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Factors influencing obstetric referral decisions and practices: A qualitative study among skilled health personnel in Kampala, Uganda

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ABSTRACT

Introduction: Effective referral is crucial for maternal and perinatal survival. Understanding the referral decision-making processes and practices of skilled health personnel (SHP) is essential for addressing inefficiencies and improving health outcomes. We explored inter-facility referral linkages and factors influencing obstetric referral decisions and practices, using a behavioural approach and drawing on SHP's perceptions.

Methods: We conducted semi-structured interviews with 45 SHP working in Kampala, Uganda, between October 2023 and April 2024. We employed a thematic and framework analysis approach, using the capability, opportunity, motivation, and behaviour model to examine factors influencing referral decisions and practices.

Findings: Referrals of women with obstetric complications from all levels of care were commonly directed to the National Referral Hospital. These referral linkages were influenced by factors such as proximity, the hospital's acceptance of patients, and perceptions of lack of readiness at designated receiving facilities. Resource shortages, including the absence of critical staff and inadequate infrastructure, such as limited operating theatre space and unavailability of ambulances, commonly contributed to referrals and hindered SHP from implementing recommended referral practices, such as professional accompaniment. Additionally, SHP faced several demotivating process challenges during referrals, including lengthy patient handover processes at receiving facilities and negative or disrespectful interactions with colleagues.

Conclusions: Our findings show that SHP in Kampala are unable to implement recommended referral practices as expected primarily due to insufficient physical opportunities, which also affect their motivation. Inadequate resources and negative or disrespectful provider conduct remain key challenges. Policymakers and implementers should improve resource availability, streamline referral processes, and enhance collaboration among SHP to facilitate appropriate referrals.

1. Introduction

Poor maternal health indices in sub-Saharan African (SSA) countries, including Uganda, remain largely attributed to direct obstetric complications such as postpartum haemorrhage and pre-eclampsia (Musarandega et al., 2021; Ministry of Health Uganda, 2023; Banke-Thomas et al., 2021). This emphasises the need for effective referral systems to facilitate timely access to quality emergency obstetric care (EmOC) for women who develop complications (World Health Organization, 2016). Effective referral systems are especially needed in rapidly urbanising cities, where challenges such as the complex mix of healthcare providers and inequitable access to healthcare among the

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urban poor exacerbate referral inefficiencies (McNab et al., 2022; Elsey et al., 2019). Kampala, Uganda's capital, experiences high numbers of facility-based maternal deaths, which have been partly linked to inefficient facility referrals (Ministry of Health Uganda, 2023; Birabwa et al., 2023; Namagembe et al., 2022). A study on women's care-seeking pathways to EmOC in Kampala identified referral challenges, including referrals from designated comprehensive EmOC (CEmOC) facilities and low use of ambulances among women referred from lower-level facilities (Birabwa et al., 2024a). These findings, along with those reported by Alaleit et al (Alaleit et al., 2023)., highlight the need to further explore the city's obstetric referral dynamics, including the underlying reasons for these apparent inefficiencies.

The referral process comprises multiple elements, including timely decision-making, effective communication and feedback between facilities, transportation arrangements, and appropriate care at receiving facilities (World Health Organization, 2016). Appropriate referral requires referring providers to communicate with the receiving facility before initiating referrals, arrange suitable transportation, and ensure proper documentation, including adequate referral notes. Studies in SSA indicate that referral practices are inconsistent and suboptimal, including a lack of pre-referral communication and feedback (Kanyesigye et al., 2022; Ameyaw et al., 2020; Selemani et al., 2024; Mengist et al., 2024), with a potential lack of patient-centredness and inequalities (Selemani et al., 2024; Ameyaw et al., 2021). Several studies have indicated that suboptimal referral practices may contribute to delayed care and increase the risk of poor outcomes (Banke-Thomas et al., 2021, 2022; Mengist et al., 2024; Adams et al., 2020).

Studies in SSA highlight several structural factors that hinder referral systems in urban areas, including inadequate resources like ambulances, mistreatment of providers by colleagues, and inadequate readiness to treat obstetric complications (Kanyesigye et al., 2022; Ameyaw et al., 2020; Selemani et al., 2024; Mengist et al., 2024; Daniels and Abuosi, 2020; Ofosu et al., 2021; Mselle et al., 2021; Bailey et al., 2019; Juma et al., 2024). However, there has been limited exploration of the factors that contribute to the development and persistence of inefficient referrals using behavioural approaches among skilled health personnel (SHP). Understanding individual behaviour and how it is shaped by context can provide valuable insights for designing interventions that effectively support SHP to refer appropriately (Angell, 2013). A behavioural approach in obstetric care, including referrals, is essential in urban areas, where complex work environments and the larger context expose SHP to stressful work dilemmas that can result in suboptimal referral practices and poor patient outcomes.

Healthcare provider behaviour refers to the actions or inactions of health professionals during service provision (Hancock et al., 2023; Patey et al., 2023). Studies have explored the determinants of SHP behaviour and their effects on the quality of maternity care, highlighting several work environment factors, including resource constraints and limited professional autonomy (Engl et al., 2019; Reddy et al., 2022). These factors influence provider perceptions and self-efficacy, contributing to inappropriate care and avoiding responsibilities. However, the mechanisms underlying obstetric referral behaviours have not been well examined, while being a distinct and essential component of maternity care. Quality Improvement interventions targeting referral typically focus on improving communication, decision-making, and transportation (Hussein et al., 2012; Avoka et al., 2022; Ononge et al., 2023), but may remain insufficient in improving outcomes if the underlying determinants of SHP's behaviour are not addressed.

The objective of this study is to explore the factors influencing obstetric referral decisions and practices among SHP in Kampala through a behavioural lens. Specifically, we explored inter-facility linkages, decisions, and practices related to making and receiving obstetric referrals. We applied the Capability, Opportunity, Motivation, and Behaviour (COM-B) model during analysis to organise and interpret the themes reflecting the factors influencing obstetric referral decisions and practices. The COM-B model depicts behaviour to result from capability, motivation, and opportunity (Michie et al., 2011). Capability refers to the physical and psychological capacity necessary to perform a given behaviour. Opportunity encompasses external factors that enable or hinder the behaviour, while motivation includes cognitive processes that direct the behaviour and the related emotional responses.

2. Methods

2.1. Study design and setting

This qualitative study was conducted in 12 designated EmOC facilities in Kampala. Seven were designated CEmOC facilities (Health Centre (HC) IVs and hospitals) and expected to manage the major obstetric complications (Ministry of Health Uganda, 2022). Five were designated basic EmOC (BEmOC) facilities (HC IIIs and medical centres). Nine of the 12 facilities were purposively selected to include Kampala's major obstetric care providers (Kampala Capital City Authority, 2024). The remaining three facilities were identified from participants' responses about common sources of referrals. Skilled birth attendance in Kampala is estimated at 97%, largely (66%) provided by midwives/nurses (Uganda Bureau of Statistics, 2023). Emergency medical services (EMS) in Kampala involve different structures, including call and dispatch centres that coordinate ambulances for lower-level facilities (Kampala Capital City Authority, 2022). Kampala's call and dispatch centre was established in 2020 and has been associated with improved referral coordination (Ononge et al., 2023). The city's EMS centre is supported by the broader national emergency medical department, which provides standards and mobilises resources, among other functions. Amid increasing efforts to strengthen EMS services, challenges persist that hinder effective coordination (Ministry of Health Uganda, 2024). In 2023/24, approximately 72% of medical emergencies coordinated by the city's call and dispatch centre were maternal cases, most of which (>80%) were directed to the National Referral Hospital (NRH) (Kampala Capital City Authority, 2024). By design, Kampala's healthcare system, like the national health system, is hierarchical and reflects the expected flow of patients. Recommended referral pathways generally involve patients moving vertically through the system from the community to progressively higher levels. For example, a pregnant woman may be referred from a HC III to a HC IV, and subsequently to a general or referral hospital. Horizontal referral between facilities at the same level may also occur when appropriate (Cardno Emerging Markets USA L, 2017). In addition, national guidelines recommend that women with major obstetric complications be treated at CEmOC facilities (Ministry of Health Uganda, 2022). Within public health facilities, referral care, including emergency transport, is expected to be free of charge, as are other essential services. However, this may not always be the case, as out-of-pocket payments have been reported in childbirth care in Kampala (Magunda et al., 2023).

2.2. Study participants

The study population comprised SHP directly involved in the provision of childbirth care in the 12 designated basic and comprehensive EmOC facilities. This included midwives, nursing officers, medical officers, senior housing officers, and obstetricians. We aimed to select at least two SHP per facility who had worked at the facility for at least six months and had relevant experience in childbirth and referral care. Participants were purposively selected, primarily to ensure representation of different cadres, including in-charges and other staff working across maternity units, such as labour, postnatal and gynaecology wards. Participant selection at each facility also took into account data saturation. This approach allowed for exploration of diverse perspectives on obstetric referral practices. Apart from two facilities, between two and five participants were interviewed at each facility. In one facility, one participant was recruited due to the unavailability of eligible participants, and in the other, 10 participants were recruited to include

different SHP cadres from different maternity units, such as postnatal and gynaecology, and capture varied experiences in handling women with obstetric complications.

2.3. Data collection

We conducted individual interviews using a semi-structured interview guide developed for this study. The guide included open-ended questions that prompted participants to describe one of the most recent obstetric referrals they had made and/or received, specifying the referral destination/origin and detailing the process, including challenges faced. The first author (CB) and a trained research assistant conducted audio-recorded interviews between October 2023 and April 2024. The interviews lasted 30–90 min and were conducted in English on facility premises, in locations and at times chosen by the participants. Written informed consent to participate in the study, including permission for recording, was obtained from each participant prior to the interview. Each participant received Uganda Shillings 20,000 (about 5 U.S. dollars) as compensation for their time.

2.4. Data analysis

Interview recordings were transcribed verbatim. Based on participants' accounts of referrals to and from their facilities, we visually represented the referral linkages between the study facilities. We used thematic analysis, following the steps of familiarisation, coding, theme generation and reporting, to identify the factors influencing referral decisions and practices (Braun and Clarke, 2006). Initial open coding was conducted by CB, AK and JM using two transcripts. The resulting codes were reviewed collaboratively, with CB merging them into a single codebook. CB and AK independently applied this codebook to two other transcripts, and any suggested edits were reviewed and incorporated as necessary. CB then conducted full coding using the revised codebook in Dedoose software version 9.2.014, SocioCultural Research Consultants, Los Angeles (SocioCultural Research Consultants, n.d.). Code excerpts were extracted from Dedoose, reviewed, and categorised into relevant themes by CB. We analysed the themes and aligned them with the relevant constructs of the COM-B model, informed by the COM-B and Theoretical Domains Framework integration (Patey et al., 2023; Atkins et al., 2017; Michie et al., 2011). The COM-B model has been used in maternity care to understand the mistreatment of women by healthcare providers (Asim et al., 2023).

We conceptualised referral practices, such as pre-referral communication, documentation, professional accompaniment, and transportation arrangement, as '*behaviours*'. Themes describing structural and other external factors, such as resource constraints and interactions with colleagues, affecting SHP's ability to make appropriate referrals were categorised under '*opportunity*'. Themes reflecting emotional and psychological distress experienced by SHP during referrals were grouped under '*motivation*'. Meanwhile, themes capturing providers' knowledge and skills, including the need for training, were classified under '*capability*'. We present the findings organised according to these constructs as overarching domains, supported by illustrative participant quotes. In cases where participants mentioned a health facility name, it was replaced with the level of the facility or omitted for confidentiality purposes. We interpret 'appropriate referral(s)' as SHP making referrals in accordance with national guidelines, which outline their responsibilities in the referral process (Ministry of Health Uganda, 2022).

3. Results

3.1. Participant characteristics

We interviewed a total of 45 participants, majority of whom worked in public facilities (n = 30), were certificate/diploma-level midwives (n = 25) and were female (n = 39) (Table 1).

Table 1
Characteristics of study participants (n = 45).

Characteristic	Frequency
Mean age in years (range)	38 (24–54)
Gender	
Female	39
Male	6
Cadre	
Certificate/diploma Midwives	25
Graduate Midwives/Nurses	11
Clinical officers	2
Medical officers, Senior house officers, Specialists	7
Level of facility of practice	
HC IIIs or medical centres (BEmOC)	11
HC IVs (CEmOC)	8
Hospitals (CEmOC)	26
Sector of facility of practice	
Public	30
Private	15

3.2. Inter-facility referral linkages and referral facility choice

We found various referral linkages between study facilities. These are illustrated in Fig. 1 by facility level, showing where participants reported to refer and commonly receive women with obstetric complications. A major feature was that women were referred from all levels of care to the NRH, a pattern reinforced by a participant who stated that: *"Everyone believes that a mother should be referred to [the NRH]"*. While some participants referred to the NRH due to proximity, norms also contributed to this referral pathway—"*for us when we had just joined in, we found that they were referring to [the NRH], so we also continued referring there*"; as well as the hospital's acceptance of patients—"*it is a must they [NRH] have to receive the patient*". Additionally, the perceived lack of readiness of other receiving facilities, influenced by past experiences with under-equipped receiving facilities, was an important determinant of participants' choice of referral destination. This was compounded by the anticipated quality and speed of care at the receiving facilities. One midwife explained:

> *"We have to know where this mother will get faster assistance …. Like PPH [postpartum haemorrhage], you cannot take to [a HC IV] because you may end up losing this mother. They also look for blood, or they also end up referring the [same] mother to where you were going to refer"* (**Midwife, Public HC III**).

Another key feature is that clinics were common sources of obstetric referrals to all study facilities (*orange arrows*). Figure A.1 in the Appendix provides a more granular illustration of the referral linkages associated with each facility.

3.3. Factors influencing referral decisions and practices

We identified four themes that describe the main factors influencing referral decisions and practices among SHP aligned to the COM-B constructs in Fig. 2. Generally, while some participants acknowledged the existence of practices like pre-referral communication and documentation, others indicated a lack thereof. This was noted across both public and private facilities. For instance, a participant reported that "*within [the public health centres] sometimes they call … But sometimes they do not call; you just find a mother saying I have been sent here from such and such a facility, especially those coming from clinics*". A doctor from a private medical centre further highlighted, "*They [referring facility] never called, like us even sometimes we never call, so it is the referral system … it is not the standard, but that is the practice*".

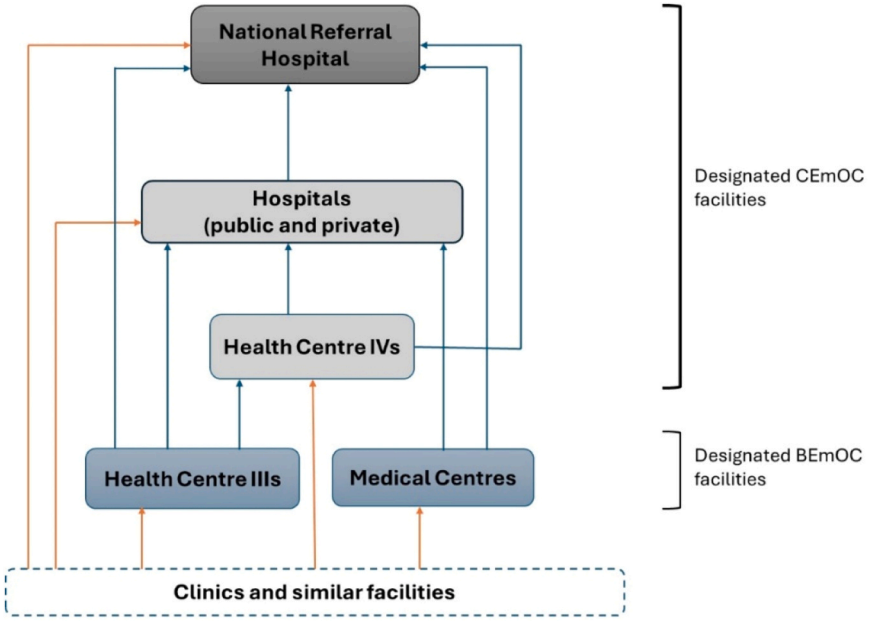

Fig. 1. Flow of obstetric referrals by facility level. **Source**: Participant responses. **Note**: Clinics are shown in a dotted box because they were not part of the facilities from which participants in this study were recruited. Participants reported them.

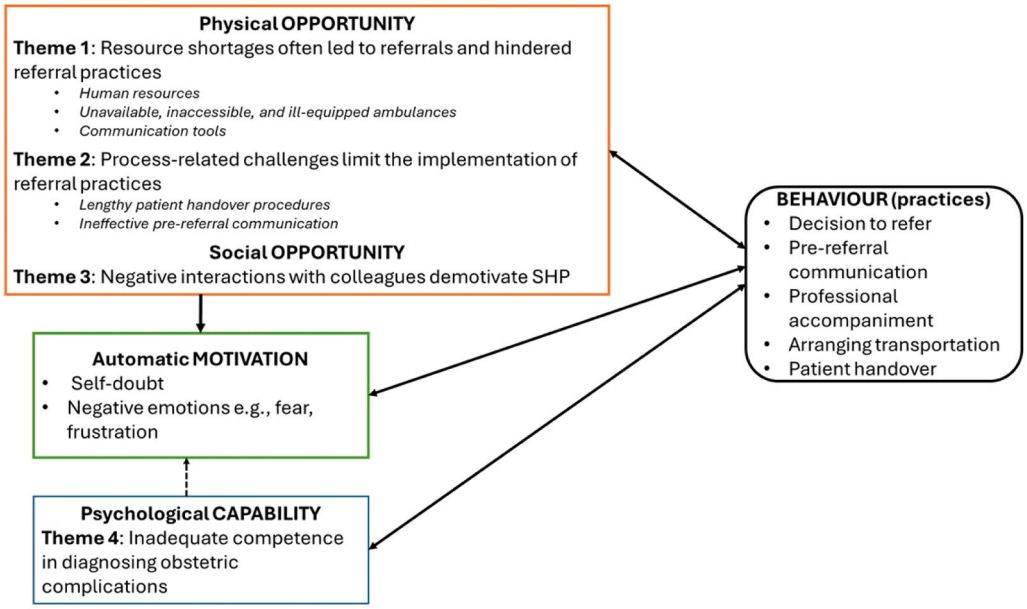

Fig. 2. Factors influencing referral decisions and practices among SHP. **Source**: Participant responses.

3.3.1. Physical opportunity

3.3.1.1. Theme 1: Resource shortages often led to referrals and hindered referral practices

3.3.1.1.1. Resource shortages as a driver of obstetric referrals. Participants often attributed the need to refer to the lack of resources, including inadequate infrastructure, the absence of critical personnel, and shortages of essential commodities. This was common among participants from designated CEmOC facilities, where inadequate infrastructure, such as operating theatres, admission space, and equipment like respiratory ventilators, was cited: "*We just referred because we did not have space….the theatre tables were all occupied*". A lack of supplies, such as theatre linen and blood for transfusions, compounded the infrastructural challenges. These were frequently reported by participants working in public health facilities. Additionally, the unavailability of critical staff like obstetricians and anaesthetists also caused some referrals, particularly in private facilities, where participants perceived it was better to refer than to wait for on-call personnel to arrive, thereby preventing treatment delays. A participant from a private facility explained: "*We had to refer… because we looked at calling our anaesthetist and the surgeon; it was really going to take time*".

Beyond resource constraints, women's ability to pay for required care ("*financial problems*") also contributed to referrals from private facilities, whereby after providing basic care to stabilise their condition, women unable to afford care were referred to public or more affordable private facilities. A midwife from a private hospital reported, *"We refer when there is no [money]…. [if] you cannot manage the bill, [we] give them the first aid and after stabilising you refer*." Financial constraints also

appeared to limit referrals from public to private facilities, as participants perceived most patients receiving care in public facilities to be financially disadvantaged. This made it impractical to redirect them to private facilities, which often referred women to public facilities due to the unaffordability of care.

3.3.1.1.2. Resource constraints as a barrier to the implementation of recommended referral practices. Lack of communication tools: Participants reported having inadequate tools and support for pre-referral communication. For example, due to unavailable or unfunctional facility phones, participants often used their personal phones to communicate referrals without reimbursement of their airtime (phone credit), which sometimes resulted in no pre-referral communication. Other participants raised concerns about the unreliable contact information for receiving facilities and time constraints among referring SHP.

> *"We have challenges; you call the numbers you are supposed to call, and they use airtime. They are not toll-free, and I am using my airtime. So even if I am supposed to call, sometimes I don't because of…[airtime costs]"*. (**Midwife, HC III, public**)

Inadequate staff to accompany referred women: Staff shortages hindered professional accompaniment by referring SHP. Some participants indicated facing dilemmas in prioritising accompanying referred women or continuing care for admitted women, as the participant below asked. Failure to accompany referred women was compounded by unreliable transportation back to their place of work for accompanying SHP, who often were unprepared to use alternative means to the ambulances, including a lack of money.

> *"How can you accompany one mother and leave others when you are alone on duty? Of course, they say we need a midwife to accompany the patient, that is the right way. But who will accompany the mother and who will remain here?"* (**Nursing officer, Public Hospital**).

Unavailable or inaccessible ambulances: Ambulances were frequently either unavailable at facilities or not easily accessible when needed for patient transfer, particularly from public health centres. The lack of ambulances stationed at referring facilities was a commonly reported challenge that resulted in delays during referral. Even when available, ambulances often lacked necessary resources such as fuel, oxygen, and supplies for appropriate patient transfer, impeding effective and safe patient transportation. Moreover, participants sometimes asked patients or their families to arrange their own transportation to circumvent the delays mentioned above. This, however, was perceived as a bottleneck by some participants, as when SHP failed to arrange transportation, patients either "*keep around*" the referring facility due to lack of money or "*end up diverting*" to other places, such as traditional birth attendants. In contrast, participants from hospitals reported fewer transport-related challenges, confirming that *"ambulances are always on standby*".

Long ambulance response times: We noted that some participants from HC IIIs and HC IVs credited the centralised ambulance coordination system for improving emergency transportation. However, others expressed dissatisfaction with long ambulance response times and the lengthy process for requesting them, perceiving it as a significant source of referral delays. Unfavourable road conditions, including bad roads and heavy traffic, further complicated ambulance access and patient transfer.

> *"Sometimes we get delays because you find that I have to call the call centre, then they are like: 'Okay, let me see which ambulance is free so that I send them there.' So, she takes time searching which ambulance is nearer, and when she gets the ambulance, it comes in jam; all those are delays"* (**Midwife, Public HCIV)**

3.3.1.2. Theme 2: Process-related challenges limit the implementation of referral practices. Process-related challenges were demotivating to SHP and limited the implementation of recommended referral practices. These challenges were particularly pronounced during the patient handover process at receiving facilities. While a few participants reported being received well when they accompanied referred women, many perceived the patient handover process at receiving facilities as unnecessarily lengthy and burdensome for the accompanying SHP. Participants reported feeling unsupported as they navigated unfamiliar organisational systems to register and admit referred patients. These challenges led to poor practices, such as accompanying providers abandoning women at the receiving facilities without proper handover.

> *"Sometimes when you reach the referring place, people do not receive you, you have to go and prepare for the patient yourself. You have to get a bed for the patient yourself. You have to figure it out yourself."* (**Senior Midwife, Private medical centre**).

> *"The [accompanying] midwife dumps you there because she is looking at the process….she doesn't know where labour ward is or where she should take that person"*. (**Midwife, Private hospital**)

To make matters worse, participants also faced unexpected challenges upon reaching the receiving facility despite prior communication. Some participants expressed frustration at the lack of preparedness and assistance at the receiving facility, even in cases where they accompanied multiple referrals.

> *"She communicated to the call centre, I expected to find when some people are eagerly waiting to receive me, at least for some help because I am one person taking two emergencies but then I did not find anything there. Even the stretcher to roll in the patients I did not find it there"* (**Midwife, Public HC III**).

3.3.2. Social opportunity and automatic motivation

3.3.2.1. Theme 3: Negative or disrespectful interactions with colleagues demotivate SHP. Negative attitudes and perceived mistreatment from colleagues demotivate SHP from implementing recommended referral practices. Some participants raised concerns about how their colleagues treated them at the receiving facilities. These accounts included being disrespected and undermined, unjust criticism, and receiving an unwelcoming reception. Such treatment caused referring providers to question their confidence in handling women with complications. It elicited several negative emotions, such as fear and frustration, which reduced their willingness to accompany referred women. A participant narrated:

> *"When you reach there, you'll receive abuses like they have brought them here, they don't have money, you have taken all the money from them…. they speak so many things […] sometimes you even fear taking a mother there, thinking that they are going to say I have done this and that, even if you have done nothing"* (**Midwife, Private Hospital**).

One participant's account further accentuated this issue of negative or disrespectful inter-provider interactions, highlighting important elements of the interaction between referring and receiving SHP. The participant recounted a referral they made for a woman with pre-eclampsia, emphasizing that "*I really saw she was an emergency for emergency obstetric care*". However, having administered standard pre-referral treatment, the woman's pressure had reduced and stabilised by the time she reached the receiving facility (the participant did not accompany this patient). Unfortunately, upon following up with the referred woman, the participant recalled: "*She told me the midwives said it is like this midwife who is referring doesn't know what she is doing*". This made the participant feel undermined as she stated: "*It treats us badly because they look at us as if we don't know*". She indicated that such attitudes and treatment were uncalled-for as they often overlook pre-referral treatment. She notes: "*before she [receiving staff] even reads the referral note, she is already shouting at you [that], 'you have said high blood pressure, now see it is 120 how (…)' but she has not even read the*

interventions we have done". Consequently, these kinds of interactions may lead providers into substandard practices as the participant highlighted: "*We are really asking ourselves, should we refer these mothers without doing anything before they look at it as an emergency?*"

3.3.3. Capability

3.3.3.1. Theme 4: Inadequate competence in diagnosing obstetric complications. Our findings further indicated a potential competence gap among some SHP in diagnosing obstetric complications (psychological capability), which is linked to referral decision-making. Some capacity gaps were implied by participants' accounts of the reactions they received regarding the referrals they made. Several participants reported that the referrals they made, "*knowing it is an emergency*", were often not perceived as such upon arrival at the receiving facility. In these cases, the referring SHP was sometimes considered unknowledgeable by their colleagues, as one participant shared:

> *"When we [refer] cases and a mother ends up in a normal delivery, there is a way they treat it differently. They [say] that maybe we don't have enough knowledge, we don't know how to assess [the patient's condition]"* (**Midwife, Public HC III**).

The possible gaps in knowledge were reinforced by the need for training of health workers across the city in EmOC and referral, expressed by several participants- "*we need to carry out continuous training; we should update our knowledge*". Two key areas of need were highlighted: the handling of emergencies, where "*people have to be trained on how to handle emergencies*", and providing basic obstetric services, especially in lower-level health facilities. "*They should train those peripheral facilities to do [provide] the basic services*".

While some participants acknowledged that the referral system had improved due to better coordination "*coordination is good at the moment*", others perceived that it was lacking, as one doctor (public hospital) explained:

> *"If you keep getting referrals, maybe it is an indication that it is not working well where the mother is coming from. Especially if the mother comes from a facility that should be able to provide that service. If the mother is referred, then the question is, what has failed [on] that side? And if the referrals keep on happening, then maybe whatever is failing is not being addressed"*.

4. Discussion

We explored factors influencing obstetric referral decisions and practices among SHP in Kampala, through a behavioural lens. The results indicated a high concentration of referrals directed to the NRH. Inadequate opportunities, including resource shortages, process challenges and negative or disrespectful interactions, emerged as the major determinants of obstetric referral decisions and practices. Additionally, financial constraints influenced certain referral decisions.

Our findings showed that resource shortages (physical opportunity) were a major contributor to referral inefficiencies, including possible unnecessary referrals and suboptimal practices. Resource constraints causing obstetric referrals (Selemani et al., 2024; Ofosu et al., 2021) and impacting referral system functionality have been reported in other cities in SSA (Kanyesigye et al., 2022; Ameyaw et al., 2020; Mengist et al., 2024; Daniels and Abuosi, 2020; Ofosu et al., 2021). Referrals due to inadequate resources are justifiable based on Ugandan guidelines, which recommend referral when available resources are insufficient to manage a case effectively (World Health Organization, 2016). However, some of these referrals, especially those initiated by designated CEmOC facilities, may still be unnecessary, that is, avoidable. These facilities are expected to manage most major obstetric complications, with HC IVs and general hospitals serving as first-line receiving facilities. Therefore, reducing referrals from these facilities by improving their readiness to treat major complications and maintaining their functionality (Bailey et al., 2019) could improve system efficiency and help decongest the NRH. Adopting alternative referral modalities to patient transfers, such as transferring resources or critical staff to the referring facility (World Health Organization, 2023), and implementing strategies like resource sharing and demand distribution (Fattahi et al., 2023), are possible ways to address resource challenges as a driver of referrals. Resource sharing involves EmOC facilities with adequate resources sharing with those that express a need for a given resource. Demand distribution involves redistributing obstetric cases within a network of referral EmOC facilities, which would help to reduce overcrowding in some referral facilities (Fattahi et al., 2023).

Relatedly, this study's findings showed that physical and human resource shortages further hindered SHP from implementing recommended referral practices. This relates to studies linking resource constraints to suboptimal provider behaviours (Engl et al., 2019; Reddy et al., 2022). The finding suggests that performance gaps may persist despite the presence of competent and motivated SHP when essential resources are lacking. In response to the resource constraints, SHP may develop various coping strategies that contribute to substandard services and performance gaps, including referral to avoid blame (Mukuru et al., 2021). The apparent misalignment between service delivery expectations placed on SHP and resources available to them highlights the need to address chronic structural constraints in Kampala's health system to provide SHP with a supportive environment and to facilitate optimal accountability in meeting expected standards of obstetric care.

Resource challenges in Kampala may be unsurprising, as its population growth has not been matched with relevant health infrastructure development. With the highest resident and daytime urban population in Uganda, which is largely (60%) of low socio-economic status and dependent on the limited public sector for healthcare services (Kampala Capital City Authority, 2024). Resources are further constrained by a significant proportion of obstetric cases referred from other districts handled by facilities in cities (Birabwa et al., 2024a). Consequently, Kampala's health systems continues to struggle to meet existing demand for maternal healthcare, especially within the public sector. The population-resources gap could be attributed to failures of the health system to plan, generate, and distribute resources that match the actual city's population dynamics, which is critically influenced by system governance (Papanicolas et al., 2022). Despite its complexities and realities, Kampala follows local governance systems as other districts, which may need to be revised. Issues such as referral delays due to the unavailability or inaccessibility of ambulances underscore the need to strengthen the coordination system. Studies recommend optimising ambulance locations, positioning them strategically to reduce response times (Jankovič et al., 2025; Becker et al., 2023).

Our results further highlighted key process challenges that undermine SHP's efforts to make appropriate referrals, particularly during the handover of patients at the receiving facility. These challenges, such as admitting the referred patient by the accompanying SHP, could be perceived as 'hassles' that result in SHP avoiding or delaying referrals. The process challenges suggest a lack of streamlined referral processes or inadequate guidance, which contribute to role conflicts, uncertainty, and poor accountability. In Kampala, for example, while clinical guidelines guide who, when, or where to refer (Ministry of Health Uganda, 2022), explicit referral policies are yet to be fully implemented (Ministry of Health Uganda, 2020). Similar to a study in Kampala (Alaleit et al., 2023), our findings also suggest the need to strengthen the centralised ambulance coordination system, which was identified as a major contributor to referral delays.

Our findings on the potential linkage between negative or disrespectful provider interactions and motivation suggest that addressing interpersonal challenges by reducing conflicts and strengthening collaborative practices could improve referral practices. Mistreatment of referring SHP by colleagues has been reported in other urban settings

(Kanyesigye et al., 2022; Selemani et al., 2024). Based on accounts from a few study participants, disrespectful treatment could result from a lack of pre-referral communication, which was sometimes hindered by resource constraints, stressing the need for an enabling environment. Leape et al. explain that disrespectful behaviour among SHP could be due to weak regulatory systems that fail to reinforce good conduct or poor work environments, as providers try to adapt to challenging working conditions (Leape et al., 2012). Besides affecting their motivation, poor attitudes and disrespectful treatment from their colleagues also undermine SHP's power during referral, which may affect decision-making, and ultimately patient outcomes (Sripad et al., 2023).

4.1. Implications for policy and practice

Our findings suggest that SHP fail to perform recommended practices during referral due to a constraining environment, including disrespectful treatment from their colleagues, and capacity gaps. The findings have the following implications:

The findings suggest the need for strengthening Kampala's health and referral systems, particularly through improved resource generation and governance. This would help address Kampala's chronic resource challenges by ensuring proper resource planning and adherence to quality standards during the provision of EmOC services (Papanicolas et al., 2022). Resource generation efforts should include increasing the availability and accessibility of functional ambulances, with clearly defined operational arrangements, including responsibility for fuelling, stocking, and maintaining them. This would require collaborative efforts led by the Ministry of Health and the city authority. Management and oversight of the referral system should be strengthened as part of the governance solutions, including providing clear guidance on collaboration across SHP or multidisciplinary care, with well-defined roles and responsibilities. Ensuring that the necessary referral capacity is built is also key, supported by adequate supervision arrangements by relevant regulatory bodies in the city. This may help regulate provider behaviour and mitigate negative effects on others' motivation. Additional training of SHP in appropriate patient handover during referrals, including how to receive referrals, may also help to reduce negative or disrespectful interactions between colleagues and minimise delays at receiving facilities.

Furthermore, the findings also highlight the need to better regulate and support private clinics. These clinics account for the largest proportion of health facilities that report childbirth services in the city (Birabwa et al., 2024b) and are a common first point of care for many women experiencing obstetric complications (Birabwa et al., 2024a). However, in this study, clinics were frequently reported to refer women to facilities at all levels, suggesting that they may lack the capacity to provide quality childbirth and referral care. This potentially contributes to suboptimal pre-referral patient management, delayed treatment and adverse maternal outcomes. Strengthening oversight, regulation and capacity of private clinics could improve referral effectiveness and perinatal survival.

Additionally, our findings on the interfacility referral linkages indicate that establishing and supporting the implementation of standardised patient care and referral pathways by the Ministry of Health and local governments could improve the quality of EmOC in Kampala. These pathways should be designed to reduce over-reliance on the NRH. Given the influence of financial constraints, as SHP try to identify alternative places of care or transportation means, expanding health insurance to cover referrals could help reduce delays in women accessing timely EmOC. Policy makers should ensure that community and national health insurance schemes cover referral-related costs, including transportation.

4.2. Strengths and limitations

Drawing on perspectives of several dozen SHP working in key EmOC health facilities in Kampala City and using a behavioural approach, this study advances a provider-centered understanding of referral system functioning and bottlenecks. The study includes perspectives from SHP at different levels of service delivery, from both public and private facilities, and different cadres. Nonetheless, the study has some limitations. First, it focused on provider referrals and therefore, insights might not apply to self-referrals. Experiences of women who were referred were not explored, which could have enriched the description of obstetric referral dynamics. Similarly, the study includes a purposive sample of health facilities, which may not represent all EmOC facilities in Kampala, especially private health facilities. Additionally, the study did not include SHP working in any of Kampala's neighbouring districts. Second, the sample primarily comprised of midwives. Therefore, the findings might not adequately reflect the needs of other SHP and health workers involved in obstetric referrals or general emergency care, including emergency response teams, ambulance drivers, dispatch centres and other emergency medical services staff. Understanding the needs of these diverse groups of actors and their 'work environments' will enrich the design of tailored interventions by highlighting potential areas of adaptation or additional approaches. Third, the study only includes participants' accounts of the referral process, which may have been influenced by uncommon but memorable past experiences in referring women with complications. These accounts may not fully represent routine obstetric referral practices or the broader referral context, providing limited insight into how providers actually behave during referrals and why.

4.3. Implications for future research

Our results indicated the potential influence of behavioural barriers on referral practices that need further exploration by studies examining behaviours of SHP during referral and other essential maternal health services. Multiple methods, including observations, should be adopted in these studies. Understanding cognitive and other behavioural barriers will help better understand why SHP behave as they do. Subsequently, targeted interventions can be integrated into existing strategies to optimise performance. Further sociological studies that go beyond individual behaviour are necessary to examine how professional norms and collaboration across healthcare institutions, including ambulance systems, can be improved. Future studies should also explore the feasibility of an integrated network of referral EmOC facilities targeting both public and private facilities in and around Kampala.

5. Conclusion

Our findings show that SHP in Kampala are unable to implement recommended referral practices as expected primarily due to insufficient physical opportunities, which also affect their motivation. Inadequate resources and negative or disrespectful provider conduct remain key challenges. Policy makers and implementers should improve resource availability, streamline referral processes, and enhance collaboration among SHP to facilitate appropriate referrals. Future studies should examine behavioural barriers underlying obstetric referrals and explore social interactions among SHP to identify mechanisms for improving collaboration and coordination.

CRediT authorship contribution statement

Catherine Birabwa: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Lenka Beňová:** Writing – review & editing, Supervision. **Peter Waiswa:** Writing – review & editing, Supervision. **Josefien van Olmen:** Writing – review & editing, Supervision. **Aduragbemi Banke-Thomas:** Writing – review & editing, Supervision. **Jil Molenaar:** Writing – review & editing, Formal analysis. **Amani Kikula:** Writing – review & editing, Formal analysis.

Ethics

All procedures were performed in compliance with relevant laws and institutional guidelines and have been approved by the appropriate institutional committee(s): Makerere University School of Public Health (SPH-2021–169), the Uganda National Council for Science and Technology (HS1952ES), the Institute of Tropical Medicine Antwerp (1529/21) and the University of Antwerp Hospital (2021–1743). Care was taken to maintain data confidentiality and observe participants' privacy by de-identifying/pseudonymisation. Written informed consent to participate in the study, including permission for recording, was obtained from each participant prior to the interview.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix

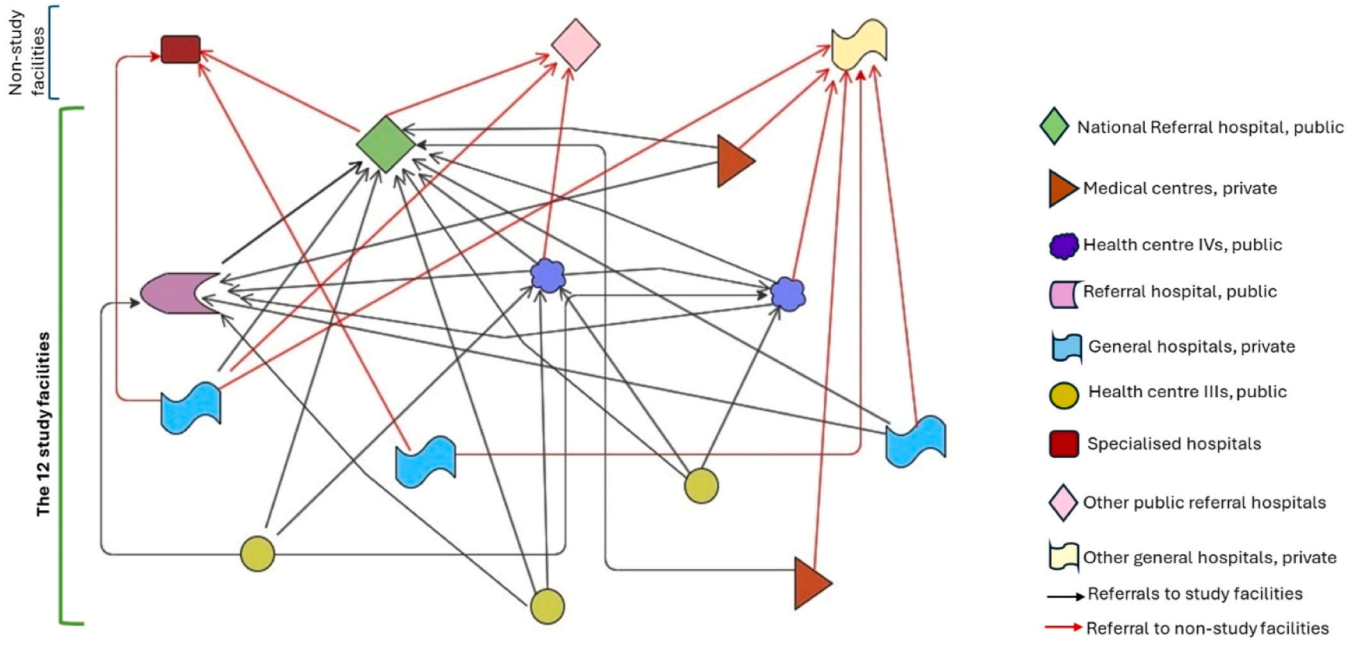

Figure A.1. Referral linkages associated with each study facility. **Source**: participant responses

Data availability

The data supporting the findings of this article are available from the corresponding author at reasonable request.

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