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"Sometimes you have knowledge but lack the equipment to save a life": perspectives on health system barriers to post-abortion care in Liberia and Sierra Leone

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Abstract

Background Abortion is largely restricted in Liberia and Sierra Leone, with exceptions under limited conditions. Consequently, women and girls seeking induced abortion care in these settings resort to unsafe methods, resulting in severe complications. Post-abortion care (PAC) is a lifesaving obstetric intervention to address abortion-related complications, but access to quality and comprehensive PAC in health facilities is daunting. Research on barriers to PAC, drawing on perspectives from diverse stakeholders, is critical to inform specific programmatic improvements to enhance access to quality PAC services.

Objectives This study explored stakeholders' perspectives on the barriers to quality PAC across health facilities in Liberia and Sierra Leone.

Methods This cross-sectional qualitative study targeted PAC providers in selected health facilities and policy actors in Liberia and Sierra Leone. We conducted in-depth interviews with 33 healthcare providers – 8 in Liberia and 25 in Sierra Leone; and 13 policy actors – 8 in Liberia and 5 in Sierra Leone. The policy actors included representatives from religious institutions, ministries of health, civil society organizations, and non-government organizations working on sexual and reproductive health (SRH) issues. Audio files of the interviews were transcribed verbatim in the original language of the interview and translated into English by expert translators. A deductive and inductive approach was used to develop a codebook to code the interviews in Dedoose software. Data analysis was conducted using the thematic approach.

Findings Diverse viewpoints of what constitutes quality PAC existed among stakeholders in Sierra Leone and Liberia, and these variations are reflected in their practices and behavior around PAC services. Our analysis revealed some weaknesses and gaps in PAC delivery, including a lack of trained providers, which was more pronounced in Sierra Leone than in Liberia. In both countries, the absence of functional PAC equipment, inadequate PAC supplies, and infrastructure-related challenges (e.g., lack of rooms with audio-visual privacy during PAC service) were commonly

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cited. Limited audio-visual privacy complicated provider-patient interactions, with providers mentioning that this makes patients withhold vital information during history-taking. Providers had no or limited knowledge of the law, and best practices around PAC, leading to delays, denial of services, overcharging fees, and stigmatization of some patients.

Conclusion Despite existing policies and interventions on post-abortion, many health facilities in Liberia and Sierra Leone lack essential post-abortion care equipment and supplies and trained providers. There is a need to recruit and train willing providers, along with a clear referral system. Further, sensitizing health providers, stakeholders, and communities on abortion-related policies, guidelines, and value clarification could help improve post-abortion care service provision and uptake.

Keywords Abortion, Sierra Leone, Liberia, Post-abortion care, Quality of care, Qualitative research

Text box 1. Contributions to literature

a) Stakeholders in Sierra Leone and Liberia have varied understandings of what constitutes quality PAC, which is reflected in how they prioritize elements of care such as provider qualification and supply availability in health facilities.

b) Significant weaknesses and gaps exist in health facilities' capacity to deliver quality PAC, with a lack of provider training and absence of critical equipment prominently reported

c) The absence of PAC equipment and infrastructure directly diminishes the quality of PAC, affecting patient experiences and limiting client privacy, confidentiality and dignity.

d) There is limited awareness and knowledge of abortion laws and PAC guidelines, resulting in delays in accessing care, denial of services, and patient stigmatization.

Introduction

Post-abortion care (PAC) is recognized as a critical package of emergency obstetric care for reducing abortion-related morbidity and mortality and contributes to the reduction of unplanned pregnancies through the provision of post-abortion contraceptives [1]. At the 1994 International Conference on Population and Development (ICPD) in Cairo, 179 countries committed to addressing abortion-related maternal deaths and illnesses by availing PAC services to all women, whether they have had induced or spontaneous abortions [2]. PAC focuses on the treatment of complications, provision of post-abortion contraceptives, general counseling to address the psychological distress experienced, and referral of cases requiring further management [3]. In addition, comprehensive PAC addresses testing of sexually transmitted infections (e.g., HIV) and linkage with community systems to address causes of unintended pregnancies and unsafe abortions [1].

Despite the recognition of the role of PAC in women's health, several women in sub-Saharan Africa (SSA) still face difficulties in accessing quality and comprehensive PAC [4, 5]. There is significant evidence affirming the low capacity of health facilities to provide both basic and comprehensive post-abortion care in the region. For instance, a multi-country analysis, conducted across several SSA countries using service provision assessment datasets showed that less than 10% of primary facilities and only about 40% of referral facilities could provide basic and comprehensive PAC, respectively [6]. Further, Juma et al. in 2022 reported that across Burkina Faso, Kenya, and Nigeria, only 6.3–12.1% of primary health facilities could provide basic PAC, whereas about 29.6% of referral-level facilities in the same countries were equipped to provide comprehensive PAC [5]. Other barriers to quality PAC include poor providers' attitudes, inadequate knowledge of abortion, and lack of awareness of PAC, and provider morality and religion [7–10].

Limitations in access to quality PAC contribute to repeat unintended pregnancies, repeat unsafe abortions, delays in care, higher costs of care, maternal near misses, and maternal deaths [11, 12]. Liberia and Sierra Leone have some of the world's highest maternal mortality rates [13, 14]. A significant proportion of these deaths are associated with abortion-related complications [15–17]. Abortion laws in Liberia and Sierra Leone are framed within the penal or criminal codes and are largely restrictive, allowing safe abortions under limited conditions. In Liberia, the Offenses Against the Family section of the Penal Law only allows abortion to preserve the physical and mental health or the life of the woman, and this should be before 24 weeks of gestation. In addition, abortion is allowable in cases of rape or incest or other felonious intercourse and the event of fetal impairment. Notably, for a woman to be eligible for an abortion, two licensed physicians must certify that she meets the set standards [18]. In Sierra Leone, the Offenses Against Person Act of 1861 allows abortion only to save the pregnant woman's life [19]. Consequently, a majority of women in need of abortion services resort to unsafe abortion methods and procedures, which result in severe and life-threatening complications. Women experiencing induced abortion-linked complications, as well as those experiencing miscarriages, need to receive medical attention in health facilities to preserve their health and life [11].

Timely access to PAC in much of SSA has been recognized as critical, especially in these contexts with restrictive abortion laws and where the social-cultural norms

generally disapprove of abortion [4]. Whereas abortion rates remain largely similar across SSA countries, abortion-related mortalities differ by country [20, 21] and could reflect the variations in the extent to which individuals can access quality PAC [22, 23]. As such, most SSA countries have increasingly invested in expanding access to PAC through cost-effective approaches, such as task shifting and sharing and training of mid-level providers to offer services, including manual vacuum aspiration (MVA) and medication abortion for uterine evacuation purposes [8]. Safe and effective PAC requires the availability of essential infrastructure (e.g., MVA rooms), equipment such as MVA kits, supplies and commodities (e.g., antibiotics, blood and blood products).

Understanding the health system barriers to quality PAC is critical and could offer specific insights into gaps, challenges, and potential programmatic improvements that could enhance access to quality PAC [10]. Previous studies assessing barriers to PAC reported key factors, such as stigma and discrimination, poor patient-provider interactions, and poor health system readiness for PAC [10, 24, 25]. However, further interrogation is required on the service-level obstacles to PAC, especially from stakeholders who offer multiple perspectives to further illuminate this topic. This paper draws on data from two West African countries that share some similarities but also have varying legal frameworks for abortion and different health system structures. Moreover, the two countries have weakened health systems, having emerged from the 2014 Ebola epidemic and, more recently, the COVID-19 pandemic, and have previously had some of the highest maternal mortality ratios globally. This paper explores key stakeholders' perspectives on the barriers to offering and accessing quality PAC in health facilities in Liberia and Sierra Leone. The paper also offers a comparative analysis of the perspectives of health providers and policy actors on the service-level barriers to quality PAC in Liberia and Sierra Leone.

Methods

Study design and setting

This was a cross-sectional qualitative study conducted as part of a larger mixed methods study aimed at estimating the incidence of abortion, severity of abortion-related complications, cost, and quality of post-abortion care in Liberia and Sierra Leone [26, 27]. The qualitative component of that large study, reported in this paper, focused on exploring the perspectives of health providers and policy actors on access and provision of quality PAC in the two countries.

Liberia and Sierra Leone are West African countries bordering each other and have estimated populations of five million and six million, respectively [28, 29]. The laws regulating abortion in both countries are largely restrictive, as described above. However, there are ongoing legislative and policy reform processes in both countries that, if successful, could alter the existing abortion legal framework. In Liberia, the government has proposed a review of the Public Health Law that would include a provision expanding access to abortion up to 18 weeks of gestation if performed by a doctor [30]. Similarly, an already drafted Safe Motherhood & Reproductive Health Bill in Sierra Leone will facilitate increased access to information and services related to sexual and reproductive health (SRH) issues [31]. These initiatives will empower women to make informed decisions about their reproductive health, thereby mitigating the risk of unsafe abortions.

Study population

The study population encompassed a mix of stakeholders, including health providers (e.g., nurses, midwives, doctors, and gynecologists) involved in the provision of PAC services within selected health facilities in both countries. Further, we included policy actors, defined as individuals from the ministries of health and civil society organizations and non-governmental organizations working on sexual and reproductive health rights (SRHR) issues. Details of the participants are presented in Table 1.

Sampling and recruitment

First, we identified health facilities of varying health system levels across various regions in each country. Since sampling for the larger study was nationally representative, we purposively targeted health facilities that were reporting higher PAC caseloads. We believed having providers from high-volume facilities would offer more robust perspectives from the provider's own lived experiences providing PAC services. Within the selected health facilities, we recruited a provider managing the facility or directly involved in the day-to-day provision of PAC services at that facility. At large referral or regional hospitals, participants were the head of the obstetrics and gynecology departments or a key obstetrician-gynecologist working in the facility. However, at lower-level facilities, a nurse, a midwife, or another health worker knowledgeable about PAC services provided in the facility was interviewed.

The policy actors from both countries were purposively sampled based on their level of knowledge and expertise in SRHR issues. The list of potential interviewees was generated collaboratively with the partners from the ministries of health (in both countries) and with Statistics Sierra Leone (in Sierra Leone) and Clinton Health Access Initiative (CHAI) in Liberia. These policy actors included representatives from religious institutions, the ministry

Table 1 Characteristics of in-depth interview participants in Liberia and Sierra Leone (2021)

Participants' Characteristics		Liberia		Sierra Leone	
		Providers (*n* = 8)	Policy Actors (*n* = 8)	Providers (*n* = 25)	Policy Actors (*n* = 5)
Sex	Male	4	-	7	-
	Female	4	-	18	-
Facility level	Tertiary (National referral hospitals)	3	N/A	0	NA
	Secondary (Health centers)	5	N/A	20	NA
	Primary (Clinics)	0	N/A	5	NA
Cadre of health provider	Doctor/OBGYN	2	N/A	4	NA
	Nurses/Midwives	6	N/A	21	NA
	Program officers	N/A	4		-
	Health Managers	N/A	4	-	5

of health, civil society organizations, non-government organizations (e.g., program implementers), and officers.

Data Collection process

Data collection was through in-depth interviews conducted by trained research assistants using an interview guide that allowed the gathering of detailed information ranging from provider awareness and knowledge of PAC policies and guidelines, PAC service delivery, PAC infrastructure (equipment and commodities), staffing, and staff training on PAC (Supplementary materials 1–4). Research assistants (two in Liberia and ten in Sierra Leone) were taken through a five-day training focusing on the study objectives, target population, ethical considerations, interviewing and observation techniques, and mitigation of potential psychological risks to study participants. We also piloted the interview guides to ensure they were comprehensive enough for use. Interviews were conducted at a quiet location mutually agreed upon by the research assistant and the participant, mostly within health facilities for health providers and official premises of an organization where a policy actor was comfortable. All interviews were audio-recorded and uploaded to a password-protected google drive folder accessible to only the research team. Additional interview notes were taken to contextualize each interview. Data collection processes for this study took place between October 2020 and February 2021.

Since data collection for the study occurred during the COVID-19 pandemic, specific steps were taken to protect both the study team and the research participants. In all cases, personal protective equipment such as gloves, masks, and hand sanitizers was provided and used by the study team.

In both countries, we conducted 33 in-depth interviews with health providers. To triangulate data from the health providers, we also conducted 13 key informant interviews with policy actors (as shown in Table 1).

Data Analysis

All interviews were transcribed verbatim in the original language in which the interview was conducted by trained qualitative transcribers and then translated to English and back-translated by an expert translator. Two co-authors (VO and RO), who are anthropologists, developed the codebook with inputs from other co-authors and performed data coding and analysis. The codebook was developed using both a deductive approach (drawing from the study objectives and tools) and an inductive approach (from a set of transcripts), and reviewed by the co-authors before data coding began. Two transcripts from health providers and two from policy actor interviews were selected for an inter-coder reliability test to assess the consistency in coding between the two coders. Transcript coding was performed in Dedoose software, with the findings reported in a thematic format.

Findings

Analysis of the 46 interviews from the two countries revealed four distinct themes and sub-themes, reflecting the perspectives of health providers and policy actors on the quality of PAC provision and challenges in Liberia and Sierra Leone. The four themes were—1) the capacity of health facilities to provide PAC, 2) unclear policies, guidelines, and laws around PAC, 3) religion as a barrier to PAC, and 4) patient perception of PAC as a last resort.

Before focusing into the four themes, we first provide participants' understanding of quality post-abortion care. Participants from both countries recognized the critical role of quality post-abortion care in averting severe outcomes, such as maternal near-miss and deaths resulting from abortion complications. However, there were differences in how some health providers and policy actors defined quality PAC. Some argued that quality PAC is a comprehensive package of essential elements that include the availability of skilled and trained providers of PAC, equipment and supplies for PAC, and timely delivery of services. One health provider in Sierra Leone was emphatic that PAC is only considered quality when

the various elements are all present and that care ceases to meet the quality criteria in case any is absent. For instance, the health provider argued, *"if you have trained and qualified staff but lack equipment and drugs, there is no quality in the PAC services…"*.

On the contrary, a health provider in Liberia considered PAC as quality based on the process elements, and focused on the technical suitability of care procedures, such as capturing patient history, examination, treatment of complications, counseling, and referral where needed, as indicated in the quote below:

> *"You take the patient's history, conduct examination, treat with antibiotics in case of infection and, if in-complete abortion, you evacuate the retained products, then discuss follow-up visit, then deliver family planning counseling" (Midwife, Secondary Facility, Liberia).*

The range of perspectives highlighted above reflects the variations in views that health providers have on quality PAC. These views influence their routine clinical practice and response to patients' needs and justify the need for greater dissemination of PAC clinical standards and guidelines in both countries.

The sections below present key themes that highlight the aspects of PAC and the challenges and experiences surrounding its delivery in Liberia and Sierra Leone.

Capacity to provide post-abortion care

Themes related to health facilities' capacity to deliver PAC were the availability of PAC equipment and supplies, PAC referral system, PAC Infrastructure (e.g., shared consultation rooms, dedicated MVA or PAC room), and PAC training and skills. These are presented in turn below.

PAC equipment and supplies

PAC-specific equipment and supplies (such as manual vacuum aspiration sets and antibiotics) are indispensable in delivering quality and comprehensive PAC. Interviews with health providers and policy actors revealed rampant absence of essential equipment, especially in primary-level facilities and some secondary facilities. A policy actor in Liberia reflected on this challenge and indicated that it was commonplace in facilities across the country:

> *"The resources are inadequate in terms of the MVA kits [equipment]; most facilities do not have MVA kits, and this makes PAC service provision difficult…" (Senior Official, MOH, Liberia).*

Consequently, patients presenting at such facilities may not get PAC, and as described by a provider in Sierra Leone, they tended to examine and refer all their PAC patients to higher-level facilities for appropriate care:

> *"We refer to bigger facilities because we do not know the severity of the thing that they have done already to remove the pregnancy, and we do not even have the MVA equipment" (Midwife, Primary Facility, Sierra Leone).*

Referral of PAC patients to higher-level facilities presents logistical and cost challenges to patients and sometimes leads to extensive delays in care, further worsening the situation. Participants told us that the lack of equipment in public health facilities in Liberia forced some women to seek care in private health facilities, where the charges are higher, and some women or households may be unable to afford, thus limiting access to timely care or sometimes incurring catastrophic health expenditures:

> *"They do not have the equipment…the woman might have to go to a private facility which would then charge what they want" (Program Implementer, INGO, Liberia).*

However, few providers in secondary facilities indicated they had the necessary PAC equipment, despite their poor functionality. For instance, a provider in Liberia lamented how the available MVA kit was *rusty* and *faulty* or *incomplete* and that she had *''been using the same equipment for a long time now…it is rusted and became hard to use.*" The same situation was noted in Sierra Leone, as alluded to in the quote below:

> *"We do not have enough instruments to perform PAC services, and some are not working well. So, we find it difficult…" (Midwife, Secondary Facility, Sierra Leone).*

The condition of PAC equipment was linked to a lack of proper maintenance. One provider noted that "*there is no proper monitoring (maintenance), so equipment gets easily spoiled.*" Few providers in Sierra Leone also admitted to mishandling the available MVA kits by failing to properly sterilize and store them as required after use. Using equipment that is not properly functional inflicts pain and infections, exposing the patients to new complications. A midwife from Liberia warned of the negative implications of using faulty equipment: "You *cannot use dirty or faulty instruments for doing PAC because that can do more harm.*"

Health providers voiced frustrations about using non-functional equipment; some resorted to purchasing their own MVA kits that were only used in the facility when the owners were present. While this strategy helped

sustain the provision of PAC services to patients, it was limiting and inconsistent, especially when providers who owned the equipment were away. A midwife from a facility in Sierra Leone explained that:

> *"…MVA equipment are not there readily, even when there is a uterine evacuation case. They are privately owned … If there is a case requiring MVA, we call the owner of the instrument who must come and do it" (Midwife, Secondary Facility, Sierra Leone).*

Health providers and policy actors emphasized that quality PAC remains difficult to achieve in health facilities if essential PAC supplies and commodities (e.g., blood, sterile gloves, gauze, pregnancy kits, medication abortion drugs, antibiotics, and pain medication) are unavailable. PAC supplies (e.g., *gauze and sterile gloves)* are crucial for facilitating examination and effective treatment and preventing complications, such as infections. Interviews with providers suggested that unavailability or stock-outs of PAC supplies was more pronounced in Sierra Leone compared to Liberia. Providers in Sierra Leone decried the rampant stock-outs and the effects this has on PAC patients, who often end up being sent to private pharmacies, incurring extra and higher costs, as noted in the quote below:

> *"Sometimes not all the drugs are available…it can take two or three months without drugs…you may want drip [Intravenous drip] you need an injection, you must prescribe medicine and tell them (or their relatives) to buy and bring to us…" (Midwife, Primary Facility, Sierra Leone).*

Some providers in Sierra Leone resorted to using their own money to get the necessary supplies and commodities to '*save the woman's life'*, but this practice became overwhelming and unsustainable as patients increased. This view is captured succinctly as a provider said:

> *"Sometimes we do not have these drugs [misoprostol] to save life, we use the misoprostol to control the bleeding [during evacuation of the conceptus]… you have to take your money to buy it because you do not want to lose the patient…" (Midwife, Primary Facility, Sierra Leone).*

Providers in Sierra Leone blamed the PAC situation in their health facilities on limited support from the government:

> *"The government is not providing supplies for free health services, especially in the area of maternal care and we are struggling over that, it is stressful" (Midwife, Secondary Facility, Sierra Leone).*

While stock-outs of PAC supplies and commodities were not severe in Liberia, providers revealed that patients are often made to pay extra costs to purchase certain supplies needed for care at their facilities. In both countries, providers cited extensive delays in the provision of PAC whenever patients lacked money to pay.

PAC referral system

Referral of PAC patients to higher-level facilities was noted as a frequent practice when facilities lacked functional PAC equipment and essential supplies and in cases where patients had severe complications requiring advanced attention. However, providers enumerated challenges they encounter during referral, such as the absence of properly equipped and staffed ambulances and the use of public transport systems, as noted in the quote below:

"If the ambulance is unavailable, they have to find a commercial vehicle to carry them or sometimes we have to use our own money to save women's lives" (Midwife, Secondary Level, Liberia).

Health providers in both countries admitted to facilitating the referrals of PAC patients who were in critical conditions and acknowledged that this weighed them down whenever they could not help all the patients in need. Further, engaging and relying on the patients' relatives to cater to patients' referrals caused delays and risked the loss of lives.

PAC infrastructure: shared consultation and treatment rooms

In both countries, providers lamented the poor state of PAC infrastructure within health facilities. They noted that PAC examination rooms, as well as the consultation rooms, often lacked both auditory and visual privacy for attending to patients. Providers in Liberia, especially those working in primary facilities, described how they often treated PAC patients in shared rooms within the *ANC department*, *labor, and delivery wards* and that they had no curtains or screens to shield patients. In one instance, a provider in Liberia said that *''they have stretchers, wheelchairs…and if the couch is available, we will use it to do the examination and screening."* Such practices, while normalized, deprived patients of privacy, confidentiality, and dignity and stigmatized them, thus affecting the overall quality of PAC. This often leads to the patients being unable to be truthful about their reproductive and pregnancy histories, especially if they had induced abortions. Providers in Sierra Leone warned of the dangers of incomplete or inaccurate history that may lead to misdiagnosis of the patient's condition. The below quote illustrates this situation in Sierra Leone aptly:

"The facility is small for the number of patients we get…the number is large, there is no privacy…. When they arrive, they will not tell you exactly what they have done, they will just say that they are bleeding…" (Midwife, Primary Facility, Sierra Leone).

PAC services in rooms or spaces devoid of privacy and confidentiality complicated patient-provider interactions. Such interactions were characterized by tensions, fear, threats, and frustrations, and providers cited situations when patients simply refused to speak:

"Sometimes we even threaten that if you do not talk, we will not help you…if you tell me what you have taken, that can guide us on how you will be treated" (Midwife, Secondary Facility, Sierra Leone).

Abortion stigma curtails open conversations between patients and providers, especially during patient history. There was a consensus among providers in both countries that patients would communicate freely in spaces that have audio and visual privacy because some patients "*are highly ashamed and would not like their relatives to know their secret".* A provider in Sierra Leone emphasizes the critical value of ensuring patients are in safe spaces during consultations:

"The majority of girls who carry out criminal abortion [the word used to refer to Induced abortion] will not say it. She will come and just say to the nurse, 'I am feeling stomach pain,' and you will treat her for stomach pain…" (Midwife, Primary Facility, Sierra Leone).

The provider also noted that "*when you are both in a comfortable and private place, you can even get more information about the patient…*" It is noteworthy that some providers navigated these challenges by talking in low tones and relocating the patient to different rooms or spaces. Some providers used screens and covers in treatment rooms, though *some were torn or worn out*.

PAC training and skills

In Liberia, interviews with providers suggested that most providers had been trained on PAC and could perform surgical evacuation procedures (using MVA) or with medications (using misoprostol), including offering family planning counseling. Providers in Liberia associated their capability to deliver PAC services to the training, with one narrating, *"we went for the EMOC training, and we were also enlightened on the management of PAC".* Providers who are trained tended to have great confidence in delivering PAC services, interacting with patients with ease, obtaining patient history, and keeping the patient calm during MVA procedures as highlighted in the quote below:

"I have been very efficient when it comes to providing PAC…for those women and it helps reduce some complications" (Midwife, Secondary Facility, Liberia).

On the other hand, interviews with providers in Sierra Leone showed that providers lacked adequate training on PAC services, and this sometimes led to severe maternal outcomes, including death:

"There was a time a lady came with an induced abortion case; the pregnancy was in the second trimester, and she induced the termination and came in for 'crushing' [safe evacuation] but unfortunately, I [trained provider] was not present. Things didn't go well so the patient died, and the provider ran away… Had the provider known what to do, I guess the patient should not have died" (Midwife, Secondary Facility, Sierra Leone).

Second trimester abortion is generally risky and must be handled by well-trained personnel. In the case reported above, the woman self-induced at home, implying that the wrong methods were employed. Critical and high-quality emergency care (PAC) for such a patient is essential to save her life, but where such is unavailable, the outcomes can be fatal. Health providers and policy actors in both countries highlighted the role of PAC training in improving quality care and health outcomes, even though the exercise can be resource-demanding:

"If you have the resources and have trained staff… it would definitely reduce the number of deaths resulting from abortion…" (Senior Official, INGO, Sierra Leone).
"Training new providers logically is resource-straining and, as such, it is difficult to monitor the progress or quality of PAC service delivery at the facility level…" (Midwife, Tertiary Facility, Liberia).

Training modalities also emerge as a key point from the data, with providers highlighting the dynamism and evolution of medicine and the need for continuous refresher training through in-service training to update providers' knowledge on current best practices, clinical guidelines, new technology and medicines. Below are reflections from providers in both countries:

"Since the time I did that training, I do not have any memory of the knowledge, we need refresher train-

ing so that our brains would not sleep [become obsolete]…" (Midwife, Secondary Facility, Sierra Leone).
"Training should be conducted regularly to remind and update us on new technology and guidelines…; training provided in school is not enough because if you study and you do not practice, you always forget" (Nurse, Secondary Facility, Liberia).

Even though some facilities had trained staff in Liberia, participants told us that sometimes the patient volume overwhelmed the providers, leading to exhaustion and burnout. In addition, understaffing and staff transfer affected the provision of PAC, especially in facilities with only one trained PAC provider:

"After teaching and training staff (PAC providers), staff rotation happens, and they move to other facilities, and you have to do training afresh. We are staffed but for at least three years we do not want them to make a change in rotation so we can see the result of mentorship and we can monitor quality care" (Senior Official, MOH, Sierra Leone).

These disruptions in human resources sometimes made it hard to assess, monitor, and track investments and changes in quality of PAC in facilities even after training.

Unclear policies, guidelines, and laws around PAC

Our data showed that in both countries, providers had limited understanding of the existence and contents of available laws, policies, and guidelines around abortion and PAC. Providers often hesitated to provide PAC for fear of being stigmatized or arrested. A senior official, MOH in Liberia shared that "*the current law contributes greatly to whether women seek PAC because they are stigmatized. Many service providers and communities are not informed that these people have the right to services".* Such lack of knowledge influenced providers' attitudes towards PAC patients and how they treated them.

A common misconception among some health providers and policy actors in both countries was that patients who sought PAC had induced abortion, and were hesitant to treat patients as a punishment or a lesson to them, as shown below:

"Most of the clients who came in with an induced abortion case some colleagues most times refused to attend to them because they are the ones that tried aborting the pregnancy" (Midwife, Secondary Facility, Sierra Leone).
"Once someone (a woman) arrives with an incomplete abortion, sometimes they are not prioritized by the service providers or are not given the services because it is an abortion. And because of the stigma, adolescent women shy away from seeking PAC" (Religious leader, Liberia).

Consequently, participants told us that patient's delay receiving treatment or are turned away without care, increasing the risk of poor maternal outcomes. In other facilities, providers reportedly exploited the stringent abortion laws and imposed exorbitant service charges on PAC patients. PAC patients are sometimes desperate and present with life-threatening conditions, hence, they or their relatives often have no choice but to pay. A policy actor in Liberia shared some reflections as indicated in the quote below:

"….PAC is free of charge, but in reality, that does not exist…people who are managing PAC cases think that the person involved has done something illegal, therefore they charge what they want, and it is quite expensive" (Program Implementer, INGO, Liberia).

Even though PAC is supposedly free in both countries by government policy, and most patients have this expectation, when charged a fee, some cannot afford, causing delays in care. Providers acknowledged that they do/did that to deter patients from attempting the same in future. In Sierra Leone, a provider admitted to coercing patients to pay for PAC, indicating that "*we cannot offer that service when one reports an induced abortion, they must pay for that".* Such practices only push women away from health facilities, as observed in both countries. A participant in Liberia warned of the dangers of such practices:

"When you turn somebody away and say I cannot help you, … the next time you see her, she might be on the stretcher, bleeding– HB [hemoglobin] is now four and you are the one that will be running around, if you are lucky you might get her back if you are not she dies" (Program Implementer, INGO, Liberia).

Some providers conceded that they do not document PAC cases at the facilities due to fear. Lack of or inadequate documentation of PAC cases in Sierra Leone was cited as an impediment to quality PAC. As a policy actor in Sierra Leone explained, lack of documentation limits knowledge of the PAC caseloads at the facilities, management procedures, and outcomes of care. Whereas some providers were deliberate about not documenting PAC cases, others admitted they were unaware it was necessary, as disclosed by a provider in Sierra Leone, *"I came to learn it is important to document PAC cases when I was asked about the total number of abortion cases we had for the month".*

Religion as a barrier to PAC

Interviews with providers revealed the role of religion and morality in the provision of PAC. It was commonly noted that providers who identified as religious perceived that *children are highly valued and considered gifts from God and abortion is a reprehensible act.* As such, some providers felt justified in denying services or refusing to attend to PAC patients. As affirmed by a midwife in Sierra Leone, it did not matter whether the patient had induced or spontaneous abortion:

> *"Some service providers do not provide PAC services because of their (religious and personal) beliefs. Even when patients came in on spontaneous abortion cases some of my colleagues refused to attend to them" (Midwife, Secondary Facility, Sierra Leone).*

As noted above for Sierra Leone, in Liberia, some providers considered the provision of PAC as an affront to their religious beliefs. A similar observation was in Liberia, where a policy actor noted that notwithstanding training, some religious providers still felt that they "*were a part of taking life and they cannot be seen taking life.*" The views are succinctly summarized in this quote:

> *"Some health workers have been trained to do PAC but have other values, religious values, and other principles that cannot allow them to assist [provide care] a woman in this situation…" (Program Implementer, Liberia).*

Following the religious barriers mentioned, policy actors in both countries felt value clarification, attitudes and transformation sessions should be included in the PAC training to clarify provider values and address abortion-related stigma.

Patient perception of PAC as a last resort

In Sierra Leone, some providers highlighted the sources of unsafe abortions and shared experiences of women who visit traditional providers, commonly referred to as '*pepper "doctors"*, '*grannies'* and '*mammies*'. These traditional providers, while trusted by the community, use unsafe methods and procedures to terminate unwanted pregnancies with resultant severe health implications:

> *"The last time we did a speculum examination, a cassava stick was in the cervix. We tried to remove it, but it was very long… They put it right inside the cervix. She went to someone and that is how the person did it to destroy the pregnancy. There was also a case in which a woman took a razor blade, ground it, and drank it. She ended up dying before this procedure [the termination] started" (Clinical health officer, Secondary Facility, Sierra Leone).*

Health providers recounted the way PAC patients often present at the facility, indicating that: "*the unfortunate part of this is that, they will come to us after they have attempted to abort and complications set in.*" Stigma and fear of exposure or arrest force patients to delay and only present at facilities when the complication becomes serious. A policy actor in Sierra Leone remarked that induced abortion patients preferred to hold on to the pain and bleeding for fear of exposure and stigmatization:

> *"Women and girls do 'under the table' clandestine abortions and when complications arise, they will hold on at home in pain for the longest time because of not having a safe space to go" (Senior official, MOH, Sierra Leone).*

Similar reflections were echoed by policy actors in Liberia, saying that PAC *is available to all women, but a lot of women, because of the nature of abortion, would not want to seek services because they will be stigmatized.* When patients come to the facility as a last resort, they are often in critical health conditions, with complications having worsened, and the survival of the patient depends on whether the facility has the proper resources (equipment, supplies, and trained health providers) to manage the cases.

Discussion

Health providers and policy stakeholders in our study articulated that lack of PAC-specific equipment and supplies impeded delivery of quality PAC in primary and secondary health facilities in the two countries. This challenge was particularly conspicuous in Sierra Leone, where health providers reported over-reliance on malfunctioning or obsolete PAC equipment. To navigate these challenges and continue PAC provision, health providers in Liberia and Sierra Leone resorted to requesting patients to independently procure crucial supplies (e.g., gauze, gloves, antibiotics, pain medication), leading to delays in care for those unable to afford such expenses. This finding aligns with previous studies in Uganda and Nigeria [32, 33], that reported the challenging experiences of women who sought PAC in inadequately equipped health facilities. Delays instigated by these in-facility related challenges translate into poor health outcomes for women and sometimes increased cost of care [23].

While there is large consensus on the need and role of ensuring privacy and confidentiality during post-abortion care, our findings highlight significant obstacles faced by patients in this domain of care. Gaps in privacy during

PAC exposed patients to feelings of shame and stigma. Health providers and policy actors' explained that lack of privacy and confidentiality was aggravated by poor or inadequate infrastructure in both countries. For instance, the absence of dedicated MVA rooms in many facilities results in patients being treated in shared and open spaces, such as antenatal and maternity wards, compromising confidentiality and hindering providers from obtaining crucial patient information, which might lead to misdiagnosis. Frustration among providers, triggered by patients' lack of cooperation, manifested in measures such as threats, rudeness, and negative attitudes. Our findings resonate with those from a study conducted in public health facilities in Kenya, where PAC patients reported feeling embarrassed and uncomfortable due to the lack of privacy and confidentiality during care [25]. Even with limited spaces, especially in primary level facilities, privacy and confidentiality could still be maintained using screens, covers, and talking in low tones to ensure the patient is at ease during every step of care provision.

Our findings revealed a bigger gap in provider training on PAC in Sierra Leone compared to Liberia. Training is a critical input in improving the delivery of quality PAC within facilities. Lack of training hampered the ability to offer PAC notwithstanding whether facilities have equipment, supplies and infrastructure. This finding is similar to observations in other countries in the region. For instance, Juma et al. in 2022 reported that the absence of trained staff on PAC impeded the provision of basic or comprehensive PAC in Burkina Faso, Kenya, and Nigeria [5]. The training of mid-level providers (nurses, midwives, and nursing assistants) in the use of Misoprostol at lower-level facilities as a first-line point-of-care for treating incomplete abortion is known to improve and expand the availability of skilled providers, use of quality PAC methods (Misoprostol), and treatment satisfaction among PAC patients in many countries [4]. An ethnographic study conducted in Kilifi [34] also revealed that many health providers did not quite understand the importance of providing post-abortion contraceptives, which consequently led to repeat circles of unplanned pregnancies and repeat abortions [34]. Several training models are effective in improving providers' capacity to provide PAC services, including in-service training to continually update providers on best clinical practices, the latest technology, and care guidelines [35].

Our findings showed limited awareness of and understanding of the existing abortion laws and the current PAC guidelines among health providers and policy actors, especially in Liberia (where new comprehensive and post-abortion care guidelines were launched in 2019). Of course, this is consistent with previous research, which reported that women, health providers, and even policymakers worldwide have limited or inaccurate knowledge of abortion laws and policies in their countries [36]. In a context where providers have scarce knowledge on the law regulating access to abortions and those seeking care are unaware of their legal entitlements, service providers cannot practice with assured legal protection. Often, such health providers tend to be over-cautious and self-restrictive, translating to denial and delay of services. As noted in our findings, providers reported various practices (imposing inflated fees on PAC patients, refusal or hesitancy to provide care). Interestingly, both countries are currently undergoing rigorous abortion legal and policy reforms—in Liberia, there is the Public Health Law that is before the Senate, having been passed by the Lower House in late 2022 [30], while in Sierra Leone, the Safe Motherhood and Reproductive Health Bill is before parliament for ratification [31]. Both countries have recently developed and launched comprehensive PAC guidelines. As observed in our study, inadequate dissemination of such laws and policies results in ignorance. As such, there is a need to strengthen the dissemination beyond the national level to sub-national levels, including counties and districts.

Stigmatization and fear of negative provider attitudes pushed women who had induced abortions into opting for alternative, often unsafe post-abortion care, as reported by providers and policy actors in both countries. Our findings revealed that patients only seek care at the facilities long after the onset of complications, hence exposing them to long-term health complications and risks. Consequently, with severe complications (e.g., anemia, sepsis), the patients are often referred to higher-level facilities, which implies a further delay in care, longer stays at the hospital and higher costs of treatment. This finding aligns with a study in Ghana [37], which indicated that women, fearing societal stigma and negative provider attitudes, refrain from seeking care for complications arising from induced abortions, resulting in enduring health issues. Policy actors in both countries recommended value clarification to address stigma-related barriers among providers. This finding is also in line with a recent study [38], which emphasized the positive impact of abortion value clarification training on providers' and policy actors' knowledge, attitudes, and behavioral intentions concerning PAC.

These findings strengthen calls for widespread dissemination of the clinical standards and guidelines for comprehensive abortion care, already developed recently in both countries. The dissemination should include availing the guidelines in the form of posters and charts at the health facility level and adequately orienting health providers on these guidelines that offer directions on best practices in PAC delivery. Findings on the limited availability of PAC-specific equipment and supplies buttresses the calls for increased investment in the infrastructure

of health facilities, including availing specialized PAC equipment and ensuring a consistent and timely restocking of essential PAC supplies to avert delays in accessing PAC. The investment in PAC infrastructure could also be focused on improving the care processes and experiences of PAC patients around privacy, confidentiality, and patient-provider interactions. The study reported gaps in health provider PAC training, yet this is a critical input in the technical quality of care. There is a need for the ministries of health to strengthen training practices leveraging technology and training of trainers approaches, as well as continuous mentorship to cascade the skills sustainably to the facility levels.

Conclusion

In Liberia and Sierra Leone, insufficient skills and knowledge among health providers regarding PAC service provision, coupled with knowledge gaps on abortion-related policies and guidelines, have significantly impacted the delivery of comprehensive and quality PAC. The poor healthcare structures and equipment and scarce supplies hinder the provision of quality PAC even where providers are skilled in PAC services. Further, the religion-related barriers and overall stigma around abortion add to the fear around the provision of PAC. These factors significantly influence PAC patient health-seeking behavior, leading to complications, prolonged hospital stays, and increased treatment expenses. Participants recommended that the governments in both countries should be open to partnerships with CSOs working in the reproductive health space and ensure health providers, especially in lower-level facilities, are well equipped (with PAC skills, PAC equipment and supplies) to *save our mothers' and sisters' lives.*

Study strengths and limitations

This study offers a detailed analysis of gaps and weaknesses in the PAC service delivery in Liberia and Sierra Leone and leverages multiple perspectives from various stakeholders directly involved in the formulation of PAC policies and PAC service delivery. Drawing on datasets from two countries with many similarities and differences allows for strong comparisons and reflections on addressing the PAC service-level challenges. There were a few weaknesses noted in this study. For instance, by not including the voice of women seeking PAC services in the findings, we miss out on the documentation of their lived experiences while seeking PAC services from health facilities. Including patients would have maximized data variability and triangulation of information from the other actors. Nonetheless, engaging with diverse stakeholders, including healthcare providers from various facility levels, geographic regions, and policy actors, presents a fairly robust analysis of PAC services in Liberia and Sierra Leone. Finally, while the sample size of health providers is sizeable in both countries, these perspectives shared by the providers may not entirely reflect the diverse settings within health facilities and at the national level, and are limited to the specific providers and health facilities included in this qualitative study.

Supplementary Information

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Supplementary Material 1

Supplementary Material 2

Supplementary Material 3

Supplementary Material 4

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Author contributions

B.U, K.J and R.O conceptualized the original study and were primarily involved in the data collection. V.O and S.A coded the data and analyzed it using thematic approach. V.A.O wrote the initial draft. B.U, K.J, R.O, V.A.O, V.D, N.C.K, and S.A, all reviewed, edited, and approved the final manuscript.

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Data availability

All data and materials are available on request from the corresponding author. Also, according to the APHRC policies (the organization hosting the datasets), all de-identified datasets will be publicly available on the APHRC microdata portal after three years (https://aphrc.org/microdata-portal/).

Declarations

Ethics approval and consent to participate

The APHRC internal ethics review committee reviewed and approved the study protocol. In Liberia, the University of Liberia-Pacific Institute for Research and Evaluation Institutional Review Board (ULPIRE) (now the Atlantic Center for Research and Evaluation (ACRE) Institutional Review Board, approved the study (Protocol #21-07-275). In Sierra Leone, the Office of the Sierra Leone Ethics and Scientific Review Committee at the Ministry of Health and Sanitation reviewed and approved the study protocol. All investigators on the team completed the human subjects' protection training before engaging in the study. All respondents provided signed informed consent before participation.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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