Background

Of the one in six people worldwide who experience infertility, the majority live in low- and middle-income countries.[1-3] The African region bears a significant burden, with the highest global period infertility prevalence (16%); however, sexual and reproductive health research and programming have not paid adequate attention to infertility in the region.[4-7] Furthermore, definitional, measurement, and data limitations hinder reliable and representative estimates of primary and secondary infertility.[4,8] This gap is acute, and a growing body of evidence indicates substantial individual and interpersonal consequences for people affected by infertility, including compromised mental health, marital instability, and gender-based violence.[9-15]

Cameroon and Kenya are distinct settings with important parallels to better understand the individual, family, and social consequences of infertility. Primary infertility in Cameroon is estimated between 3%-7%, and secondary infertility between 19% - 26%.[4,16] While Cameroon has been an early leader in providing assisted reproductive technology (ART), services are costly and difficult to access. [17,18] In Kenya, primary infertility is estimated between 0.3-5%, and estimates of secondary infertility range between 35%-51%.[4] ART services are available to the limited few who can access the costly services, concentrated in urban centers and within private facilities.[19] Furthermore, both settings have firmly rooted gender norms that govern household decision-making and expectations for childbearing.[20,21]

These contexts thus serve as key settings in which to explore the manifestations of infertility across multiple levels of society. This study investigates the individual, community, social, and systemic factors influencing women's and men's reproductive agency and behaviors. To achieve this, we aim to understand, within our four study sites, how people perceive infertility and how infertility and its related fear and stigma influence other sexual and reproductive health-related behaviors and outcomes. Specifically, we explore how gender and infertility-related social norms and sanctions influence the reproductive agency of individuals and couples in Cameroon and Kenya. This research is conducted by Agency for All, a USAID-funded project generating and applying evidence on agency, empowerment, and effective social and behavior change programs, with support from USAID's Bureau for Africa and Office of Population and Reproductive Health.

Methods

Data come from an exploratory formative study to inform the development of a social and behavior change infertility intervention to support reproductive agency in Cameroon and Kenya. We collected data between September and October 2023 in Yaoundé and Nganha, Cameroon, and Mukuru and Homa Bay, Kenya to gather the experiences and opinions of individuals in urban and rural settings. We began data collection with 56 in-depth interviews (IDIs) with women and men aged 21 to 49 (Cameroon) / 18 to 49 years (Kenya) who had ever been sexually active. Within our sample of IDI participants, we included a subset of women and men who had ever experienced primary or secondary infertility. Across countries, 15 focus group discussions (FGDs) consisted of women and men of reproductive age and pertinent reference groups identified from the IDIs, probing discussion on (in)fertility-related norms and stigma in their context. Finally, we conducted 22 key informant interviews (KIIs) with public and private sector service providers, community health workers, and non-biomedical healers and herbalists providing sexual and reproductive health advice to women and men. We conducted data collection activities in the participants' preferred language and transcribed and translated them into English. All participants provided informed consent, and ethical approval was provided by the University of California San Diego Institutional Review Board, the National Ethics Committee for Research in Human Health and the Division of Operations Research in Health in Cameroon, and the AMREF Ethics and Scientific Review Committee and the National

Commission for Science, Technology and Innovation (NACOSTI) in Kenya. The multi-country research team completed both inductive and deductive thematic analyses in Dedoose. The inductive analysis aimed to identify emerging themes on the participants' (in)fertility-related experiences. We grounded the deductive analysis in our research questions, which focused on individual, community, and system factors underpinning peoples' (in)fertility experiences.

Results

Participants in Kenya and Cameroon highlighted children's importance in their lives and how they bring immense happiness. Accordingly, in both settings, infertility had negative consequences on emotional well-being, including depression, fear of social isolation, low sense of self, and even thoughts of suicide in extreme cases. As a healthcare provider explained, *"When they face challenges in conceiving, this societal expectation can lead to significant stress and emotional burdens. Outside the expectations of the community, they also want children, and this situation disturbs them a lot"* (Homa Bay, Kenya; KII).

While children were important to men and women, in both settings, participants described the differential burden placed on women in relation to infertility. In the following sections, we describe these gendered experiences, specifically the causes and consequences of infertility.

Perceptions that Women's Behaviors Causes Infertility

Study participants in Kenya and Cameroon attributed women's contraceptive use as a leading cause of infertility. In Kenya, respondents described *irresponsible contraceptive use* from an early age that leads to *blockages in the female reproductive tract* as perceived causes of infertility:

> *"In this community, I normally see when a girl gets to around 15 to 16, they have a lot of information about boys, which leads to sex. Most people, especially our mothers and their children, have family planning to prevent them from getting pregnant. When they learn about this, they continue using contraception, but remember, you cannot live like this forever. After they get married, they find out that the contraceptives they were using have affected them, and they can no longer conceive."* (Man; Homa Bay, Kenya; IDI)

Participants in Cameroon had similar perceptions of the relationship between contraceptive use and infertility. For example, a man from Nganha shared that infertility was common because *"There's also excessive use of contraceptives here"* (FGD), and other participants confirmed that they perceived injectable use as a main driver of infertility in women, *"There are also the injectables… Generally speaking, women use them to space out births and rest. But then they have problems with sterility."* (Man; Nganha, Cameroon; FGD).

In both countries, participants also viewed perceived promiscuity among women as leading to abortions, which could result in infertility, either because it *"could have harmed her reproductive systems"* (Woman; Homa Bay, Kenya; IDI) or,

> *Because in life, we don't know how many children God will create us with. God may decide to create you with just one child in the womb. And when you get pregnant, you see that you're still very young, you're not ready; you go and take it away. Of course, you wouldn't be able to bear any more children* (Woman; Yaoundé, Cameroon; IDI)

In contrast to women's (perceived) infertility being attributed almost entirely to behavioral and social causes, participants in both countries believed that infertility among men stemmed largely from biological causes. In Kenya, for example, *"The man might have low libido, low sperm count, and these can cause infertility. Genetics also plays a critical role in infertility among men"* (Man; Mukuru, Kenya; IDI).

Consequences of Infertility on Women's Relationships

In both Kenya and Cameroon, Participants discussed how infertility diminishes the quality of relationships. Within a couple, infertility-derived conflict risked separation, divorce, infidelity, and forced polygamy. In Kenya, couples sometimes opted to bring another wife into the relationship to avoid separation. Some men would covertly initiate a new marriage, which often resulted in *"provision [being] cut. If you were being given money for upkeep, they now stop… he will no longer send support because you are not having children"* (Woman; Mukuru, Kenya; IDI). In contrast, polygamy was rarely consensual in Cameroon, and men would take on additional wives to *prove* the wife was infertile. As one man explained, *"If it's the man, the woman has to accept, and if it's the woman, she has to leave"* (Yaoundé, Cameroon; FGD).

In both settings, the extended family would influence the actions husbands and wives took and would *"often blame the wife and even intimidate her*" (Man; Mukuru, Kenya; IDI) or *"incriminate them and perhaps want the husband to take a second wife"* (Man Doctor; Yaoundé, Cameroon; KII). Another man in Kenya explained,

> *"In most childless marriages, the mother-in-law will always blame the wife and even intimidate her. The sisters of the groom can also gang up against the wife…. They will start saying negative things about the wife, saying she adds no value, she is useless and pressuring the man to look for another woman"* (Man; Mukuru, Kenya; IDI)

Consequences of Infertility on Women's Social Standing

In Kenya, women highlighted that infertility caused spouses, extended family, and community to lose respect for them and attributed this to expectations that women must fulfill their mandated role of childbearing. Women shared that they felt like *easy targets* since they were physically responsible for childbearing and household duties, and so *"it is easier to approach, insult or pinpoint a woman than a man. There is a certain way women are viewed in society, so blame is very easy"* (Woman; Homa Bay, Kenya; FGD). Men, on the other hand, were rarely blamed. Instead, the inability of their wives to produce children was perceived as a direct threat to their manhood. A woman from Mukuru described the differential burden placed on women:

> *"It is hard for men to be blamed. There's no single day men will be accused of infertility; it is always women. Blaming men is the last option. If I had a son and they were not getting a child, I would never agree it is my son who has a problem. I must side with my son. How would I even ask him if he is the one with a problem or low libido? It will always be the wife to be questioned and to carry the blame."* (IDI)

Cameroonian women similarly experienced disproportionate negative social consequences of infertility when compared to men. Participants described that people would insult women, accuse them of being witches and using men for their money without producing an heir, and tell them to 'deal' with their husbands finding new wives. As a result, women experienced a mix of internalized psychological,

interpersonal, and social consequences that together, would limit their ability to address reproductive health challenges. As one woman shared,

> *"It makes your life very difficult, because you can't go out freely in the neighborhood, because when you go out, they only say that the woman hasn't given birth since she got married. So, everyone talks about your personal problems."* (Yaoundé, Cameroon; IDI)

While participants also acknowledged that men suffered from social stigmatization and consequences, it was much less frequently mentioned. Furthermore, in most cases, men expressed an ability to overcome those feelings by proving masculinity in other ways, like finding another wife.

Discussion

This study aimed to understand the individual, community, social, and systems factors that influence women's and men's reproductive agency and behaviors. Results demonstrate the profound impact infertility has on the lived experiences of people in Kenya and Cameroon and highlight the differential infertility-related experiences of women versus men.

Importantly, this study highlighted that the perceived causes and consequences of infertility are highly gendered, and people's lived experiences occur within strong and prevalent social norms related to fertility, masculinity, and femininity. For example, in Kenya and Cameroon, women bear the brunt of the pressure to bear children early and often, and when unable to do so, they often experience stigma and limited control over reproductive-related decision-making. Furthermore, spouses, family, and community members commonly blame women's previous behavior, contraceptive use in particular, for a couple's infertility, which limits contraceptive acceptability and subsequent contraceptive choices. Thus, these highly gendered infertility-related stigmas and sequelae synergistically constrain the reproductive agency of women in these settings.

This constraint on reproductive agency limits Kenyan and Cameroonian women's ability to make decisions and advocate for their well-being. The consequences of not having children on women, including the potential for forced polygamy, negatively affect women's sense of safety in relationships and influence their opinions on when to get married, when to have children, and how many children to have.

Addressing these consequences requires gender-transformative social and behavior change programming to shift the surrounding narrative from one of blame to support to enable individuals and couples to achieve their self-determined reproductive goals. This will require providing women, men, and communities with accurate, actionable information about (in)fertility, along with opportunities for discussion and reflection on the gender norms that shape the perceived causes and consequences of infertility. These include widespread stigma and profound effects on the emotional well-being of both women and men and good quality couple and family relationships.

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