Clinical medicine lecturers' perceptions of simulation-based training and its utilisation at Kenya Medical Training College

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ABSTRACT

Simulation-based training (SBT) is an established educational approach for strengthening clinical competencies in healthcare education. However, its utilisation among clinical medicine lecturers at Kenya Medical Training College (KMTC) remains inconsistent. Guided by Rogers' Diffusion of Innovations Theory, particularly the relationship between the persuasion and implementation stages, this study assessed lecturers' perceptions of SBT and their association with its utilisation. An analytical cross-sectional survey was undertaken among clinical medicine lecturers across KMTC campuses. A sample of 154 lecturers was determined using Yamane's formula, and data from 153 respondents were analysed. A structured questionnaire assessed perceived educational value, compatibility with clinical medicine teaching, perceived barriers, and reported SBT utilisation. Descriptive statistics and simple linear regression were used. Most respondents agreed that SBT was relevant to clinical medicine education (90.8%), could improve teaching quality (94.1%), aligned with competency-based education (87.6%), and was more effective than traditional methods for preparing students for clinical practice (82.4%). However, 83.7% agreed that lack of training limited their confidence in using SBT, and 54.9% reported time constraints. Perceptions were positively associated with utilisation ($\beta = 0.366$; $R^2 = 0.134$; adjusted $R^2 = 0.128$; $F[1, 151] = 23.354$; $p < 0.001$), explaining 13.4% of its variation. Clinical medicine lecturers reported favourable perceptions of SBT despite training and time-related concerns. The association with utilisation was modest, indicating that perceptions alone accounted for only a small proportion of differences in reported practice. Targeted faculty development and improved opportunities to incorporate simulation into teaching are warranted.

Keywords: Simulation-based training, faculty perceptions, clinical medicine education, utilization, Kenya Medical Training College.

I. INTRODUCTION

Simulation-based training (SBT) enables learners to practise clinical procedures and decision-making in a controlled environment. Its integration into health professions education, however, requires educators who consider it useful and feasible within their teaching responsibilities. Elendu et al. (2024) reviewed the educational applications of simulation in medical training, while Ismail et al. (2024), in a scoping review of 48 studies from developing countries, identified educator preparedness, curricular pressures and resource constraints as considerations affecting uptake. These findings highlight the need to examine lecturers' evaluations of simulation alongside its reported use.

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Lecturers select teaching approaches, organise clinical scenarios and facilitate feedback and debriefing. Their perceptions of simulation's educational value, teaching effectiveness and curricular compatibility may therefore be relevant to its incorporation into teaching. In Pakistan, Aftab et al. (2024) reported improvements in faculty perceptions following a simulation workshop. Fukamizu et al. (2021), in an international qualitative study of physician trainers, identified structured sessions, group facilitation, reflection and trust as valued features of simulation-based learning. These studies provide insights into educators' experiences and evaluations, although they do not establish whether favourable perceptions correspond to sustained utilisation.

Evidence from sub-Saharan Africa places simulation within diverse educational and institutional settings. Alayande et al. (2024), reviewing undergraduate surgical simulation across the region, identified limitations in programme coverage and sustainability. In Uganda, Najjuma et al. (2020) found that stakeholders recognised the potential educational benefits of simulation while expressing concerns about its implementation. Malya et al. (2025) similarly documented favourable perceptions among nursing and midwifery students in Tanzania. Although student perspectives contribute to understanding simulation's acceptability, they do not directly establish how lecturers evaluate or use the approach.

Kenyan studies have examined faculty development and implementation in several health professions. Fant et al. (2022) documented a faculty-development initiative in Kisumu that culminated in independent simulation delivery by three trained paediatric faculty members. At Kenya Medical Training College (KMTC), Nyamu et al. (2018) examined simulation utilisation at the Nairobi campus, while Kavinya et al. (2023) investigated implementation challenges among medical laboratory sciences teaching staff at selected campuses. These studies provide institutional context, but evidence on the association between clinical medicine lecturers' perceptions and their reported simulation use remains limited. The present study therefore assessed lecturers' perceptions of SBT and examined their association with self-reported utilisation across KMTC campuses.

1.1 Statement of the Problem

The integration of simulation-based training (SBT) into clinical medicine education at Kenya Medical Training College (KMTC) remains inconsistent despite growing recognition of its educational value. Although lecturers play a central role in adopting and implementing simulation-based teaching, the extent to which their perceptions are associated with its routine utilisation has not been adequately established. Kavinya et al. (2023), in a study involving medical laboratory sciences lecturers at selected KMTC campuses, found that simulation-based teaching was recognised as educationally valuable but was not uniformly implemented. However, the study did not specifically examine clinical medicine lecturers or establish the relationship between their perceptions of SBT and its utilisation. The limited evidence on the relationship between lecturers' perceptions and SBT utilisation presents a challenge for institutional efforts to strengthen simulation-based education. Without understanding whether favourable perceptions are associated with regular teaching practice, faculty development and implementation strategies may inadequately address the factors influencing adoption. This study therefore assessed clinical medicine lecturers' perceptions of SBT and examined their association with reported utilisation across KMTC campuses to inform targeted strategies for strengthening its integration into clinical medicine education.

1.2 Objective of the Study

To assess clinical medicine lecturers' perceptions of simulation-based training and examine their association with self-reported utilisation at Kenya Medical Training College.

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Diffusion of Innovations Theory

This study was guided by Rogers' Diffusion of Innovations Theory, which explains innovation adoption through five stages: knowledge, persuasion, decision, implementation, and confirmation (Rogers, 2003). The adoption process is influenced by perceived attributes of an innovation, including relative advantage, compatibility, complexity, trialability, and observability, alongside communication channels and the social context. Dearing and Cox (2018) highlight the continuing relevance of these principles to the implementation and dissemination of innovations in healthcare settings.

For this study, lecturers' perceptions correspond primarily to the persuasion stage, during which educators evaluate the perceived usefulness, curricular compatibility, and feasibility of simulation-based training (SBT). Reported SBT utilisation relates to the implementation stage, reflecting the extent to which lecturers incorporate simulation into their teaching practices. However, factors such as faculty preparedness, teaching time, and institutional resources may influence

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whether favourable perceptions translate into routine utilisation. The theory therefore provides a conceptual basis for examining the association between lecturers' perceptions and reported SBT utilisation without assuming a causal relationship.

2.2 Empirical Review

Lecturers' perceptions of simulation-based training (SBT) encompass evaluations of its educational usefulness, teaching effectiveness, contribution to student preparedness, curricular compatibility and practical feasibility. These dimensions distinguish whether educators consider simulation beneficial from whether they regard it as appropriate and manageable within their teaching responsibilities. Empirical evidence suggests that educational acceptance may coexist with limited implementation, making it necessary to examine specific perceptions rather than assuming that favourable attitudes consistently correspond to greater utilisation.

International studies illustrate how structured exposure can strengthen perceptions of educational value. Aftab et al. (2024), in a pretest–posttest study involving 20 medical faculty members in Pakistan, found that a simulation workshop improved perceptions of simulation's contribution to teamwork, with mean scores increasing from 3.30 to 4.30 ($p = 0.004$). Support for incorporating simulation into medical education increased from 3.20 to 4.40 ($p < 0.001$), while perceptions of its value as a supplement to clinical practice increased from 2.75 to 4.55 ($p < 0.001$). These findings suggest that practical exposure can strengthen perceived usefulness and acceptance of simulation alongside conventional clinical teaching. However, subsequent teaching practices were not assessed, leaving the relationship between improved perceptions and sustained utilisation unresolved.

Perceived student preparedness provides a further basis for educational acceptance. Hewat et al. (2020), in an Australian qualitative study of clinical educators, reported support for simulation as preparation for workplace learning in speech-language pathology. Educators emphasised its contribution to clinical skills development and the importance of students' transition from simulated learning to clinical placements. This evidence supports examining lecturers' beliefs about simulation's contribution to preparedness and competency development. Nevertheless, educators' evaluations of students following simulation are distinct from objectively measured competence and from the educators' own frequency of simulation use.

Confidence in simulation delivery represents a related but separate consideration. Abdulmohdi et al. (2025), in a national cross-sectional survey involving 60 United Kingdom universities, identified positive associations between staff confidence, organisational readiness and simulation utilisation. Confidence and use were higher for low-fidelity simulation than for more technologically advanced approaches, suggesting that perceived capability varies across modalities. These institution-level findings support attention to educator preparedness, although they do not establish whether confidence encouraged utilisation or developed through experience. Confidence in delivering simulation should therefore be distinguished from beliefs about its educational effectiveness.

Perceptions of curricular compatibility and feasibility introduce further complexity. Luo et al. (2021), surveying 136 Chinese nurse educators, found that 108 (79.4%) had previously used simulation. Among 75 respondents reporting implementation barriers, 34 (45.3%) indicated that they did not know how to conduct a simulation scenario. Participants also described concerns about curricular suitability, preparation time, faculty experience and resources. These findings suggest that recognising simulation's educational relevance does not necessarily mean considering it practical within existing teaching arrangements. Similarly, Jin et al. (2022), in a survey of 342 clinical nursing teachers in China, reported that 162 (47.4%) had conducted simulation. Such descriptive findings establish variation in implementation but cannot, by themselves, determine whether favourable perceptions are significantly associated with utilisation.

Evidence from sub-Saharan Africa likewise distinguishes perceived benefits from practical acceptability. Najjuma et al. (2020) explored stakeholder perceptions before establishing simulation-based learning at a Ugandan university, using seven key informant interviews and three focus group discussions. Participants recognised opportunities to strengthen clinical learning but expressed concerns about model realism, staffing and sustainability. The findings indicate that acceptance involves judgements about both educational usefulness and the conditions needed for implementation. However, the inclusion of students and administrators alongside faculty, and the study's focus on anticipated adoption, limit direct comparison with lecturers' established teaching practices.

Kenyan faculty-development studies provide evidence concerning perceived capability and subsequent delivery. Shikuku et al. (2022), in a pretest–posttest study involving 30 midwifery educators, found that confidence in using simulation increased from 36.7% to 70.0% following training ($p = 0.006$). Fant et al. (2022) documented a complementary outcome: three paediatric faculty members in Kisumu independently delivered a simulation course after mentored faculty

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development. Together, these studies distinguish improvement in confidence from demonstrated implementation. Neither, however, establishes the independent contribution of perceptions to sustained routine utilisation across institutions.

The relationship between perceived educational effectiveness and implementation conditions is also evident in Kenyan curriculum research. Shikuku et al. (2024), in a nested qualitative study across 20 colleges, found that educators valued simulation, scenario teaching, and structured feedback within an emergency obstetric and newborn care-enhanced curriculum. Heavy workloads, faculty shortages, inadequate simulation space, and equipment limitations constrained implementation. These findings suggest that perceived alignment with competency-based education can coexist with substantial delivery difficulties. They also highlight the need to distinguish lecturers' evaluations of feasibility from the institutional conditions within which those evaluations arise.

At KMTC, Kavinya et al. (2023) examined simulation-based teaching among 47 medical laboratory sciences lecturers and 11 campus principals. All lecturers identified educational validity as a consideration in implementation, whereas 46 (97.9%) described simulation as resource-intensive and an equal proportion considered it demanding for instructional staff. Educational endorsement therefore coexisted with concerns about implementation demands. More directly related to clinical medicine, Njeru et al. (2026) reported a positive association between awareness and SBT utilisation among 153 KMTC lecturers ($\beta = 0.305$, $R^2 = 0.093$, $p < 0.001$). Awareness nevertheless differs from evaluations of teaching effectiveness, student preparedness, and curricular feasibility; its association with utilisation does not resolve the perception-specific research question.

The reviewed evidence supports distinguishing general educational endorsement from perceptions concerning teaching capability and practical integration. However, studies vary in their populations, measures and outcomes, with many documenting attitudes, training-related changes or implementation experiences rather than testing distinct perception dimensions against utilisation. Evidence remains limited on how these dimensions relate to reported teaching practice among clinical medicine lecturers within a multi-campus institution. Guided by Rogers' Diffusion of Innovations Theory, the present study therefore examined lecturers' perceptions of SBT and their association with self-reported utilisation at KMTC, with attention to educational value, teaching effectiveness, student preparedness, curricular compatibility and perceived implementation barriers.

III. RESEARCH METHODOLOGY

3.1 Research Design

The study was of a quantitative analytical cross-sectional design coupled with predictive modelling. Data was gathered at one time from 1st February to 30th April 2026. To explore the relationship between perceptions with SBT utilization, simple linear regression was used.

3.2 Study Location

The study was carried out in 43 selected KMTC campuses with the Diploma in Clinical Medicine and Surgery in all the urban, peri-urban, and rural settings in Kenya. This meant that institutional diversity in simulation infrastructure, staffing, and faculty exposure was captured.

3.3 Study Population

The target population was the 250 clinical medicine lecturers from 43 selected campuses. This population was suitable because these lecturers are directly involved in the delivery of the curriculum and are the ones who will decide whether or not SBT is implemented in training programmes.

3.4 Sampling Technique

Two-stage sampling techniques were used. Forty-three (43) campuses offering Clinical Medicine were selected to represent geographical and institutional diversity. The second stage involved simple random sampling within each cluster, with computer-generated randomisation to choose individual lecturers.

3.5 Sample Size

Taro Yamane's (1970) formula for finite populations was used to determine the sample size at a 95% confidence level with a 5% margin of error. The calculated sample size was 154 respondents with a population of 250. The allocation of proportional numbers was done across the campuses in accordance with the formula: $n_i = (N_i/250) \times 154$, which means that the number of respondents collected from each campus was proportional to the number of lecturers in that campus.

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3.6 Criteria

The study was conducted on lecturers who are currently working at KMTC and are actively teaching Clinical Medicine courses. This did not include faculty members who do not teach clinical medicine.

3.7 Data Collection

Self-administered structured questionnaires were used to collect data at the departmental meetings, in person. The questionnaire was divided into five sections: demographics, awareness, perceptions, resources, and utilization. The response options consisted of multiple-choice, 5-point Likert scales, and open-ended questions to provide quantitative data and context. Ethical clearance was secured from the KCA University Research Ethics Committee, NACOSTI, and KMTC administration. Informed consent was obtained, participation was voluntary, and data were kept securely on encrypted devices with identifiers removed.

3.8 Validity and Reliability

Five clinical medicine lecturers at KMTC Machakos Campus were selected and were not part of the main sample but were used in a pilot study. Content validity was achieved by having three medical education experts and two senior KMTC lecturers review the content.

3.9 Data Analysis

The data were analyzed using SPSS Version 27. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize awareness, perceptions, resources, and utilization levels. Simple linear regression was used to quantify the relative contribution of perceptions to SBT utilization.

IV. RESULTS AND DISCUSSION

4.1 Results

4.1.1 Perceptions on Curriculum Value and Teaching Quality

The clinical medicine lecturers showed very positive attitudes toward the value of the curriculum and the quality of the teaching of simulation-based training (SBT). In terms of relevance and value of SBT in clinical medicine education at KMTC, 90.8% of the respondents either agree (30.7%) or strongly agree (60.1%) with a mean score of 4.42 (SD = 0.94). Likewise, 94.1% responded agree or strongly agree that the inclusion of SBT in the curriculum would enhance overall teaching quality (M = 4.54, SD = 0.85). These results are summarized in Table 1.

Table 1

Perceptions on Curriculum Value and Teaching Quality

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev.
SBT is relevant and valuable for clinical medicine education at KMTC.	4.6%	0.0%	4.6%	30.7%	60.1%	4.42	.943
Integrating SBT into the curriculum would improve overall teaching quality.	3.3%	0.7%	2.0%	26.8%	67.3%	4.54	.851

4.1.2 Faculty perceptions of preferences and concerns about resources

Lecturers highly recommended the pedagogical value of SBT in various aspects. In terms of improving students' cognitive, psychomotor, and teamwork skills, the students agreed or strongly agreed (M = 4.29, SD = 0.91), with 90.2% of the students. Even more positive was the support for implementing SBT in addition to traditional teaching methods, provided there is sufficient resources (91.5%, M = 4.42, SD = 0.87). Interestingly, lecturers were not unanimous that SBT was too complex or resource-consuming to be used regularly at KMTC (51.6% disagreed or strongly disagreed, M = 2.54, SD = 1.32). These findings are shown in Table 2.

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Table 2

Perceptions on Faculty Preferences and Resource Concerns

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev.
SBT enhances students' cognitive, psychomotor, and teamwork skills.	3.9%	0.7%	5.2%	42.5%	47.7%	4.29	.910
Given adequate resources, I prefer using SBT alongside traditional teaching methods.	2.6%	2.0%	3.9%	33.3%	58.2%	4.42	.871
SBT is too complex or resource-intensive for regular use at KMTC.	29.4%	22.2%	22.9%	15.7%	9.8%	2.54	1.323

4.1.3 Perception on Teaching Effectiveness

Most lecturers (87.6%) agreed or strongly agreed that SBT helped them to teach complex clinical procedures effectively (M = 4.34, SD = 0.95). Only 4.6% expressed disagreement.

4.1.4 Student Preparedness and Competency Alignment Perceptions

Lecturers showed high consensus that SBT was more effective than traditional teaching methods in preparing students for real clinical practice (M = 4.10, SD = 1.02), with 82.4% agreeing or strongly agreeing. There was even greater agreement with competency-based medical education (M = 4.39, SD = 0.97; 87.6% agreed or strongly agreed). These results are shown in Table 3.

Table 3

Perceptions on Student Preparedness and Competency Alignment

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev.
SBT is more effective than traditional methods for preparing students for real clinical practice.	4.6%	3.3%	9.8%	41.8%	40.5%	4.10	1.021
I believe SBT aligns well with competency-based medical education.	3.9%	1.3%	7.2%	27.5%	60.1%	4.39	.967

4.1.5 Faculty perceptions of the barriers to implementing SBT

Lecturers were confident that SBT was a suitable curriculum overall but identified specific barriers to implementation. Time constraints were rated as moderate barriers, with 54.9% agreeing or strongly agreeing that time constraints were a barrier to incorporating SBT (M = 3.42, SD = 1.23). Lack of training was the most important obstacle with 83.7% agreeing or strongly agreeing that they were not well-prepared to use SBT effectively (M = 4.16, SD = 1.07). However, 70.6% felt that SBT could be integrated into the existing curriculum without significant changes (M = 3.85, SD = 1.13). The results are summarized in Table 4.

Table 4

Faculty Perspectives on SBT Implementation in Clinical Medicine

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev.
Time constraints make it difficult to incorporate SBT into my teaching.	11.1%	9.8%	24.2%	35.3%	19.6%	3.42	1.228
Lack of training limits my confidence in using SBT effectively.	5.2%	3.9%	7.2%	37.3%	46.4%	4.16	1.071
SBT fits well within the current clinical medicine curriculum without major restructuring.	6.5%	5.2%	17.6%	37.9%	32.7%	3.85	1.134

4.1.6 Association Between Perceptions and Utilization of Simulation-Based Training

Simple linear regression was used to explore the predictive effect of lecturers' perceptions on SBT utilization. The model was moderately positively related to perceptions (R = .366), and accounted for 13.4% of the variance in utilization (R^2 = .134; Adjusted R^2 = .128). The model was statistically significant, $F(1, 151) = 23.35$, $p < .001$. Perceptions were a significant predictor of utilization with regression coefficients of B = .415, SE = .086, β = .366, t = 4.83, $p < .001$. The constant term was also significant (B = 1.311, SE = .374, t = 3.51, p = .001).

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Table 5

Regression Model Summary: Perceptions and Utilization of SBT

Model	R	R^2	Adj. R^2	Std. Error	R^2 Change	F Change	df1	df2	Sig.
1	.366[a]	.134	.128	.961	.134	23.354	1	151	.000

Note: [a] Predictors: (Constant), Perceptions of clinical medicine lecturers on SBT

Table 6

Regression Coefficients: Perceptions and Utilization of SBT

Model	B	SE	β	t	Sig.
(Constant)	1.311	.374		3.507	.001
Perceptions	.415	.086	.366	4.833	.000

Note: Dependent Variable: Utilization of Simulation-Based Training

4.2 Discussion

Clinical medicine lecturers at KMTC reported favourable perceptions of simulation-based training (SBT), particularly its educational value and potential contribution to teaching quality. Most considered SBT relevant to clinical medicine education (90.8%) and believed that its integration into the curriculum could improve teaching quality (94.1%). These findings indicate broad educational acceptance, although doesnot establish the frequency or quality of implementation. They are consistent with Aftab et al. (2024), who reported improvements in faculty perceptions of simulation's educational contribution following a workshop in Pakistan. At KMTC, Kavinya et al. (2023) similarly found that medical laboratory sciences lecturers regarded educational validity as a consideration in simulation implementation. Together, these findings suggest that educators across different disciplines recognise simulation's instructional value.

Lecturers also endorsed simulation's contribution to cognitive, psychomotor and teamwork skills (90.2%), while 91.5% preferred using it alongside traditional teaching methods when adequate resources were available. This conditional preference suggests acceptance of simulation as a complementary teaching approach, with implementation considered in relation to available support. Elendu et al. (2024) described a range of educational applications of simulation, providing a broader context for these favourable evaluations. However, lecturers' endorsement of anticipated benefits should be distinguished from evidence that those benefits occurred among their students. The present study measured perceptions rather than changes in learning outcomes.

Perceived teaching effectiveness, student preparedness, and competency alignment were also prominent. Most lecturers believed that SBT improved their ability to teach complex clinical procedures (87.6%), prepared students for clinical practice more effectively than traditional methods (82.4%), and aligned with competency-based medical education (87.6%). These findings are consistent with Hewat et al. (2020), whose qualitative study identified clinical educators' support for simulation as preparation for workplace learning. Malya et al. (2025) also reported favourable perceptions among nursing and midwifery students in Tanzania, although their findings represent learners' experiences rather than lecturers' evaluations. The present results therefore support perceived educational relevance without demonstrating superior clinical performance, greater teaching competence, or improved patient outcomes.

Favourable perceptions were accompanied by concerns about implementation. Lack of training was the most frequently endorsed of the three barrier items, with 83.7% agreeing that it limited their confidence in using SBT effectively. This finding differs from the positive evaluation of simulation's teaching potential: lecturers may believe that an approach is effective while feeling insufficiently prepared to deliver it. Kenyan faculty-development studies offer relevant comparisons. Shikuku et al. (2022) reported increased confidence in simulation teaching following training, while Fant et al. (2022) documented independent simulation delivery by three paediatric faculty members after mentored development. These studies support considering practical training and mentorship as institutional responses, although the present cross-sectional findings do not establish that either intervention would increase utilisation among the surveyed lecturers.

Time and curricular fit revealed a further distinction between educational acceptance and perceived feasibility. Although 70.6% believed that SBT fitted the existing clinical medicine curriculum without major restructuring, 54.9% reported difficulty incorporating it because of time constraints. Perceived compatibility with curriculum objectives may therefore coexist with difficulties accommodating preparation and delivery within teaching schedules. Similar concerns were reported by Luo et al. (2021), who identified curricular suitability, preparation demands, and faculty experience among implementation considerations. In Kenya, Shikuku et al. (2024) documented heavy workloads, faculty shortages, and inadequate simulation space in their nested qualitative study of an enhanced midwifery curriculum. These comparisons suggest that curricular acceptance and practical delivery conditions warrant separate attention.

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Perceptions of complexity and resource demands were less uniform. Approximately half of the lecturers (51.6%) disagreed that SBT was too complex or resource-intensive for regular use, whereas 25.5% agreed and 22.9% were neutral. The findings therefore do not support characterising simulation as either universally manageable or uniformly burdensome. Moreover, the item combined complexity and resource intensity, making it impossible to determine which concern informed each response. Ismail et al. (2024), in their scoping review of developing-country settings, identified resource constraints and educator preparedness as recurring implementation considerations. Kavinya et al. (2023) also documented substantial perceived resource and instructional demands among KMTC medical laboratory sciences lecturers. Differences between these findings may reflect disciplinary contexts, available facilities, or questionnaire wording rather than a direct contradiction.

The regression analysis showed a statistically significant positive association between lecturers' perceptions and self-reported SBT utilisation ($\beta = .366$, $p < .001$). The model accounted for 13.4% of the observed variation in utilisation scores ($R^2 = .134$), indicating a positive but limited explanatory relationship. This is broadly consistent with Abdulmohdi et al. (2025), who identified positive associations between staff confidence, organisational readiness and simulation use in United Kingdom universities. However, confidence and organisational readiness differ from the perception construct examined here, and institution-level findings are not directly interchangeable with individual lecturers' responses. The present analysis also does not establish whether favourable perceptions preceded utilisation or developed through experience of using simulation.

The unexplained variation should not be attributed automatically to training, resources or other institutional factors, because their independent contributions were not tested in the reported simple regression. Similarly, the descriptive findings do not establish which perception dimension had the strongest association with utilisation. The study's contribution is the identification of an overall perception-utilisation association alongside the description of educational endorsement and perceived implementation concerns among clinical medicine lecturers at KMTC. Viewed through Rogers' Diffusion of Innovations Theory, the findings are consistent with a relationship between educators' evaluations of an innovation and its reported implementation. They do not demonstrate progression through adoption stages over time. For institutional planning, the results support addressing lecturers' training and teaching-time concerns alongside efforts to strengthen acceptance of simulation. Longitudinal research and direct observation of teaching practice would help establish whether changes in perceptions are followed by sustained changes in utilisation.

V. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Clinical medicine lecturers at KMTC reported favourable perceptions of simulation-based training, particularly its educational value, teaching effectiveness, and alignment with competency-based education. These perceptions coexisted with concerns about limited training and teaching time. Lecturers' perceptions were positively associated with self-reported SBT utilisation ($\beta = .366$, $p < .001$), accounting for 13.4% of the observed variation in utilisation scores. The findings indicate that favourable perceptions are relevant to reported teaching practice but explain only part of its variation. Given the cross-sectional design, the study does not establish that positive perceptions cause greater utilisation or those that reported barriers prevent sustained implementation.

5.2 Recommendations

Faculty development programmes to be structured and implemented at KMTC to focus on skills in simulation facilitation and debriefing. Time must be made available to support teaching time for simulation activities in the clinical medicine curriculum. Equitable distribution of simulation equipment should be determined by campus-level resource audits. Furthermore, cascade mentorship models involving experienced simulation educators should be developed to maintain pedagogical improvements and make sure that the perception – utilization gap is bridged between all campuses.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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