursing prevailed (31.2%), followed by clinical medicine and surgery (14.4%). Lecturers frequently followed up with students on attachment (35.2% always, 28.8% often), which is also moderately related to student satisfaction (46.9% satisfied). Most of the facilities were county referral hospitals (41.7%), followed by orthopedic departments (14.0%). The instructor-student ratios were sufficient in 50.4% of the facilities, and resources in 48.9% had a significant association. Students showed good behavior, with more than 80% having positive attitudes, respect, professionalism, and punctuality, while teamwork was rated 45.9%. High skills were seen by instructors: 92.1% had theoretical knowledge, 89.8% communicated, 90.6% empathized, and chi-square supported positive biases (all $p<0.001$). The study concludes that KMTC students are well-informed in terms of their theoretical background, communication, and empathy. They are willing to get educated and be professionals. However, the instructors reported deficiencies in clinical mastery and the connection of theory with practice. The study recommends KMTC enhance the mentorship through regular, task-oriented, and objective feedback from instructors and bridging between theory and practice. There is also a need to develop attachment guidelines for faculty, students, and clinical instructors in order to standardize the attachment process.

Keywords: Clinical Attachment, Health professionals, Instructor's Feedback, Kenya Medical Training College

I. INTRODUCTION

Globally, clinical education has been recognized as the cornerstone of health professions education, which enables students to translate theory into practical competences. Clinical attachments offer opportunities for learning experientially, professional identity and acquiring necessary skills (Sambunjak, Straus, & Marušić, 2010). Instructors' feedback during such attachments is always cited as a key factor in determining learning outcomes as they help to guide students in refining competencies and helping to reconcile practice with professional standards (Archer, 2010).

However, empirical research shows that there are persistent challenges which include feedback destabilisation: feedback is irregular, non-specific, or limited by workload pressures, hence limiting its effectiveness (Burgess & Mellis, 2015). This points to the existence of a gap in education worldwide because, although the importance of feedback has been recognized, systems for evaluating how instructors provide and structure feedback in the areas of clinical practice remain limited.

In Sub-Saharan Africa, an emphasis on mentorship and feedback are becoming more common as a strategy to enhance health workforce training. In the case of Uganda and Nigeria, there is evidence that structured feedback is beneficial for improving the students' confidence and clinical competence (Mubuuke et al., 2020; Odetola, 2015). However, these studies are often carried out at individual institutions or in small samples and findings are hampered by methodological shortcomings including use of self-reported information and descriptive statistics. In addition, many health facilities in Africa are challenged by systemic problems in general, such as staff shortages, high patient loads, and limited infrastructure, which affect the ability of instructors to deliver timely, constructive feedback (Ng'oda et al., 2024). Thus, although the value of feedback is supported by regional evidence, there is a void in systematically exploring the perspectives of instructors from different areas of practice and connecting feedback practices to facility readiness.

In Kenya, the Kenya Medical Training College (KMTC) is the largest health training institution that produces most mid-level health professionals. Clinical attachments in public, private, and faith-based facilities are central to KMTC's training model with the feedback from instructors being one of the mechanisms used to track student progress and competence (KMTC 2023a). However, empirical studies on students' placement show existence of persistent challenges. Omondi et al. (2024) found that whereas mentorship had a positive impact on student performance through KMTC Nairobi campus, feedback mechanisms were inconsistent and poorly structured. Mwaniki (2021) similarly found that students appreciated feedback but often found that feedback was irregular and limited because of personnel/mentors' competing clinical duties. These findings reveal a Kenyan gap: while KMTC has incorporated feedback on teaching and learning in its Quality Management System and Performance Contract targets, there has not been a systematic evaluation of feedback from instructors in the clinical and practice areas of the college. This gap is critical as the quality of feedback directly determines the competencies of KMTC graduates, the backbone of Kenya's health workforce.

1.2 Statement of the Problem

Clinical attachments are a primary focus of educational practice for health professions that allow students to link theory with practice. Globally, feedback provided by instructors during the attachments are often irregular, non-specific and restricted by workload which limits their power of action in shaping competencies (Archer, 2010; Burgess & Mellis, 2015). Regionally there are African studies that confirm the importance of structured feedback in the gain of confidence and skills, but most are institutionally confined and based on small samples and self-reports with few facility level feedback practices explored (Mubuuke et al., 2020; Ng'oda et al., 2024). In Kenya, KMTC has institutionalized mentorship and feedback in their training framework; however, empirical studies show inconsistent feedback mechanisms, poor mentor preparation and no models for standardization (Omondi et al., 2024; Mwaniki, 2021). This gap of a lack of systematic evaluation of the feedback of instructors from various areas of practice runs the risk of having an ineffective clinical and practical placement program, with persistent inefficiencies and dissatisfied mentors, instructors and students.

1.3 Objective of the Study

To evaluate instructors' feedback on clinical attachment for the Kenya Medical Training College students

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Feedback Intervention Theory

The study was based on the Feedback Intervention Theory (FIT), which was created by Kluger and DeNisi (1996). FIT is of the view that feedback has a power to impact a performance in three levels: the task, the specifics of the task process, and the self. Proper feedback helps to improve learning when the feedback is directed and emphasized on task performance and improvement to be done instead of personality (Kluger & DeNisi, 1996). The theory emphasizes the idea that the feedback should be timely, specific and constructive to have a beneficial effect on the development of competence.

Application of FIT in education of the health professions has been broad. Archer (2010) noted that task-based feedback is much effective in enhancing clinical learning results. Burgess and Mellis (2015) showed that structured feedback in medical placements leads to increased student confidence and acquisition of skills, but it has the limitations of irregularity and lack of specificity. Mubuuke et al. (2020) also discovered that the practices of faculty providing

feedback were not formal and frequent in African contexts, which made their performance rather limited. This is because such studies verify the centrality of feedback but also indicate lack of systematic delivery and assessment of this feedback.

FIT offers a powerful framework of analysing the feedback given by instructors during clinical attachments, in the case of Kenya Medical Training College (KMTC). Task-based feedback is seen in the notes made by instructors in the students' records regarding their clinical skills and procedures. Process-level feedback relates to the advice on clinical thought, communication with a patient, and professionalism. Self-level feedback deals with the structural considerations about the identity and confidence in students as future health professionals.

This study uses systematic evaluation history by applying FIT to assess how instructors provide feedback in areas of practice, the sufficiency and standardization of this feedback, and its perceived effect on the competence of the KMTC students.

2.2 Empirical Review

Feedback in clinical education has been an extensively studied determinant of student competence in the world. Weallans et al. (2022) identified and synthesized 51 studies concerning feedback during postgraduate medical education in a systematic review. Although it emphasized the significance of the timely, structured, and specific feedback, most of the studies were being done in high income countries and had small or institution specific samples. Most of the data collection was self-reported survey and interviews and analysis was either descriptive or thematic. The results supported a beneficial effect of feedback on learning but were inconclusive on systemic obstacles (workload and facility preparedness) and therefore are only applicable to resource- constrained settings.

Liao et al. (2025) included 287 clinical instructors in Taiwan in their study to assess feedback practices by stratified random sampling. The research sample comprised only of instructors who are registered OSCE examiners which eliminated cadres of clinical mentors. The gathering of data was based on designed questionnaires and analysis was quantitative. Results have shown that there is a high level of agreement on the importance of the feedback between instructors, but there are discrepancies in the provision of feedback. The research conclusion was that support was required at an institutional level and there were no evaluation of the infrastructural or organizational enablers and the gap in the knowledge was there to comprehend feedback in diverse practice settings.

Empirical research points the relevance of feedback in Africa, although the research is limited in nature and design quality Sajjad et al. (2024) tested the effect of varying types of feedback on the performance of dental students in Shifa College of Dentistry. The research sampled 120 students whose data was collected using questionnaires, and without consideration of time, using a cross-sectional design. The analysis was descriptive and inferential and revealed that personalized and oral feedback enhances academic results. Nevertheless, this research was limited to a single institution, the sample size was small, and the study population did not encompass the instructors, so the article did not provide an extensive overview of the issues surrounding feedback delivery.

Mubuuke et al. (2020) investigated faculty knowledge, attitudes, and practices of mentorship which includes feedback at a medical school in Uganda. The research sample included faculty members, and the data were gathered by use of survey and interview. Thematic analysis found that feedback was usually informal and not regular. Results found that faculty development was warranted, yet the limited scope of the study, having been based on self-reports, limited the scope of generalization. Notably, it failed to assess feedback structures in areas of clinical practices leaving gaps in the knowledge of how feedback works in a real-world attachment.

Feedback research on clinical education in Kenya is very limited and diffused. The study conducted by Mwaniki (2021) examines the concept of mentorship usage among students of KMTC, including the feedback. The target population was obtained, and data were collected using questionnaires administered to the sampled campuses. The method of analysis was descriptive, and it was found that students liked feedback but felt that it was inadequate and limited by the conflicting responsibilities of mentors. The conclusion highlighted the problem of the necessity to implement structured mentorship, yet the study was based on self-reports of students, and no facility-level audits were conducted that would enhance the scope of the research.

Omondi et al. (2024) reviewed the efficiency of an implemented mentorship program in KMTC Nairobi campus. The sample size and the department size were small as the study area was confined to one department. The results indicated that mentorship, which involves feedback, had a positive effect on the performance of students. However, due to the absence of the perspective of instructors and the inability to evaluate the feedback practices in facilities systematically, conclusions were limited. Likewise, Kavili (2020) evaluated the practises of clinical nurse instructors in Kenya and discovered the gaps in delivering feedback because of workload and preparation insufficiency. However, the focus was made on nursing which meant that other KMTC programs were under researched. Taken together, such Kenyan studies indicate the absence of a blaring gap: no multi-faceted, systematic assessment of the feedback practice among the instructors in the context of the clinical attachment of KMTC students has ever been conducted.

III. RESEARCH METHODOLOGY

The study used a descriptive cross-sectional design to evaluate the feedback given by instructors and mentors regarding clinical attachments for the Kenya Medical Training College (KMTC) students. The design was suitable because it allowed data collection at a single time among the instructors hence offering a picture of the existing feedback practices. To find out prevalence, define trends, and produce evidence about improving policies and curriculum, cross-sectional research is quite popular in the health sciences (Creswell & Creswell, 2018).

The study was conducted in various KMTC associated hospitals and practicing sites. The data were collected from 458 instructors and mentors from various health facilities. A purposive sampling technique was used to incorporate instructors and mentors who are actively involved in supervision of the student's undergoing attachment. This methodology made the populate of the study as close to the research purposes as possible.

The data were quantitative and structured questionnaires with Likert-scale and close-ended questions were administered to the instructors through a google-form link sent to their mobile phones. Impressions were obtained regarding frequency of the feedback, timeliness, specificity and adequacy. Statistical Package of Social Sciences Version 27.0 (IBM Corp, 2022) was used in analysing these quantitative data. Descriptive statistics (frequencies, percentages) were used to outline the feedback practices, whereas inferential tests (Chi-Square, Cramer's *V* test, Odds Ratio) were utilized to test the relationship that existed among instructor characteristics, institutional context, and feedback quality.

To optimize on the items and enhance the reliability of the questionnaire, pilot testing of the questionnaire was done on one KMTC-associated hospital, which was excluded in the main study. Institutional review for ethical approval was done prior to commencement of the study. The instructors were informed about the study, assured of confidentiality and they gave their informed consent. The participation was also voluntary, and the data were kept safely.

IV. RESULTS & DISCUSSION

4.1 Results

4.1.1 Preparedness of Kenya Medical Training College for students' clinical and practical attachment

A. Summary of Responses

This study surveyed instructors' feedback regarding Kenya Medical Training Colleges (KMTCs) students' clinical practice attachments. Nairobi County had the highest number of respondents (66, 14.4%), followed by Bungoma (39, 8.5%) and Kiambu (21, 4.6%). The least responses were Wajir and Mandera, each with 1 (0.2%). Coastal regions like Mombasa (19, 4.1%), Kwale (18, 3.9%), and Kilifi (10, 2.2%) had moderate responses, while arid and semi-arid areas like Garissa (3, 0.7%) and Isiolo (3, 0.7%) had lower frequencies. The total number of respondents was 458, with significant variation across regions.

B. Course taken by the student

Table 2 reveals that nursing was the cadre with most respondents (31.2%, 143 instructors) as compared to the rest of the cadres. This was followed by Clinical Medicine & Surgery at 14.4% (66 instructors). Orthopaedic & Trauma Medicine instructors were at 10.9% (50 respondents), which came in third. Health Promotion & Community Health and Medical Laboratory Sciences each shared the same proportions at 6.1% (28 respondents each) at the fourth, while Radiography & Imaging came in fifth at 5.7% (26 respondents). Instructors from Public Health accounted for 4.8% (22), Orthopaedic Technology accounted for 3.7% (17), and Medical Engineering accounted for 3.3% (15). Instructors for Nutrition & Dietetics, and Pharmacy both accounted for 2.8% each (13 each), Occupational Therapy accounted for 2.4% (11 respondents), and Community Oral Health and Dental Technology each accounted for 2.0% (9 each). Clinical Medicine in Anaesthesia was one of the least common, which accounted for 0.9% (4 instructors), and Health Records & Information Technology and Health Systems Management each accounted for 0.4% (2 each).

Table 2
Cadre of the respondent

Clinical instructor's cadre	Frequency	Percent
Clinical Medicine & Surgery	66	14.4
Community Oral Health	9	2.0
Dental Technology	9	2.0
Health Promotion & Community Health	28	6.1
Health Records & Information Technology	2	.4
Health Systems Management	2	.4
Medical Engineering	15	3.3
Medical Laboratory Sciences	28	6.1
Nursing	143	31.2
Nutrition & Dietetics	13	2.8
Occupational Therapy	11	2.4
Orthopaedic & Trauma Medicine	50	10.9
Orthopaedic Technology	17	3.7
Clinical Medicine in Anaesthesia	4	.9
Pharmacy	13	2.8
Public Health	22	4.8
Radiography & Imaging	26	5.7
Total	458	100.0

C. Frequency of KMTC lecturers' follow-up on students

Table 3 shows that 35.2% (161instructors) said that lecturers always followed up on the students' progress, and 28.8% (132 instructors) said that lecturers often followed up on their progress. The number of instructors who said lecturers sometimes followed up on students' progress accounted for 18.1% (83 respondents). Rarely following up on student progress by lecturers accounted for 13.1%, 60 respondents. It was found that 4.8% (22 respondents) indicated that lecturers never followed up on students' progress.

Table 3
Frequency of KMTC lecturers' follow-up on students

Lecturers' follow-up on students	Frequency	Percent
Never followed up	22	4.8
Rarely followed up	60	13.1
Sometimes followed up	83	18.1
Often followed up	132	28.8
Always followed up	161	35.2
Total	458	100.0

D. Satisfied with the Support Accorded by KMTC Management

Table 4 shows that nearly half of the instructors, 46.9% (215 instructors), were satisfied with the support received from KMTC management. This is coupled with 15.1% (69 instructors) who said that they were delighted with the support received from KMTC management. 21.4% (98 instructors) took a neutral stance on the question. On the contrary, the study found that 13.1% (60 instructors) were dissatisfied, and 3.5% (16 instructors) were very dissatisfied with the support accorded by KMTC management.

Table 4
Satisfied with the support accorded by KMTC management

Satisfied with the support accorded by KMTC management	Frequency	Percent
Very dissatisfied	16	3.5
Dissatisfied	60	13.1
Neutral	98	21.4
Satisfied	215	46.9
Very satisfied	69	15.1
Total	458	100.0

The researcher computed the Chi-Square test of independence and Cramer's V test between the frequency of KMTC lecturers' follow-up on students and the satisfaction with the support accorded by KMTC management to test association and the strength of the association. It was established that there was a statistically significant ($X(16) = 191.552, p = 0.000$) and moderate ($V = 0.323$) between the frequency of lecturers' follow-up on students and clinical instructors' satisfaction with the support enjoyed from KMTC management.

4.1.2 Facility readiness for Attachment of Kenya Medical Training College Students

A. Level of the Health Facility Visited

Table 5 shows that the County Referral Hospitals were the most visited during the survey, accounting for 41.7% (191 visits). They were followed by the Sub County Hospitals at 30.3% (139 visits). The National Referral Hospitals were the third in line, which accounted for 14.0% (64 visits). The visits to the Health Centres were at 8.5% (39 visits), dispensaries at 3.5% (16 visits), and finally, the Community Health Units accounted for 2.0% (9 visits) of the total visits.

Table 5

Level of the health facility visited

Level of the health facility visited	Frequency	Percent
Community Health Units	9	2.0
Dispensary	16	3.5
Health Centre	39	8.5
Sub-County Hospital	139	30.3
County Referral Hospitals	191	41.7
National Referral Hospitals	64	14.0
Total	458	100.0

B. Department/ Unit

The study found that the Orthopaedic department had the highest representation (14.0%, 64 instructors). This was followed by the Public Health (9.8%, 45 instructors) and Medical (7.9%, 36 individuals). Outpatient (7.2%, 33 individuals), Maternity (6.8%, 31 individuals), Laboratory (6.1%, 28 individuals), and Maternal Child Health (5.9%, 27 individuals) also had notable shares. Radiography/Imaging accounted for 5.7% (26 individuals), and Health Promotion & Community Health for 4.4% (20 individuals). Departments like Paediatric (3.7%, 17 individuals), Dental (3.5%, 16 individuals), and Surgical (3.1%, 14 individuals) had smaller proportions. Several units, such as Accident & Emergency, Medical/Biomedical Engineering, and Pharmacy (each 2.8%, 13 individuals), and others like Nutrition (2.2%, 10 individuals) and Theatre (1.7%, 8 individuals), had lower representation. The least represented units included Physiotherapy, Records and Information, and Inpatient (each 0.2%, 1 individual), Oncology, Critical Care Unit, and Vaccine and Immunisation (each 0.4%, 2 individuals). Other unspecified departments accounted for 1.5% (7 individuals).

C. Ratio of Instructors/Mentors to Students

The data shows that 50.4% of respondents view the instructor-to-student ratio as adequate, while 49.6% find it insufficient (35.8% inadequate, 13.8% extremely inadequate). This indicates a nearly even split, with a slight majority satisfied but a significant portion concerned about insufficient staffing.

Table 6

Ratio of instructors/mentors to students

Ratio of instructors/mentors to students	Frequency	Percent
Extremely inadequate	63	13.8
Inadequate	164	35.8
Adequate	231	50.4
Total	458	100.0

D. Adequacy of Resources for Provision of Quality Mentorship to KMTC Students

The study sought to establish resources whether they were adequate to aid mentorship role. Table 7 shows that resources were adequate according to 48.9%, somewhat adequate (23.8%) and very adequate at 12%), while 15.3T% said it was inadequate.

Table 7

Adequacy of resources required at the facility/practical site to provide quality mentorship to KMTC students

Adequacy	Frequency	Percent
Very inadequate	12	2.6
Inadequate	58	12.7
Somewhat adequate	109	23.8
Adequate	224	48.9
Very Adequate	55	12.0
Total	458	100.0

The study sought to establish the association between the ratio of instructors/mentors of students and the adequacy of resources at practical sites to provide quality mentorship to KMTC students. It was established that there was a statistically significant $(X(8) = 81.753, p = 0.000)$ and moderate associations $(V = 0.299)$ between the ratio of instructors/mentors of students and the adequacy of resources at practical sites to provide quality mentorship to KMTC students.

4.1.3 Kenya Medical Training College Students' Conduct during Clinical and Practical Attachment

Table 8 reveals that most instructors agreed (46.3%, 212) or strongly agreed (41.9%, 192) that the students had a positive attitude during their clinical and practical attachments. On the contrary, a few disagreed (7.2%, 33) or strongly disagreed (3.5%, 16) with this statement. Concerning the demonstration of respect, a majority strongly agreed (48.3%, 221) or agreed (43.2%, 198) that students adhere to respect, while a few of the instructors disagreed (5.2%, 24) or strongly disagreed (1.7%, 8) with this statement.

The study found that 53.9% (247respondents) agreed, and 35.6% (163 respondents) strongly agreed that students displayed professionalism while conducting clinical and practical attachment. Only 7.2% (33 instructors) disagreed or 1.7% (8 instructors) strongly disagreed that students displayed professionalism while conducting clinical and practical attachment. Regarding punctuality, 44.5% (204 respondents) agreed and 32.3% (148 respondents) strongly agreed that students were punctual at the attachment. However, 15.5% (71 instructors) disagreed and 6.1% (28 instructors) strongly disagreed with the statement on punctuality.

This study noted that 47.4% (217) of the instructors largely agreed and 30.6% (140) strongly agreed that students managed time well while on attachment duty. On the contrary, some respondents disagreed (15.9%, 73) or strongly disagreed (4.4%, 20). Concerning attendance, the study found that 49.6% (227 instructors) agreed or 36.0% (165 instructors) strongly agreed that students' attendance was satisfactory during the attachment. On the other hand, it was revealed that 9.6% (44 instructors) disagreed or 3.5% (16 instructors) strongly disagreed with the statement, hence, students' attendance was not satisfactory.

About the conduct and discipline of the students while on attachment, it was revealed that 50.4% (231 instructors) agreed and 36.5% (167 instructors) strongly agreed that students' conduct and discipline were good. Conversely, 9.2% (42 instructors) agreed and 2.8% (13 instructors) strongly disagreed that students' conduct and discipline were not good while on attachment. The study found that 50.9% (233 instructors) agree and 36.2% (166 instructors) strongly agreed that students followed instructions and standard operating procedures (SOPs). On the contrary, 7.9% (36 instructors) disagreed and 3.5% (16 instructors) strongly disagreed with the statement that they failed to follow instructions and standard operating procedures.

Concerning dressing and grooming, 45.6% (209 instructors) agreed and 40.6% (186 instructors) strongly agreed that students' dressing and grooming were appropriate while on attachment. However, 8.7% (40 instructors) disagreed and 3.1% (14 instructors) strongly disagreed that students' dressing and grooming were appropriate while on attachment. Finally, 51.7% (237 instructors) agreed and 31.0% (142 instructors) strongly agreed that students demonstrated high integrity during attachment, while on the contrary, 12.4% (57 instructors) disagreed, and 3.3% (15 instructors) strongly disagreed with the statement.

Table 8

Kenya Medical Training College students' Conduct during Clinical and Practical Attachment

Statement	Strongly disagree	Disagree	Undecided	Agree	Strongly Agree
Students have a positive attitude towards allocated duties	3.50%	7.20%	1.10%	46.30%	41.90%
Students demonstrate respect for the authority (mentors, clinical/practical instructors, other managers)	1.70%	5.20%	1.50%	43.20%	48.30%
Students display professionalism in their work	1.70%	7.20%	1.50%	53.90%	35.60%
Students are punctual in the clinical/practical area	6.10%	15.50%	1.50%	44.50%	32.30%
Students manage their time in the clinical/practical area well	4.40%	15.90%	1.70%	47.40%	30.60%
The overall attendance of the students is satisfactory	3.50%	9.60%	1.30%	49.60%	36.00%
The general conduct and discipline of students are good	2.80%	9.20%	1.10%	50.40%	36.50%
Students follow instructions and laid-down standard operating procedures.	3.50%	7.90%	1.50%	50.90%	36.20%
Students' dressing and grooming are appropriate	3.10%	8.70%	2.00%	45.60%	40.60%
Students demonstrate high integrity all the time	3.30%	12.40%	1.50%	51.70%	31.00%

Source: Researcher (2024)

A. Teamwork between Students and Staff

Figure 1 shows that 45.9% (210 instructors) felt that students always exhibited good teamwork, and 37.6% (172 respondents) said that students often exhibited good teamwork. It was also revealed that 16.2% (74 respondents) felt that students exhibited good teamwork sometimes, while very few (0.4%, 2 respondents) felt that students rarely exhibited good teamwork.

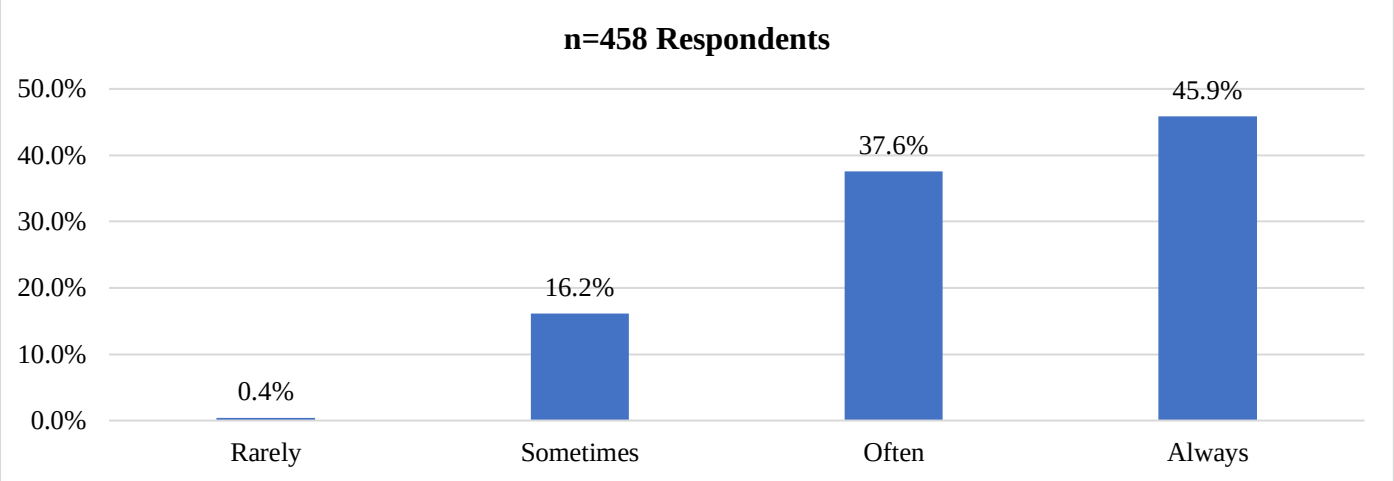

Figure 1

Student demonstrate good teamwork while working with staff and other students.

B. Ordinal Logistic Regression

This study computed an ordinal logistic regression to examine the influence of instructors' ratings of students' conduct (positive attitude, respect for authority, professionalism, punctuality, time management, attendance, general conduct, adherence to procedures, dressing/grooming, and integrity) on their perceived teamwork with staff and students (rated as Rarely, Sometimes, Often, Always). The model was statistically significant, χ^2 (40) = 202.53, $p < .001$, explaining 35.7% to 40.8% of the variance in teamwork ratings (Cox and Snell $R^2 = .357$, Nagelkerke $R^2 = .408$). The goodness-of-fit tests showed mixed results, which had a significant Pearson chi-square of χ^2 (758) = 1045.84, $p < .001$. This suggested a potential misfit, but a non-significant deviance chi-square of χ^2 (758) = 482.14, $p = 1.000$, which indicated adequate fit.

The study estimates revealed significant predictors of higher teamwork ratings associated with positive attitude toward allocated duties (b = 6.289, SE = 2.771, Wald = 5.149, p = .023, 95% CI [0.857, 11.721]), student respect for authority were less likely to have higher teamwork ratings (b = -4.031, SE = 1.836, Wald = 4.819, p = .028, 95% CI [-7.630, -0.432]), student punctuality were less likely to have higher teamwork ratings (b = -1.321, SE = 0.481, Wald = 7.545, p = .006, 95% CI [-2.264, -0.379]), student general conduct and discipline were significantly less likely to have higher teamwork ratings (b = -2.063, SE = 0.564, Wald = 13.373, p < .001, 95% CI [-3.169, -0.957]), student dressing and grooming were less likely to have higher teamwork ratings (b = -4.887, SE = 2.161, Wald = 5.113, p = .024, 95%

CI [-9.123, -0.651]). These p values of less than 0.05 alpha suggest that instructors' perceptions of students' positive attitude, respect for authority, punctuality, general conduct, and dressing/grooming significantly predict teamwork quality.

4.1.4 The Perceived Students' Skills Performance by the Instructors

This study found that 92.1% agreed that students had strong theoretical knowledge, according to 56.1% agreed and 36.0% strongly agreed. To the contrary, 6.7% of the instructors disagreed, according to 1.5% strongly disagreed and 5.2% disagreed. Concerning students demonstrating good communication skills with patients/clients (building rapport, history taking, writing notes, presenting cases), 89.8% agreed according to 53.1% who agreed, and 36.7% who strongly agreed. Meanwhile, 9.1% believe students failed to exhibit effective communication skills, according to 1.5% who strongly disagreed and 7.6% who disagreed. The study found that 90.6% agreed that students demonstrated good patient/client handling skills (empathy, compassion), according to 52.2% who agreed and 38.4% who strongly agreed. On the contrary, the study noted that 7.8% of the instructors disagreed with the statement that students show empathy and compassion, according to 1.7% who strongly disagreed and 6.1% who disagreed.

A majority (84.7%) of instructors agreed that students demonstrated the expected mastery of clinical/practical skills, according to 54.8% who agreed and 29.9% who strongly agreed, which confirmed students' clinical skill mastery. However, 13.8% of the instructors disagreed with this statement, according to 3.1% who strongly disagreed and 10.7% who disagreed. The study found that 88.4% agreed that students were eager to learn, according to 45.4% who agreed and 43.0% who strongly agreed. Only 10.1% disagreed that students were eager to learn, according to 2.2% who strongly disagreed and 7.9% who disagreed. Finally, the study found that 82.8% agreed that students were able to apply theory to practice with ease, according to 53.3% who agreed and 29.5% who strongly agreed that students can bridge theory and practice. However, 16.0% disagreed that students were able to apply theory to practice with ease, according to 4.4% who strongly disagreed and 11.6% who disagreed.

Table 9

Perceived Students' Skills Performance by the Instructors

Statement	Strongly disagree		Disagree		Undecided		Agree		Strongly Agree	
Students have the expected level of theoretical knowledge for their level of training	7	1.5%	24	5.2%	5	1.1%	257	56.1%	165	36.0%
Students demonstrate good communication skills with patients/clients (building rapport, history taking, writing notes, presenting cases) as applicable	7	1.5%	35	7.6%	5	1.1%	243	53.1%	168	36.7%
Students demonstrate good patient/client handling skills (empathy, compassion)	8	1.7%	28	6.1%	7	1.5%	239	52.2%	176	38.4%
Students demonstrate the expected mastery of clinical/practical skills	14	3.1%	49	10.7%	7	1.5%	251	54.8%	137	29.9%
Students are eager to learn	10	2.2%	36	7.9%	7	1.5%	208	45.4%	197	43.0%
Students can apply the theory to practice with ease	20	4.4%	53	11.6%	6	1.3%	244	53.3%	135	29.5%

Source: Researcher (2024)

A. Chi-Square Goodness of Fit Test

The level of theoretical knowledge's distribution was significantly non-uniform, $\chi^2(4) = 567.37, p < .001$. The instructors predominantly rated students as agree (56.1%) or strongly agree (36.0%). This indicated a strong perception of theoretical knowledge. Concerning communication skills with patients/clients, there was a significant non-uniform distribution, $\chi^2(4) = 508.94, p < .001$, where most instructors agreed (53.1%) and strongly agreed (36.7%), which thus reflects positive views on students' communication abilities. Regarding patient/client handling skills (empathy, compassion, the distribution was significantly non-uniform, $\chi^2(4) = 513.55, p < .001$. where high frequencies agreed (52.2%) and strong agreement (38.4%), which suggested strong empathy and compassion. Mastery of clinical/practical skills revealed a significant non-uniformity, $\chi^2(4) = 463.57, p < .001$. Most of the responses were on agree (54.8%) and strongly agree (29.9%). Concerning eagerness to learn, the distribution was significantly non-uniform, $\chi^2(4) = 453.77, p < .001$. Those whose response was on agree were 45.4%, and those who strongly agree were 43.0%, which meant that there was a high perceived motivation. Finally, the ability to apply theory to practice found that there was a significant non-uniformity, $\chi^2(4, N = 458) = 426.35, p < .001$, where 53.3% agreed and 29.5% strongly agreed.

4.2 Discussion

The results suggest that KMTC students' preparedness for clinical and practical attachments depends on consistent and task-oriented mentorship and systematic follow-up by the lecturers. With responses from 458 clinical instructors and mentors across various regions and the largest cohort being those in nursing practice (31.2%), the study represents a wide-ranging training environment with rich feedback that is a key component of competency development. The frequency of lecturer follows up (35.2% always, 28.8% often and 18.1% sometimes) is in line with the evidence that timely, specific feedback improves learning and confidence in clinical practice (Archer, 2010; Burgess & Mellis, 2015). The moderate and significant association between frequency and satisfaction with KMTC management support (X^2=191.552, p = 0.000; v = 0.323) indicates that institutional systems allowing frequent supervision translate into a positive perception of support (v = 0.323) for student training despite workload and infrastructural deficiency (Mubuuke 2020; Odetola, 2015). Kenyan studies also document that although mentorship was valued, lack of uniformity in the provision of feedback and husbandry by the mentors erodes performance and calls for homogenization of feedback across facilities (Mwaniki, 2021; Omondi et al., 2024).

These findings are hypothetically consistent with Feedback Intervention Theory (FIT), which holds that the greater the feedback the higher will be the performance when feedback focuses on task and process (not self) and when feedback is presented frequently and with clarity (Kluger & De-Nisi, 1996). Using an ordinal scale that ranged from "always" to "never", lecturer follow-up was positively associated with FIT's key mechanism: that is, regular, task-focused follow-up promotes students' clinical skills, reasoning and professional behaviours, and consequently, higher satisfaction with institutional support systems. The result demonstrates that where follow-up is intermittent or absent, reconsideration away from actionable improvement towards self-improvement occurs at the cost of embedded improvement; and perceived support and improvement in learning reduces the pattern that is evidenced in the clinical education literature (Archer, 2010; Burgess & Mellis, 2015). Thus, the empirical relationship of follow-up and satisfaction is the operationalization of FIT at KMTC: strengthening instructor mandate on systematized attachment-based feedback and support of management systems to aid such activities, are likely to enhance student competence and training quality (Mubuuke et al., 2020; Mwaniki, 2021)).

Obtaining the results in facility preparedness accentuates the dual responsibility of student mentorship and quality training, which is a mandate of the clinical supervisors. The study finding that County and Sub-County hospitals make up most of the attachments (41.7% and 30.3% respectively), highlights that mentorship is focused on higher-level facilities that have relatively better infrastructure. However, the near split between respondents who found instructor-to-student ratios adequate (50.4%) and those who found thm inadequate (49.6%) is an indicator of a serious mentorship gap. This is consistent with local evidence from Uganda where Mubuuke et al. (2020) demonstrated that feedback by faculty members is unpredictable because of workload and understaffing, and with evidence from Kenya that inconsistent mentoring is undermining student competence (Mwaniki, 2021; Omondi et al., 2024). The significant relationship between instructor ratios and resource adequacy (x2(8) = 81.753, p = 0.000; V = 0.299) equally shows that mentorship quality is not only a pedagogical responsibility, but a system issue related to institutional investment in human and infrastructural resources, which in the Nigerian context means that weak structures defeat outcomes (Odetola, 2015).

From a theory standpoint these findings are well accounted for by Feedback Intervention Theory (FIT) which places an emphasis on the notion that effective learning results when feedback is regular, task-oriented and backed up with sufficient structures (Kluger & DeNisi, 1996). Where the number of students per instructor is within a reasonable limit and sufficient resources are available, a supervisor can provide prompt and targeted feedback that focuses the attention of students on clinical tasks and processes to improve competence and confidence (Archer, 2010; Burgess & Mellis, 2015). However, under-resourced environments with overworked supervisors result in feedback that is infrequent and/or superficial, creating a focus on student development which does not emphasize improvement and reduces the perceived value of coaching. Thereby, the study shows the need for clinical supervisors to go beyond personal teaching for candidates to the institutional preparedness-up in terms of human resources, physical infrastructure, and materials needed for the mentorship process to perform the role for which it is constituted, of developing competent KMTC graduates.

The findings of the assessment of the conduct of KMTC students during their clinical and practical attachments show that mentorship and the supervisory requirement are the key factors in the development of professional behaviour. The positive percentages of students on their attitude (88.2%), respect to authority (91.5%), professionalism (89.5%) and integrity (82.7%) indicate that mentorship is generating desirable professional values. However, the findings are less positive in the areas of punctuality behaviour (76.8%) and time management (78.0%), indicating that supervision and formal feedback from supervisors are still important. These findings relate to the findings of Mwaniki (2021) and Omondi et al. (2024) as they proved that even though mentorship had a positive impact on learners' performance, there were poor feedback and poor preparation for mentors leading to weak discipline and professional development. In

compliance with that idea, Mubuuke et al. (2020) additionally noted that infrequent supervisory presence hindered development of professional behaviour among medical trainees. In so doing, the study emphasises that the mandate of clinical supervisors goes beyond technical instruction, to include showcasing professionalism, enforcing discipline and providing corrective feedback that reinforces the institutional expectation of behaviour.

The Odds Ratio of the current research also illustrates that students with good attitudes, respect, punctuality, discipline, and grooming make a huge difference in good quality of teamwork, which supports Archer's (2010) argument that good feedback boosts professional identity development. Feedback Intervention Theory (Kluger and DeNisi, 1996) offers an excellent explanatory model in which timely, task-focused feedback on behaviour provided by supervisors helps focus students' attention on corrective action for more effective teamwork and professional behaviour. On the other hand, the lack of consistency or absence of feedback in a mentorship environment may lead to students failing to know the areas to improve on their part, resulting in a less meaningful mentorship in advancing the practice of collaboration. This is aligned with Burgess and Mellis (2015) who emphasised that quality structured, specific feedback in clinical placements improves competence and interpersonal skills in a clinical placement learning situation. Therefore, the study demonstrates the inseparability of mentorship and supervisory mandates with professional conduct, where FIT provides insights on how the structured feedback mechanism will translate from individuals to collective outcomes, such as, team harmony and institutional preparedness.

The results regarding the perception of skills performance of the student demonstrate the great importance of mentorship and supervisory mandate, in bridging the gap between theory and practice. Instructors overwhelmingly supported students' excellent theoretical knowledge (92.1%), communication skills (89.8%), empathy and compassion (90.6%) and eagerness to learn (88.4%). However, slightly lower scores in mastery of clinical/practical skills (84.7%) and application of theory to practice (82.8%) show that there is still a gap between what is learned in the classroom and what is available in the clinical setting. This highlights the role of clinical supervisors beyond the acquisition of technical skills to offer structured and formative feedback to guide students to translate knowledge into practice. Similar results have been noted in Kenya where inconsistency of mentorship hindered the ability to consolidate competencies among students (Mwaniki, 2021); Omondi et al., 2024) and at the regional level in Uganda where inconsistent engagement in supervision limited professional development (Mubuuke et al., 2020). Globally, Archer (2010) and Burgess and Mellis (2015) highlight the importance of effective, specific feedback for the development of communication, professionalism, and clinical reasoning skills, which are multifaceted in essence and go beyond the technical mastery.

Feedback Intervention Theory argues that better performance results when feedback focuses attention on task and process as opposed to self (Kluger & DeNisi, 1996). The high scores in theoretical knowledge and motivation to learn indicate that the student is motivated and cognitively prepared, but the low scores in translating theory to practice indicate that supervisors should provide specific task-oriented feedback during clinical situations. When supervisors focus on actionable guidance as the first step towards improvement, such as improving patient handling, or presenting cases, students refocus their attention on performance enhancement, thus strengthening their capacity to transpose theory into practice. On the other hand, in the absence of consistent and constant feedback, students can find it difficult to bridge this gap, as supported by several research studies that demonstrate the negative effects of irregular mentorship in undermining competence (Mubuuke et al, 2020; Mwaniki, 2021). Thus, the study helps to establish that the mandate of clinical supervisors involves more than evaluation and moves toward actively facilitating the learning process by structured and theory-informed feedback mechanisms.

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

The KMTC students are well-informed in terms of their theoretical background, communication, and empathy. They are keen and suitable to becoming competent professionals. However, instructors report some deficiencies among students in clinical mastery and connection between theory with practice. Clinical supervisors need to enhance oversight and give consistent and task-oriented feedback, which should bridge classroom learning with practice. Competence will be increased by strengthening mentorship systems. Finally, effective supervision will result in KMTC graduates who not only have theoretical knowledge but practical masterly as well.

5.2 Recommendations

The study recommends KMTC to enhance the systematic mentoring through regular and objective feedback collection from clinical supervisors and mentors to inform a training that is task-oriented and bridges theory with practice. Clinical supervisors are expected to be constantly trained on the ways to deliver effective feedback and communicate with students. The ratios between instructors and students should be improved so as to enable personal supervision. Hospitals and practice sites should be adequately supported and equipped to facilitate quality mentorship,

and the standardized feedback mechanisms should be institutionalized. Students should be mentored to promote professionalism, punctuality, discipline, and teamwork as the main competencies along with technical skills. Lastly, the College needs to develop attachment guidelines for faculty, students, and clinical instructors in order to standardize the attachment process.

REFERENCES

American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct*. https://www.apa.org/ethics/code

Archer, J. C. (2010). State of the science in health professional education: Effective feedback. *Medical Education, 44*(1), 101–108. https://doi.org/10.1111/j.1365-2923.2009.03546.x

Burgess, A., & Mellis, C. (2015). Feedback and assessment for clinical placements: Achieving the right balance. *Advances in Medical Education and Practice, 6*, 373–381. https://doi.org/10.2147/AMEP.S77890

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.

IBM Corp. (2022). *IBM SPSS statistics for Windows (Version 27.0)* [Computer software]. IBM Corp.

Kavili, J. N. (2020). *The impact of clinical nurse instructor's practices on clinical performance among Bachelor of Science in Nursing students in Kenya* (Master's thesis, Kenya Methodist University). KeMU Repository. http://repository.kemu.ac.ke/handle/123456789/917

Kenya Medical Training College. (2023a). *Strategic plan 2023–2027*. KMTC.

Kenya Medical Training College. (2023b). *Quality management systems and performance contract targets*. KMTC.

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119*(2), 254–284. https://doi.org/10.1037/0033-2909.119.2.254

Liao, C. W., Cheng, C. N., Ho, W. S., Huang, W. L., & Tsai, Y. J. (2025). Enhancing feedback mechanisms in medical education: Insights from clinical instructors in a Taiwanese medical center. *BMC Medical Education, 25*, Article 575. https://doi.org/10.1186/s12909-025-07128-4

Mertens, D. M., & Hesse-Biber, S. (2012). Triangulation and mixed methods research: Provocative positions. *Journal of Mixed Methods Research, 6*(2), 75–79. https://doi.org/10.1177/1558689812437100

Mubuuke, A. G., Mbalinda, S. N., Munabi, I. G., Kateete, D., Opoka, R. B., & Kiguli, S. (2020). Knowledge, attitudes and practices of faculty on mentorship: An exploratory interpretivist study at a sub-Saharan African medical school. *BMC Medical Education, 20*, Article 192. https://doi.org/10.1186/s12909-020-02101-9

Mwaniki, B. (2021). Utilization of mentorship program among students at Kenya Medical Training College Kabarnet Campus. *IOSR Journal of Humanities and Social Science, 26*(6), 21–40.

Ng'oda, M., Gatheru, P. M., Oyeyemi, O., Busienei, P., Karugu, C. H., Mugo, S., Okoth, L., Nampijja, M., Kiwuwa-Muyingo, S., Wado, Y. D., Kitsao-Wekulo, P., Asiki, G., & Gitau, E. (2024). Mentorship in health research institutions in Africa: A systematic review of approaches, benefits, successes, gaps, and challenges. *PLOS Global Public Health, 4*(9), e0003314. https://doi.org/10.1371/journal.pgph.0003314

Odetola, T. D. (2015). Health care utilization among rural women of child-bearing age: A Nigerian experience. *The Pan African Medical Journal, 20*, 151. https://doi.org/10.11604/pamj.2015.20.151.5845

Omondi, A. A., Njiru, L., & Madete, J. (2024). Effects of mentorship program on academic performance of students in the Department of Medical Engineering at Kenya Medical Training College (KMTC), Nairobi Campus. *International Journal of Health Sciences, 7*(7), 47–66.

Sajjad, T., Younas, A., & Abbasi, L. S. (2024). Case-based learning with a twist: Testing the effectiveness of integrated case-based learning in an undergraduate dental curriculum. *Journal of Shifa Tameer-e-Millat University, 6*(2), 65–71. https://doi.org/10.32593/jstmu/Vol6.Iss2.242

Sambunjak, D., Straus, S. E., & Marusic, A. (2010). A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. *Journal of General Internal Medicine, 25*(1), 72–78. https://doi.org/10.1007/s11606-009-1165-8

Weallans, J., Roberts, C., Hamilton, S., & Parker, S. (2022). Guidance for providing effective feedback in clinical supervision in postgraduate medical education: A systematic review. *Postgraduate Medical Journal, 98*(1156), 138–149. https://doi.org/10.1136/postgradmedj-2020-139566