

RESEARCH

Open Access



Exploring barriers and facilitators of preceptorship in undergraduate health professions education: insights from a qualitative needs assessment among preceptors in Eastern Uganda

Solomon Wani^{1*}, Ritah Nantale¹, Irene Atuhairwe², Brian Tonny Makoko¹, Francis Okello¹, Paul Waako³, Andrew Twineamatsiko², Brian Agaba², Alain Nyalihama^{2,4}, Dan Kibuule³ and Enid Kawala Kagoya^{1,5}

Abstract

Background Clinical preceptorship plays a critical role in bridging theoretical knowledge and practical skills for health professions students. In resource-constrained settings like Eastern Uganda, understanding what facilitates effective preceptorship is essential for improving clinical education outcomes. This study explores the barriers and facilitators to preceptorship among clinical preceptors and faculty at Busitema University, Mbale College of Health Sciences, and Mbale Regional Referral Hospital.

Methods We conducted 15 in-depth interviews with clinical preceptors, including faculty and clinical staff from Busitema University, Mbale College of Health Sciences, and Mbale Regional Referral Hospital. Participants were purposively selected based on experience, education level, medical care, and leadership roles. We conducted the interviews between May 2024 and June 2024, audio-recorded, were transcribed verbatim, and thematically analyzed using Atlas.ti version 9.

Results Three key facilitators and six barriers to preceptorship emerged from the analysis. The facilitators included: support from Seed Global Health through donations of medical tools, equipment, and healthcare worker training; strong commitment and willingness among health workers at Mbale Regional Referral Hospital to teach students; and, support from faculty and postgraduate students at Busitema University. Barriers were: high numbers of students in clinical settings; poor communication and coordination between academic institutions and clinical sites; limited preceptorship skills and knowledge among clinical preceptors; shortages of faculty preceptors; insufficient time for clinical rotations; and inadequate models and equipment for simulation-based teaching. To address these challenges, preceptors recommended better coordination and student orientation, phased placement in smaller groups, training

*Correspondence:
Solomon Wani
wanisolomon01@gmail.com

Full list of author information is available at the end of the article



© The Author(s) 2025. **Open Access** This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License, which permits any non-commercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if you modified the licensed material. You do not have permission under this licence to share adapted material derived from this article or parts of it. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

and refresher courses to strengthen preceptorship capacity, increased faculty presence in wards, and provision of essential medical equipment.

Conclusion Effective preceptorship in resource-limited settings depends on leveraging facilitators while addressing persistent barriers. External partnerships, staff commitment, and faculty support are valuable enablers, but their impact is undermined by overcrowding, poor coordination, and resource shortages. Actionable strategies such as structured communication between training institutions and hospitals, phased student placement, targeted preceptor training, and investments in teaching equipment can mitigate barriers and reinforce facilitators. Strengthening these systems is vital for sustaining high-quality clinical education in Uganda and similar contexts.

Keywords Preceptorship, Barriers, Facilitators, Medical education, Uganda

Background

Clinical teaching is an essential component in the education of undergraduate medical, and nursing or midwifery students as it helps in the transferring and actualization of theoretical knowledge into practice [1]. In order to achieve effective clinical teaching and learning experiences for the students, training institutions rely on professional doctors, registered nurses and midwives working in the hospitals to guide and assist students during their clinical rotations [2, 3]. This process is known as preceptorship and has been used for many decades worldwide bringing about numerous benefits such as creating meaningful and positive learning experiences for students [3, 4].

In Uganda, preceptorship has been employed by various medical and nursing training institutions in partnerships and support from Ministry of Health and hospitals nearest to them. Examples of such partnerships include Makerere University and Mulago National Referral Hospital, Mbarara University of and Mbarara regional referral hospital, Lira University and Lira regional referral hospital among others [5]. Some of these partnerships have been with support from non-governmental organizations such Seed Global Health.

Seed Global Health in collaboration with Busitema University, Mbale College of Health Sciences, and Mbale regional hospital has for the past 5 years (2019–2024) dedicated its efforts to enhancing quality of training for medical, nursing, and clinical students, through preceptorship particularly in the critical area of emergency maternal, neonatal, and child health care [6]. This has been through Strengthening the ability of preceptors to deliver training for students in ways such as conducting routine maternal and perinatal death reviews, monthly Continuous Medical Education (CME) and journal club sessions. Other ways of improving the preceptorship have been through assessing the competence of year four medical and nursing students and year three diploma in clinical medicine students in delivering Emergency Obstetrics and newborn clinical care services and creation of a preceptorship manual to improve the clinical teaching of students by health workers [7].

Despite significant strides in training student through preceptorship, there remains a gap in understanding the challenges faced by preceptors in these institutions, particularly in the emergency maternal and child health field.

A comprehensive needs assessment of preceptorship to explore the barriers, challenges, and opportunities is therefore, crucial for improving the training of undergraduate students in emergency maternal, neonatal, and child health care. In this regard, we therefore carried out a needs assessment to explore the barriers, challenges, and opportunities related to preceptorship among the faculty and clinical staff of Busitema University, Mbale College of Health Sciences, and Mbale Regional Referral Hospital. The findings from this assessment will inform strategic planning to ensure the faculty and clinical staff of Busitema University, Mbale College of Health Sciences, and Mbale Regional Referral Hospital are well equipped to provide effective and efficient training for medical, nursing, and clinical students. We explored the barriers and facilitators to training of undergraduate students on emergency maternal, neonatal and child health care services among clinical preceptors at Busitema University, Mbale College of Health Sciences, and Mbale Regional Referral Hospital.

Methods

Study design and setting

We carried out a qualitative study between May 2024 and June 2024 among faculty of Busitema University Faculty of Health Sciences, Mbale College of Health Sciences, and health workers in Mbale Regional Referral Hospital. Busitema University Faculty of Health Sciences (BUFHS) borders Mbale Regional Referral Hospital (MRRH) on the southern side of the hospital, while Mbale College of Health Sciences (MCOHES) borders MRRH at the northern end. Busitema University Faculty of Health Sciences was established in 2013 in Mbale City within Mbale Regional Referral Hospital as a public institution and currently offers three undergraduate and five graduate programs. The undergraduate programs include the Bachelor of Medicine and Surgery, Bachelor of Nursing, and Bachelor of Anesthesia, while the graduate programs

comprise the Master of Medicine in Internal Medicine, Master of Medicine in Pediatrics and Child Health, Master of Medicine in Obstetrics and Gynecology, Master of Public Health, and the Infectious Diseases Fellowship in Epidemiology.

Mbale College of Health Sciences (MCOHES) was established in 1948 in the urban center of Mbale town, now Mbale City, as a public institution. It is known for training students pursuing a Diploma in Clinical Medicine and Community Health. MCOHES borders Mbale Regional Referral Hospital on the north side and is located less than 500 m from both the Pediatric and Obstetrics and Gynecology Departments of the hospital.

Mbale Regional Referral Hospital is a 450-bed capacity public (government) hospital established in 1924, located in the center of Mbale City. It serves 16 districts in Eastern Uganda and functions as a teaching hospital for BUFHS and MCOHES. BUFHS, MRRH, and MCOHES are all located in Mbale City, approximately 223 km east of Kampala, Uganda's capital city.

Study population

We conducted this study among the faculty and clinical staff at Busitema University, Mbale College of Health Sciences, and Mbale Regional Referral Hospital in Obstetrics Gynecology department and Pediatrics department.

Sample size and sampling

We conducted fifteen in-depth interviews with faculty and clinical staff at Busitema University, Mbale College of Health Sciences, and the Obstetrics and Gynecology and Pediatrics Departments of Mbale Regional Referral Hospital. Participants were purposively selected based on years of experience, educational level, medical cadre, and leadership roles. The minimum requirement for participation was at least three years of professional experience in preceptorship. Educational qualifications varied by cadre: a minimum of a diploma in nursing or midwifery for nurses and midwives, a Bachelor of Medicine and Surgery for doctors, and a bachelor's degree in a health-related field for tutors at Mbale College of Health Sciences. Preference in the purposive sampling was given to doctors, nurses, midwives, and tutors holding leadership roles such as head of department, ward in-charge, tutor responsible for student placements, or academic registrar. In total, we therefore, interviewed six faculty members from Busitema University (three nurses and three doctors), six clinical staff from Mbale Regional Referral Hospital (three nurses and three doctors), and three faculty members from Mbale College of Health Sciences.

Data collection methods

Data were collected through in-depth, face-to-face interviews guided by a semi-structured interview guide. The

interviews targeted faculty members and clinical preceptors affiliated with Busitema University Faculty of Health Sciences, Mbale College of Health Sciences, and Mbale Regional Referral Hospital. Two trained research assistants with prior experience in qualitative data collection conducted the interviews. They were independent of the participants' supervisory or managerial structures to minimize potential bias and power imbalances.

Interviews were conducted in English, in quiet and private settings within the participants' workplaces to ensure confidentiality and comfort. Each interview lasted approximately 30 to 45 min. With participants' consent, interviews were audio-recorded and supplemented by detailed field notes. The recordings were later transcribed verbatim for analysis. The interviewers held debriefing meetings after each session to review emerging themes, ensure consistency in data collection, and reflect on their positionality in the research process.

Data management and analysis

We managed and analyzed the qualitative data using a systematic and rigorous process. First, the audio-recorded interviews were transcribed verbatim and securely stored in a password-protected folder accessible only to the research team. Secondly, all identifying information was removed from the transcripts to maintain confidentiality. The transcripts were then imported into Atlas.ti 9 software, which facilitated the organization and coding of the data.

We then started the analysis with data familiarization, followed by open coding where meaningful segments of text were labeled with descriptive codes. A code book was developed collaboratively to ensure consistency in coding. Related codes were then grouped into broader categories through axial coding, using the Atlas.ti 9 tools to explore connections and patterns.

Themes were generated by synthesizing coded categories that reflected key findings across the data set. These themes were refined iteratively until data saturation was achieved. To enhance trustworthiness, themes were reviewed within the research team and, where possible, validated with selected participants. The final results were presented with illustrative quotes to convey the depth and context of participants' views, ensuring the findings were both credible and grounded in the data.

Ethical consideration

Ethical approval was sought and obtained from the Research Ethics Committees (REC) of Mbale Regional Referral Hospital No. MRRH-2023-300. We obtained written informed consent from all the participants before data collection.

Table 1 Showing participant demographics

Identifier	Age	Years of Experience	Institution
M001	41 years	16 years	Mbale Regional Referral Hospital
M002	44 years	19 years	Mbale Regional Referral Hospital
M003	46 years	20 years	Mbale Regional Referral Hospital
M004	33 years	10 years	Busitema University Faculty of Health Sciences
M005	36 years	7 years	Busitema University Faculty of Health Sciences
M006	41 years	10 years	Busitema University Faculty of Health Sciences
M007	35 years	7 years	Mbale College of Health Sciences
M008	59 years	27 years	Mbale College of Health Sciences
M009	48 years	20 years	Mbale Regional Referral Hospital
M010	42 years	3 years	Mbale Regional Referral Hospital
M011	55 years	7 years	Mbale College of Health Sciences
M012	44 years	10 years	Busitema University Faculty of Health Sciences
M013	39 years	15 years	Mbale Regional Referral Hospital
M014	33 years	5 years	Busitema University Faculty of Health Sciences
M015	39 years	7 years	Busitema University Faculty of Health Sciences

Results

Social demographics of participants

All the preceptors had at least a postgraduate in medical education or a simulation-based training (Table 1).

Thematic areas

Three themes emerged from this study. First are the facilitators, then then barriers and thirdly the recommendations. As show below (Fig. 1):

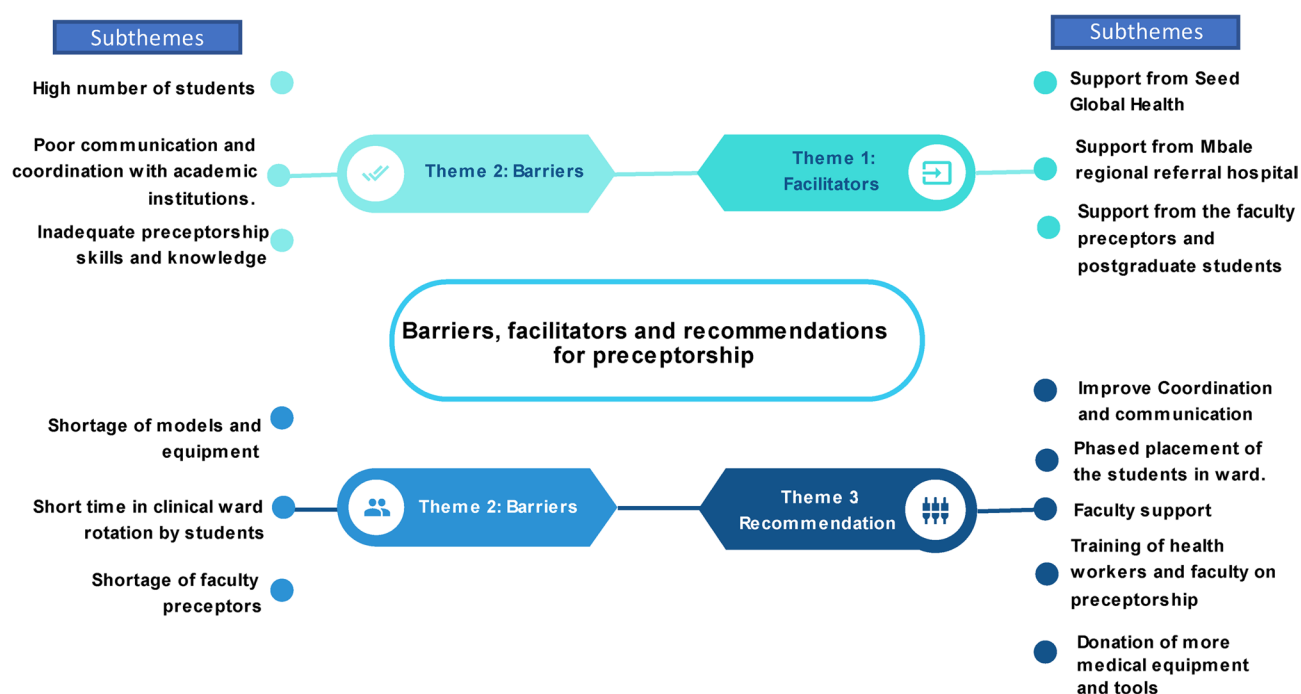
Theme one: facilitators

Subtheme 1: Support from Seed Global health Preceptors widely acknowledged Seed Global Health as a key facilitator of preceptorship through provision of teaching resources, medical equipment, and staff training. For example, one midwifery preceptor noted,

“Currently, I am teaching using those flip charts. All these are things that Seed has given us...as a midwifery teacher, my work is so easy” (Participant 005, Busitema University).

Another preceptor highlighted how the presence of external Seed educators enriched student learning:

“...Learning from him, from his experience, how he used to lead things... I believe the students learned a lot because even then when he used to come, you

**Fig. 1** Showing Themes and Subthemes for preceptorship

would find the students fully attending his lectures.”
(Participant 007, Mbale College of Health Sciences).

In addition, training initiatives such as Emergency Triage, Assessment and Treatment (ETAT) and wellness programs were reported to enhance both teaching effectiveness and preceptor motivation.

These findings reflect Seed Global Health's broader mission of strengthening health systems through capacity building, resource provision, and educator support. By addressing gaps in equipment, teaching methodologies, and staff well-being, Seed Global Health's model demonstrates the value of external partnerships in resource-limited settings.

Subtheme 2: support from Mbale regional referral hospital Some preceptors reported good support from the health workers at Mbale regional referral hospital being a good facilitator for preceptorship as quoted in the statement below:

“I think there is great support, especially from the ward staff. I personally engage them a lot to teach my students” (Participant 005, Busitema University).

Other preceptors also noted that Mbale regional referral hospital has health workers who are very much interested in teaching, which facilitates preceptorship, as stated below:

“Yes, but also the staff. The staff generally are motivated to teach. When you send my students there, they don't see them as my students, they see them as their students, so they are motivated to teach. So, I think that interest to be a preceptor is one of the facilitators” (Participant 004, Busitema University).

Subtheme 3: support from the faculty preceptors and postgraduate students Some preceptors also noted that support from availability of postgraduate students of Busitema University has been an important facilitator in clinical teaching of students. The postgraduate students are able to supervise and also teach the students in the wards as stated below:

“Then, of course, the other aspect is that Busitema University now has postgraduate students in pediatrics, and that is just a plus for our patient care” (Participant 003 Mbale regional referral hospital).

Another preceptor echoed the presence of faculty preceptors in the ward as a facilitator for preceptorship as below:

“And then also the difference that we have between us and Busitema is that most of the lecturers who teach clinicals also, somehow, they work in the hospital. And so, following up their students becomes easy...” (Participant 007, Mbale College of Health Sciences).

Theme 2: barriers

The findings revealed that preceptors experience several challenges in the course of guiding and clinical teaching of nursing, medical and diploma students of Busitema University and Mbale college of health sciences. Four themes emerged from the data, including high number of students, shortage of models for demonstration in skills lab and simulation lab, poor communication and coordination and inadequate preceptorship skills and knowledge. These themes portrayed the major challenges of the preceptors as they executed their preceptorship roles.

Subtheme 1: high number of students Many preceptors reported that the number of students in the wards are so many. This is because the nursing, midwifery, medical and diploma in medicine students who are attached in the ward are from many different schools and are so many.

In this support one participant said:

“In our setting here, the numbers of students are too, too many compared to the number of preceptors or teachers on the ward, even compared to the patients. The students, really, because there are very many schools around, the students are quite many” (Participant 002 Mbale regional referral hospital).

The above sentiments were corroborated by another participant who echoed:

“... so, you find that you go to the ward and there are so many students, but almost doing nothing So for you, you go and probably you want to target your students, but even the others will come. So, students are there, but they are not sure of what to do.” (Participant 005, Busitema University).

Subtheme 2: Poor communication and coordination with academic institutions. Many preceptors from Mbale regional referral hospital expressed the challenge of poor communication and coordination from the academic institutions about the rotation of their students in the hospital wards.

For example, one of them said this regarding the coordination and communication:

“...I feel they are not well-coordinated in terms of their attachment to the wards. So, the coordination

is poor, so as a result, I believe they don't get the best of the attachment. For example, before these people come for attachments, we need to communicate with the people who are receiving them. So, before the school sends, they should communicate to us, not only the in-charge, but the whole team that they expect to attend to them" (Participant 001 Mbale regional referral hospital).

"Sometimes we are not even told that students are coming. So, there is a gap in communication between the institutions and the hospital, the teaching institutions and the hospital. If we knew that these are five students who are coming on such and such a day, these students, we are supposed to teach them this, this and this, then I think it will be easier" (Participant 003, Mbale regional referral hospital).

The poor coordination also involved the students reporting to the wards without any clear objectives of what they are supposed to learn while on ward. This was quoted from one of the preceptors:

"...there is no clear guide to the teachers that this is what our students should pick. The expectations are not enough. Especially by most of those groups. You just find the students on the ward and they are there..." (Participant 002 Mbale regional referral hospital).

Subtheme 3: inadequate preceptorship skills and knowledge Preceptors reported facing a challenge of inadequate preceptorship skills and knowledge on how to best pass on the knowledge and skills to the students. One of the preceptors is quoted saying:

"I think one of the challenges would be that if you don't take the preceptors through training to make them teachers, then they will not be preceptors. Because remember, for instance, these guys are from the Ministry of Health. Like I told you, their primary role is patient care. Now you want them to teach, but you have not told them what are the objectives, what would you like them to teach the students and how do you want them to teach the students" (Participant 003 Mbale regional referral hospital).

Alongside the inadequate training, preceptors also reported that many of them are not confident to teach the students in the hospital wards. For example, one participant was quoted saying.

"...even the tutors that we have, not so many of them are confident about themselves, to be in the wards, to follow up the students... They are not really very

confident. And maybe it's because they are not attached to the hospital. (Participant 00, Mbale College of Health Sciences)

Subtheme 4: shortage of models and equipment for demonstration in skills lab and simulation lab Preceptors expressed that they lack some models/dummies for clinical simulation in the skills lab or simulation lab. This view was corroborated by one of the participants who asserted:

"So, some things are not there. Especially like these modules. They help me a lot to teach my emergencies. Because these emergencies like I said. They are speaking to what do you do when an emergency has happened. But if I am struggling with teaching equipment. It is a disadvantage" (Participant, 005 Busitema University).

Other preceptors felt that the same that there is shortage of training equipment as noted from the following statement:

"Sometimes you want to teach students something, maybe in simulation or something like that. But maybe you do not have the equipment to do that" (Participant 006, Busitema University).

Sub theme 5: shortage of faculty preceptors Some preceptors reported that there is a challenge of shortage of faculty preceptors in the wards for preceptorship. The students many times go to the wards alone without any preceptors. This is quoted in the statement below:

"The other issue is that we do not have the teachers. In a department, we have about three, four teachers. Actually, three teachers of whom they have about five classes to teach. And you have undergraduates to teach one or two classes. You have postgraduates to teach. These are three classes. And that is impossible for a department that has three people teaching" (Participant 006, Busitema University).

"One thing in our shortcoming is that our internal staff are very thin on the ground. We are few on the ground as teaching staff. And we don't have direct influence in employing people..." (Participant 008, Mbale College of Health Sciences).

Subtheme 6: short time in clinical ward rotation by students A number of preceptors also mentioned short duration of students in the ward as being a challenge in preceptorship as stated in the statement below:

"To the SOCO team, they're also interested, willing to learn, but the period is too short. They come to the award, and there are many, but they are willing to learn. But only their time, you find they come for one week, two weeks. Which is short. What do you expect?" (Participant 011, Mbale College of Health Sciences).

Another preceptor emphasized this point by saying:

"Our schedules have been nine to midday. That's a very short time Nine to midday. Then, in the afternoon, they're supposed to be in class to study. So, it doesn't work!" (Participant 007, Mbale College of Health Sciences).

Theme 3: recommendations

Subtheme 1: coordination and communication Some preceptors recommended a better coordination and communication strategy from the academic institutions about the placement of their students in the ward to improve preceptorship as stated below:

"So, when a group comes when a group comes, we need to be informed that this group is coming and we need to be told the expectations. And of course, the timing when this group is here" (Participant 001, Mbale regional referral hospital).

Some preceptors suggested the good coordination and communication can also be done through having student's orientation meeting with the hospital department before they are placed in the hospital wards as noted below:

"Like I said, orienting students before they come to the wards, strengthening orientation of students before they come to the wards, so that we can tell them what we expect of them to come to the wards" (Participant 002, Mbale regional referral hospital).

Subtheme 2: phased placement of the students in ward Other preceptors suggested phased placement of students as a solution to the high number of students and better coordination as stated in the statement below:

"...it's always good if they come in phases. I think that's when they can benefit from ward teaching and ward rounds. If they come in phases of small, small groups, maybe like five, that's when they can easily learn" (Participant 002, Mbale regional referral hospital).

Subtheme 3: Training of health workers and faculty on preceptorship: locally tailored preceptorship program, Skills of teaching, knowledge empowerment, refresher courses Some preceptors reported the need for training the health workers and faculty preceptors on preceptorship in order to empower them with knowledge and skills needed. This is stated below:

"That can be improved maybe through retooling, through capacity building. Some workshops here and there can be organized to improve on their (Preceptors) knowledge in those areas, especially when it comes to building the confidence in clinical practices" (Participant 007, Mbale College of Health Sciences).

"To pass on knowledge we need guidance on how people need to be told how to teach. Yeah. How to pass on your knowledge, how to pass on your skills. People need to be taken through that" (Participant 001, Mbale RRH).

Other participants suggested that refresher courses can be introduced to promote training of preceptors as stated below:

"We need refresher courses as teacher. We need some of those refresher courses. We need to interact with other people. And we see how do other people teach how do they do A, B, C, D..." (Participant 005, Busitema University).

Subtheme 4: Faculty support: Presence in ward Many preceptors also recommend more faculty support in terms of their presence in the hospital ward as stated below:

"But I think we need to strengthen working together as preceptors, whether from the university side or from the hospital side. For me I think there shouldn't be any difference really between the two ends. We should always work together in everything..." (Participant 002, Mbale RRH).

"So having preceptors, that would be one way that the learning would be improved. Because when you're there, you ask students what goals do you have today, what procedures are you doing. And so, the students are motivated and they're also able to do procedures because they see that you are there" (Participant 004, Busitema University).

Subtheme 5: Donation of more medical equipment and tools for the skills lab and simulation lab Other preceptors recommended more support from the faculty and seed global health in terms of equipment and tools for

teaching the students while in the wards or skills laboratory as stated below:

"In those times when these things are not available, they should come in and support us too. I know they cannot give everything, but the basics to support us, that we can teach in an environment that is conducive for us to work in" (Participant 002, Mbale regional referral hospital).

Discussion

The findings from this needs assessment highlight the complex interplay of facilitators and barriers to effective preceptorship at Busitema University, Mbale College of Health Sciences, and Mbale Regional Referral Hospital. The findings revealed that effective preceptorship is supported by both external and internal factors, including material support from partners such as Seed Global Health, the strong commitment of clinical staff to student mentorship, and the collaborative involvement of faculty and postgraduate students. However, the effectiveness of preceptorship is significantly hindered by several systemic and logistical challenges. These include overcrowding of students in clinical settings, limited coordination between academic and clinical institutions, a lack of formal training in preceptorship among clinical staff, faculty shortages, insufficient time allocated for clinical rotations, and inadequate resources for practical skills demonstration. These results highlight the complexity of clinical education in low-resource environments and point to key areas requiring strategic investment and policy attention. These insights are very important for understanding how to optimize clinical training environments, particularly in resource-limited settings like Eastern Uganda.

Facilitators of preceptorship

Our findings revealed that support from Seed Global Health, through provision of essential medical equipment and training resources, was a critical facilitator of preceptorship. Seed Global Health is a U.S.-based non-profit organization founded in 2011 whose mission is to expand access to quality care and improve health outcomes for all through long-term partnerships with ministries of health, universities, and hospitals. Its governance structure involves collaboration with national governments and academic institutions, ensuring that interventions align with country health priorities. Funding for Seed Global Health comes from philanthropic donations, grants, and international development partners, which allows it to invest in medical education, clinical training, and capacity-building initiatives [8].

For preceptors in Mbale regional referral hospital and Busitema university, the provision of teaching aids

such as flip charts, clinical equipment, and the presence of Seed educators were particularly highlighted as strengthening both teaching and learning. This aligns with previous studies that emphasize the importance of resource availability in enhancing the quality of clinical education [3]. The presence of external educators not only enhanced the knowledge base of students but also brought in diverse and friendly teaching methodologies, which are often lacking in local settings. Comparable initiatives in Sub-Saharan Africa include Partners In Health (PIH), which integrates education and service delivery across several African countries; IntraHealth International, which focuses on strengthening the health workforce through training and digital innovations; and the Medical Education Partnership Initiative (MEPI), a U.S. government funded program that has supported capacity building in medical schools across Africa [9–11].

Furthermore, the extrinsic and intrinsic motivation and willingness of hospital staff to engage in teaching were identified as critical facilitators of clinical education. This intrinsic motivation is consistent with previous studies demonstrating that healthcare professionals' engagement in teaching is often driven by a sense of professional duty and the desire to contribute to the development of future practitioners [12]. Within the Busitema University teaching context, teaching is a formal component of faculty members' academic responsibilities and is typically recognized within their institutional workload. In contrast, most hospital staff who participate in student teaching do so voluntarily, with limited formal recognition or financial compensation. Their contribution, therefore, appears to be primarily sustained by intrinsic motivation rather than by extrinsic institutional incentives.

The involvement of postgraduate students similarly played a pivotal role in maintaining preceptorship activities. While this participation aligns partially with their own learning and training requirements, it also reflects a strong culture of mentorship and professional stewardship. This model is consistent with international best practices in medical education, where the engagement of senior trainees and residents in teaching has been shown to enhance both learner outcomes and the mentors' own professional development [13]. Collectively, these findings emphasize the importance of balancing institutional expectations with recognition and support for intrinsically motivated contributors, to ensure the sustainability and quality of clinical teaching within resource-constrained training environments.

Barriers to effective preceptorship

Despite the facilitators described above, several barriers were identified that hinder the effectiveness of preceptorship within the study institutions. A recurrent challenge was the high student-to-preceptor ratio, compounded

by the large number of students from multiple training institutions sharing limited clinical placement sites. This issue of overcrowding is widely reported across Sub-Saharan Africa, where increasing student enrolments in health training institutions have not been matched by proportional growth in clinical teaching capacity [14, 15]. Overcrowding in clinical settings limits opportunities for individualized supervision and feedback, thereby constraining experiential learning and compromising the quality of clinical education [16].

Poor communication and coordination between academic institutions and teaching hospitals also emerged as a major barrier. The absence of clear communication channels regarding student placement schedules, learning objectives, and supervision responsibilities often resulted in confusion and inefficiencies. Similar coordination challenges have been documented in other Sub-Saharan African settings, where fragmented relationships between training institutions, and teaching hospitals impede the smooth integration of educational and service delivery goals [17–19]. Effective communication is critical in ensuring that students' clinical experiences are well-structured and aligned with their academic goals [20, 21].

Inadequate preceptorship skills and limited pedagogical training among clinical staff were also reported as significant impediments. Many preceptors lacked formal preparation in educational methods, assessment, and feedback provision skills that are essential for effective clinical teaching. This finding is consistent with evidence from other African contexts, where the absence of structured faculty development programs has been shown to weaken the quality of mentorship and clinical supervision [22–24]. Moreover, some preceptors expressed low confidence in their teaching abilities, a challenge similarly noted in studies from Kenya, Tanzania, and Malawi, where limited training and recognition for teaching roles contribute to diminished motivation and performance [25–27].

Finally, the shortage of models and equipment in skills labs and simulation lab was a significant barrier, limiting the ability of preceptors to provide hands-on training. The importance of adequate simulation resources in medical and nursing education cannot be overstated, as they allow students to practice and hone their skills in a controlled environment before applying them in real-life scenarios [27, 28]. The absence of such resources, as highlighted in this needs assessment, compromises the effectiveness of clinical teaching and leaves students inadequately prepared for their roles in the healthcare system.

Implications for practice and policy

Our findings have important implications for practice and policy in clinical education. Within low resource settings like Uganda. First, there is a need for enhanced

support and capacity-building for preceptors to equip them with the necessary skills and knowledge for effective clinical teaching. Evidence from similar settings in Malawi, Tanzania, and Zimbabwe demonstrates that structured faculty development programs and periodic refresher training in clinical teaching methodologies significantly improve preceptors' confidence, teaching competence, and student satisfaction [29–31].

Addressing the communication gap between academic institutions and hospitals is also critical. Studies in Botswana and Ghana indicated that establishing formal communication frameworks such as joint coordination committees, or clearly defined liaison roles can enhance alignment between academic and clinical partners, improve placement planning, and ensure that learning objectives are consistently met [32, 33]. Furthermore, induction and orientation of students with the health workers at the teaching hospital improves communication and collaboration [34, 35].

Additionally, efforts should be made to manage student numbers in clinical settings to avoid overcrowding, which compromises the quality of education. This could be achieved through phased placements, increasing the number of trained preceptors or increasing the number of health facilities where students do clinical rotation [36]. Finally, a recent meta-analysis in sub-Saharan Africa highlights that investment in simulation labs and skills laboratories is essential equipping students with the practical competencies required before entering the clinical environment [15].

Conclusion

In conclusion, our study highlights the dual nature of preceptorship in clinical settings, where both facilitators and barriers significantly impact the quality of medical and nursing education. Addressing these challenges through strategic interventions will not only enhance the preceptorship experience but also improve the overall training of healthcare professionals in resource-limited settings like Eastern Uganda. Future research should be carried out focusing on developing and testing interventions that address the identified barriers, particularly in relation to preceptor training and resource allocation.

Strength and limitations

One strength of this study is that representation of different cadres with vast experiences e, g the doctors, nurses, midwives, and tutors with a diploma in clinical medicine. Secondly, this study was conducted in three of the biggest medical, nursing and clinical training institutions in Eastern Uganda. Despite the above strengths, there were also limitations to this study. The results of this study cannot be generalized beyond Eastern Uganda because of its qualitative nature. Secondly, as with most qualitative

studies, the use of purposive sampling may have introduced some selection bias, because participants were chosen based on their involvement and availability. However, efforts were made to enhance credibility through diversity in professional roles, sites, and experience levels among participants.

Lastly, this study did not specifically address inter-professional education (IPE) or examine interactions among different professional groups during clinical teaching. Considering that clinical training in hospital settings frequently occurs within inter-professional teams, Future work could investigate how inter-professional collaboration shapes supervisory practices and learner experiences, particularly in resource-constrained clinical settings where team-based care is the norm.

Abbreviations

BUFHS	Busitema University Faculty of Health Sciences
MRRH	Mbale Regional Referral Hospital
MCOHES	Mbale College of Health Sciences
CME	Continuous Medical Education

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12909-025-08160-0>.

Supplementary Material 1

Acknowledgements

We acknowledge the contribution of our research assistants Mr. Ssesanga Albert and Ms. Akello Eunice and the study participants their valuable input and support.

Clinical trial number

Not applicable because this was a qualitative study.

Authors' contributions

SW (Solomon Wani), RN (Ritah Nantale), Francis Okello (FO) and EKK (Enid Kawala Kagoya) conceived the study and wrote the proposal. SW, and BTM (Brian Tonny Makoko) participated in data collection. SW, EKK, BTM, and RN conducted data analysis. WS and EKK drafted the original manuscript. RN, IA (Irene Atuhairwe), PW (Paul Waako), AT (Andrew Twineamatsiko), BA (Brian Agaba), AN (Alain Nyalihamu) and DK (Dan Kibuule) reviewed and edited the manuscript. All authors read and approved the final manuscript.

Funding

The study was supported by Seed Global health.

Data availability

Transcripts used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from the Mbale Regional Referral Hospital Research and Ethics Committee (MRRH 2023 – 300). All procedures were per the Declaration of Helsinki. Written informed consent was obtained from all participants.

Consent for publication

All participants provided written informed consent for publication.

Competing interests

The authors declare no competing interests.

Author details

¹Institute of Public Health, Department of Community Health, Faculty of Health Sciences, Busitema University, P.O. Box 1460, Mbale, Uganda

²Seed Global Health, P.O. Box 12491, Kampala, Uganda

³Department of Pharmacology and Therapeutics, Faculty of Health Sciences, Busitema University, P.O. Box 1460, Mbale, Uganda

⁴Department of Pediatrics and Child Health, Faculty of Health Sciences, Busitema University, P.O. Box 1460, Mbale, Uganda

⁵Clinical Epidemiology Unit, College of Health Sciences, Makerere University, P.O. Box 7062, Kampala, Uganda

Received: 3 June 2025 / Accepted: 13 October 2025

Published online: 14 November 2025

References

- Duteau J. Making a difference: the value of preceptorship programs in nursing education. *J Continuing Educ Nurs*. 2012;43(1):37–43.
- Billay D, Myrick F. Preceptorship. An integrative review of the literature. *Nurse Educ Pract*. 2008;8(4):258–66.
- Broadbent M, Moxham L, Sander T, Walker S, Dwyer T. Supporting bachelor of nursing students within the clinical environment: perspectives of preceptors. *Nurse Educ Pract*. 2014;14(4):403–9.
- Kalischuk RG, Vandenberg H, Awosoga O. Nursing preceptors speak out: an empirical study. *J Prof Nurs*. 2013;29(1):30–8.
- East African Health. Makerere University College of Health Sciences (MakCHS) 2017 [Available from: <https://www.eahealth.org/directory/search/organisation/makerere-university-college-of-health-sciences-makchs>. Accessed 15 Apr 2025.
- Busitema University. Busitema University - Seed Global Health Partnership 2024. [Available from: <https://sgh.busitema.ac.ug/content/busitema-university-seed-global-health-partnership>. Accessed 15 Apr 2025.
- Seed Global Health. Uganda Annual Progress Report July 2022 to June 2023. 2023. https://seedglobalhealth.org/wp-content/uploads/2024/01/Seed_UgandaAnnualReport_2023_digital.pdf.
- Seed Global Health. 2023–24 Annual Report. 2025. <https://seedglobalhealth.org/2025/10/06/seed-2024-25-annual-report-is-here/>.
- IntraHealth International. Health workforce development 2025. [Available from: <https://www.intrahealth.org/topics/health-workforce-development>. Accessed 10 Apr 2025.
- Medical Education Partnership Initiative. Medical Education Partnership Initiative YEAR 5 REPORT. 2015. <https://docslib.org/doc/4977730/medical-education-partnership-initiative-year-5-report>.
- Partners In Health. Training 2024. [Available from: <https://www.pih.org/pih-training>. Accessed 15 Apr 2025.
- Löfmark A, Thorkildsen K, Råholm M-B, Natvig GK. Nursing students' satisfaction with supervision from preceptors and teachers during clinical practice. *Nurse Educ Pract*. 2012;12(3):164–9.
- Padaychee T, Banerjee I, Gobinpersad A, Robinson J. The impact of senior medical students as role models: a cross-sectional study from a medical school in Mauritius. *Quest Int J Med Health Sci*. 2020;3(1):7–12.
- Abuosi AA, Kwadan AN, Anaba EA, Daniels AA, Dzansi G. Number of students in clinical placement and the quality of the clinical learning environment: a cross-sectional study of nursing and midwifery students. *Nurse Educ Today*. 2022;108:105168.
- Mwalabu G, Msosa A, Tjoflåt I, Urstad KH, Bø B, Furskog Risa C, et al. Simulation-based education to facilitate clinical readiness in nursing and midwifery programmes in sub-Saharan Africa: a meta-synthesis. *Higher Education, Skills and Work-Based Learning*. 2024;14(3):723–42.
- Hoebes RR, Ashipala DO. Exploring the barriers to registered nurses undertaking clinical teaching in clinical settings: a qualitative descriptive study. *Nurs Open*. 2023;10(12):7767–79.
- Bvumbwe T. Enhancing nursing education via academic-clinical partnership: an integrative review. *Int J Nurs Sci*. 2016;3(3):314–22.
- Tadesse D, Solomon Y, Hailu M, Tigistu F. Challenges of clinical education: from the perspective of clinical instructors and clinical staffs at Dire Dawa University, Dire Dawa, Ethiopia, qualitative study. *J Med Educ Curric Dev*. 2024;11:23821205241249378.

19. Mensah ON, Ani-Amponsah M, Opoku A, Sumaila YI, Oduro-Kwarteng V, Eshun EG, et al. Experiences of Ghanaian student nurses' and midwives' during clinical practice in the Kumasi metropolis: an ethnographic study. *Asian J Educ Social Stud.* 2021;14(2):21–32.
20. Eller LS, Lev EL, Feurer A. Key components of an effective mentoring relationship: a qualitative study. *Nurse Educ Today.* 2014;34(5):815–20.
21. Nachinab GT-e, Armstrong SJ. Unveiling how clinical nursing education can be improved in Northern Ghana: the perspectives of key informants. *SAGE Open Nurs.* 2022;8:23779608221097162.
22. Lethale SM, Makhado L, Koen MP. Factors influencing preceptorship in clinical learning for an undergraduate nursing programme in the North West Province of South Africa. *Int J Afr Nurs Sci.* 2019;10:19–25.
23. Ebu Enyan NI, Amoo SA, Boso CM, Doe PF, Slager D. A multisite study on knowledge, perceived motivators, and perceived inhibitors to precepting nursing students within the clinical environment in Ghana. *Nurs Res Pract.* 2021;2021(1):6686898.
24. Nsemo AD, Odei-Opoku HD, Afra D, Lumour JOO, Dwomoh J, Ama E. The role of preceptors in clinical practice: student midwives' knowledge, perspectives and challenges in Koforidua and St. Patrick's nursing and midwifery training Colleges, Eastern and Ashanti regions of Ghana. *Acta Sci Women's Health (ISSN.* 2022;4(5):2582–3205.
25. Hong KJ, Yoon H-J. Effect of nurses' preceptorship experience in educating new graduate nurses and preceptor training courses on clinical teaching behavior. *Int J Environ Res Public Health.* 2021;18(3):975.
26. Shikuku DN, Bar-Zeev S, Ladur AN, Allott H, Mwaura C, Nandikove P, et al. Experiences, barriers and perspectives of midwifery educators, mentors and students implementing the updated emergency obstetric and newborn care-enhanced pre-service midwifery curriculum in Kenya: a nested qualitative study. *BMC Med Educ.* 2024;24(1):950.
27. Hyrkäs M, Mowitz M. Midwifery education in Sub-Saharan Africa—A systematic integrative literature review. 2023. <https://gupea.ub.gu.se/handle/207776783>.
28. Cant RP, Cooper SJ. The value of simulation-based learning in pre-licensure nurse education: a state-of-the-art review and meta-analysis. *Nurse Educ Pract.* 2017;27:45–62.
29. Chipeta E, Bradley S, Chimwaza-Manda W, McAuliffe E. Working relationships between obstetric care staff and their managers: a critical incident analysis. *BMC Health Serv Res.* 2016;16(1):441.
30. Matsika A, Nathoo K, Borok M, Mashaah T, Madya F, Connors S, et al. Role of faculty development programs in medical education at the University of Zimbabwe college of health sciences, Zimbabwe. *Ann Glob Health.* 2018;84(1):183–9.
31. Shibli KU, Shibli S. Faculty development in low- and middle-income countries – Part I. *Anaesth Pain Intensive Care.* 2022;26(2):133–6.
32. Dube A, Rakhudu MA. A preceptorship model to facilitate clinical nursing education in health training institutions in Botswana. *Curationis.* 2021;44(1):e1–9.
33. Ebu Enyan NI, Boso CM, Amoo SA. Preceptorship of student nurses in Ghana: a descriptive phenomenology study. *Nurs Res Pract.* 2021;2021:8844431.
34. Rowland E, Trueman H. Improving healthcare student experience of clinical placements. *BMJ Open Qual.* 2024. <https://doi.org/10.1136/bmj-oq-2023-002504>.
35. Registered Nurses' Association of Ontario. Clinical Placements. Mental Health and Addiction Resource Integrating Mental Health and Addiction into the Undergraduate Nursing Curriculum 2017.
36. Makhene A, Ally H, Motsaanaka MN. Student nurses' experiences regarding their clinical learning opportunities in a public academic hospital in Gauteng province, South Africa. *Health SA Gesondheid.* 2020;25(1):1–7.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.