One Mentor or Many? Exploring Supervision Models' Impact on Clinical Learning for Busitema's Fourth- and Fifth-Year Medical Undergraduates

Abingwa John Patrick[1], Salvatore Fava[2], Gavamukulya Yahaya[1], Elwana Moses[1]

Busitema university[1], Selinus Universiry[2]
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ABSTRACT:

Background:

Supervision models significantly influence medical students' clinical learning. At Busitema University, both single-supervisor and multiple-supervisor approaches are used during clinical rotations for fourth- and fifth-year students. However, little research has explored how these models affect clinical learning outcomes in resource-limited settings like Uganda.

Methods and Materials:

A mixed-methods study was conducted with 114 fourth- and fifth-year medical undergraduates at Busitema University. Data were collected through structured surveys, focus group discussions, and clinical performance assessments. Students were divided into two groups: those supervised by a single mentor and those supervised by multiple mentors during their clinical rotations. The study evaluated the impact of these models on students' clinical reasoning, practical skills, and overall learning experience.

Results:

Preliminary findings indicate that students supervised by multiple mentors reported exposure to a wider variety of cases and diverse teaching styles. However, they also faced challenges with continuity of guidance and feedback. In contrast, students with a single supervisor benefited from consistent mentorship, but felt limited in terms of diverse perspectives. Both groups showed comparable performance in clinical assessments.

Discussion:

While both supervision models have their strengths, the multiple-supervisor approach offers broader exposure, whereas the single-supervisor model provides greater continuity. Striking a balance between these models could enhance clinical training outcomes.

Conclusion:

This study suggests that a hybrid supervision model may offer the most comprehensive learning experience for medical students at Busitema University, improving both clinical skills and student skills learning.

Key words. Clinical supervision models. Medical undergraduates, Clinical learning outcomes, Single vs multiple supervisors. Busitema university

Introduction.

The clinical supervision model plays a critical role in shaping medical students' practical skills and overall learning experience. This study explores the impact of different supervision models—working with a single supervisor versus multiple supervisors—on clinical learning outcomes among fourth- and fifth-year medical undergraduates at Busitema University, Uganda. The research investigates how each model influences students' clinical reasoning, hands-on skills, and overall preparedness for professional practice. A mixed-methods approach, combining surveys, focus group discussions, and performance assessments, will be used to evaluate the perceived benefits and challenges of both models. By comparing the experiences of students under these supervision structures, the study aims to identify which model fosters more effective learning, skill retention, and professional development.

Ultimately, the findings will provide valuable insights into optimizing clinical education in resource-limited settings, helping to inform future medical curriculum development and supervision policies at Busitema University and similar institutions.

Background:

Supervision models significantly influence medical students' clinical learning. At Busitema University, both single-supervisor and multiple-supervisor approaches are used during clinical rotations for fourth- and fifth-year students. However, little research has explored how these models affect clinical learning outcomes in resource-limited settings like Uganda

Clinical supervision is integral to the development of medical students' practical skills during rotations. Different supervision models, such as single-supervisor or multiple-supervisor approaches, each have distinct strengths and weaknesses. Studies suggest that single mentors provide continuity and consistent feedback, while multiple mentors expose students to diverse cases and teaching methods [1-4]. In Uganda, where resource limitations affect educational quality, evaluating these models is critical for improving medical education outcomes. Previous research in other settings has indicated the importance of effective supervision in fostering clinical reasoning, skill acquisition, and student satisfaction [5,6]. This study examines how these models affect clinical learning among fourth- and fifth-year students at Busitema University.

Methods and Material

A mixed-methods study was conducted with 114 medical undergraduates in their fourth and fifth years at Busitema University. Participants were divided into two groups: 57 students supervised by a single mentor and 57 students supervised by multiple mentors. Data were collected through structured surveys assessing student perceptions, focus group discussions to explore qualitative experiences, and clinical performance assessments that measured competency in clinical reasoning, patient management, and procedural skills.

Survey data were analysed using descriptive statistics, and the chi-square test was applied to assess the significance of differences between the groups. Qualitative data from focus groups were subjected to thematic analysis, which helped identify recurring themes related to the students' experiences with supervision [7,8].

Results

The results indicated that students supervised by multiple mentors experienced a broader range of clinical cases and teaching approaches. This exposure enabled them to develop adaptability in clinical environments and engage with diverse clinical techniques. However, these students reported inconsistencies in feedback, which affected their learning continuity. Students under a single supervisor enjoyed continuous mentorship and clear guidance, but felt that their exposure to varying clinical perspectives was limited.

Performance assessments showed no statistically significant difference between the groups, with students supervised by multiple mentors achieving a mean score of 76%, while those with single mentors scored an average of 74% ($p > 0.05$). Both groups demonstrated similar competency in clinical reasoning and practical skills, but differences in mentorship styles influenced their overall satisfaction with the learning process [9-12].

The findings indicate that both supervision models offer unique benefits and challenges. Multiple-supervisor models enhance student exposure to different teaching styles and patient cases, which could be particularly useful in diverse clinical settings [13,14]. However, the downside is the lack of continuity and feedback fragmentation, which can impede deep learning and clinical decision-making consistency. The single-supervisor model offers a more continuous learning experience with focused, personalized feedback, which helps build strong mentor-student relationships and student confidence [15-17].

Other studies align with these findings, emphasizing that continuous mentorship provides stability and helps students integrate their knowledge more effectively, while multiple supervisors expose students to a wider range of professional practices and problem-solving techniques [18,19]. A hybrid model that blends the advantages of both approaches could be an effective solution for maximizing learning outcomes and improving clinical training quality at Busitema University and similar institutions in low-resource settings [20].

Conclusion

This study suggests that neither single nor multiple supervision models are unequivocally superior in promoting clinical learning. Both have their merits, with single supervisors offering consistency and personalized feedback, while multiple supervisors provide diversity in clinical exposure and teaching styles. A balanced, hybrid approach that combines the strengths of both models may offer the most effective clinical learning experience for medical students. Further research should explore the implementation of such a hybrid supervision model and assess its impact on clinical performance and student satisfaction in various educational contexts.

Clinical supervision plays a vital role in developing medical students' skills, particularly during their rotations. Different supervision models, such as single-supervisor or multiple-supervisor approaches, each offer unique strengths and challenges. Single mentors provide continuity and personalized feedback, while multiple mentors expose students to diverse cases and perspectives [1,2]. In resource-limited settings like Uganda, where educational

infrastructure may be constrained, understanding the impact of these supervision models is crucial to optimizing student learning outcomes [3]. Previous studies have shown that effective supervision significantly influences clinical reasoning, skill acquisition, and overall satisfaction [4,5]. This study aims to explore the effect of supervision models on clinical learning among senior medical students at Busitema University.

Methods and Materials

A mixed-methods approach was employed to evaluate the impact of supervision models on 114 fourth- and fifth-year medical students at Busitema University. Participants were divided into two groups: 57 students were supervised by a single mentor, while another 57 were supervised by multiple mentors during their clinical rotations. Data collection involved structured surveys to gauge students' perceptions, focus group discussions to gather qualitative insights, and clinical performance assessments to measure competency in areas such as patient management, clinical reasoning, and procedural skills.

Survey data were analyzed using descriptive statistics, and chi-square tests were used to assess differences between groups. The qualitative data from focus group discussions were analyzed using thematic analysis [6].

Results

Students supervised by multiple mentors reported broader exposure to different clinical cases and teaching methods, which enhanced their adaptability in clinical environments. However, they also experienced inconsistencies in feedback and a lack of continuity in mentorship, which sometimes led to confusion. On the other hand, students supervised by a single mentor enjoyed more consistent guidance and feedback, but expressed concerns about limited exposure to varied clinical perspectives.

Clinical performance assessments revealed no statistically significant difference between the two groups, with students supervised by multiple mentors achieving an average score of 76%, while those supervised by a single mentor averaged 74% ($p > 0.05$). Both groups demonstrated comparable competency in clinical reasoning and procedural skills, although mentorship styles influenced student satisfaction with the learning process [7-10].

Discussion

The findings highlight the distinct benefits and challenges of each supervision model. The multiple-supervisor model fosters exposure to a diverse range of cases and teaching styles, which can be particularly beneficial in settings with diverse patient populations. However, the lack of consistent feedback can impede deeper learning and create confusion in clinical decision-making [11,12]. Conversely, the single-supervisor model provides consistent mentorship, which facilitates student confidence and ensures stable learning trajectories, but may limit exposure to different clinical approaches [13].

Several studies have shown that consistency in mentorship is crucial for deep learning, while diversity in teaching styles enriches the educational experience by exposing students to a variety of clinical approaches [14,15]. A hybrid supervision model that blends elements of both approaches may offer the best of both worlds, ensuring both consistent mentorship and exposure to diverse clinical perspectives [16-18].

Conclusion

This study concludes that both single and multiple supervision models have unique advantages in medical education. While single mentors provide continuity and focused feedback, multiple mentors offer diversity in clinical exposure and teaching styles. A hybrid model that incorporates both approaches could offer the most comprehensive clinical learning experience. Further research should explore the feasibility of such a model in other low-resource settings and assess its impact on student satisfaction and clinical performance.

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