

Reproductive Health Information and Practice among Underserved Childbearing-Age Women in Osun State, Nigeria

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ABSTRACT

This study investigates the reproductive health knowledge, attitudes, and practices (KAP) among underserved women of childbearing age in Osun State, Nigeria. Drawing upon the Knowledge-Attitude-Practice (KAP) framework and Health Belief Model (HBM), a mixed-methods design was employed, combining structured surveys with focus group interviews across selected rural and peri-urban communities. A multi-stage sampling technique was used to select 400 women aged 15–49 years. Quantitative data were analyzed using SPSS (v25), employing descriptive and inferential statistics including chi-square tests, t-tests, and logistic regression. Findings reveal moderate reproductive health knowledge ($M = 2.85$), generally positive attitudes ($M = 2.78$), but low practice levels ($M = 1.94$) on a 5-point Likert scale. Cultural beliefs, limited autonomy, and health system barriers significantly shaped reproductive choices. Statistically significant relationships were found between knowledge and practice ($p < .01$), and education level emerged as a major predictor of reproductive health behavior. This study highlights a critical gap between awareness and action, emphasizing the need for culturally tailored, community-based interventions and improved health system responsiveness. It contributes to global reproductive health discourse by providing evidence from a sub-national, underserved population in Nigeria.

Keywords: Reproductive health, knowledge-attitude-practice, underserved women, Osun State, maternal care, Nigeria

BACKGROUND TO THE STUDY

Reproductive health is a fundamental aspect of overall well-being and human rights, encompassing the physical, emotional, mental, and social domains related to the reproductive system at all stages of life. It includes the ability of individuals, particularly women, to have a satisfying and safe sex life, to decide freely if and when to have children, and to access appropriate health care services that support these choices (World Health Organization [WHO], 2023). However, despite global advancements in health systems, reproductive health outcomes remain uneven—particularly among women living in low- and middle-income countries (LMICs), where access to essential services and accurate information is often limited.

Globally, over 218 million women in developing regions are estimated to have an unmet need for modern contraception, leading to unplanned pregnancies, unsafe abortions, and preventable maternal deaths (United Nations Population Fund [UNFPA], 2022). This reproductive health gap disproportionately affects women from underserved populations, including those living in poverty, in rural areas, or in socio-culturally marginalized communities. Factors such as low education levels, gender-based discrimination, and restricted access to health facilities further compound these challenges (Sedgh et al., 2016).

In Nigeria, reproductive health issues present a significant public health concern. The country has one of the highest maternal mortality rates in the world, with an estimated 512 deaths per 100,000 live births (National Population Commission [NPC] & ICF, 2019). Despite policy initiatives like the National Reproductive Health Policy and the Maternal and Child Health Strategy, many women—particularly those in underserved and rural communities—continue to face systemic barriers in accessing reproductive health information and services. Issues such as inadequate health infrastructure, religious and cultural misconceptions, gender inequality, and financial constraints hinder the effective dissemination and utilization of reproductive health services (Adewoyin & Hassan, 2021; Bankole et al., 2020).

Furthermore, limited reproductive health literacy among Nigerian women, especially in rural and economically disadvantaged areas, contributes to risky practices, delayed health-seeking behavior, and increased vulnerability to complications such as sexually transmitted infections, unsafe abortions, and pregnancy-related morbidities. The gap between knowledge and practice underscores the importance of targeted, culturally sensitive interventions that promote reproductive health awareness, autonomy, and access to quality care.

As such, assessing reproductive health knowledge, attitudes, and practices (KAP) among underserved women of childbearing age is crucial for informing evidence-based policies and designing effective community-level programs. Understanding the realities faced by these women within the Nigerian context is not only essential for improving individual health outcomes but also for achieving broader goals such as gender equity and sustainable development.

Statement of Problem

Health inequality remains a persistent challenge in Nigeria, disproportionately affecting underserved populations, particularly women of childbearing age in rural and low-income settings. Despite the existence of national reproductive health policies and international frameworks promoting equitable access to healthcare, a significant number of Nigerian women continue to face structural, geographic, economic, and sociocultural barriers that limit their access to quality reproductive health services (Akinyemi et al., 2020; Olamijuwon & Odimegwu, 2021). This situation is worsened by inadequate health infrastructure, poor health literacy, gender-based disparities, and entrenched traditional norms that hinder open discussion and utilization of reproductive health information and services (Okigbo et al., 2017).

Underserved women—those residing in rural areas, internally displaced communities, or impoverished urban settlements—often lack access to essential services such as family planning, antenatal care, skilled birth attendance, and postnatal care. These gaps contribute to high rates of unplanned pregnancies, maternal morbidity and mortality, unsafe abortions, and sexually transmitted infections (National Population Commission [NPC] & ICF, 2019). Moreover, the knowledge and attitudes of these women regarding reproductive health are frequently shaped by misinformation, stigma, and sociocultural myths, all of which inhibit safe and informed reproductive choices (Ezeanolue et al., 2021).

In Osun State, as in many parts of southwestern Nigeria, this reproductive health disparity persists among women of reproductive age in underserved communities. Despite governmental and non-governmental interventions aimed at improving maternal and child health outcomes, the uptake of reproductive health services remains suboptimal. This suggests a disconnect between service availability and actual utilization, likely rooted in low reproductive health knowledge and negative health-seeking behaviors (Adewoyin & Hassan, 2021).

Addressing this disparity requires a contextual understanding of the knowledge, attitudes, and practices (KAP) of women regarding reproductive health in these communities. Without empirical data specific to underserved populations in Osun State, policy interventions may remain generic, poorly targeted, and ultimately ineffective. Therefore, this study seeks to assess the reproductive health KAP of underserved women of childbearing age in Osun State, Nigeria, in order to inform context-sensitive health strategies that can bridge the current inequality gap.

Although numerous studies have explored reproductive health issues in Nigeria, most focus on national-level indicators or urban populations, often overlooking the specific experiences of underserved women in rural or semi-urban areas such as those in Osun State. National surveys like the Nigeria Demographic and Health Survey (NDHS) provide broad data on reproductive health utilization and outcomes, but they rarely disaggregate findings by geographic, socioeconomic, or sub-regional nuances (National Population Commission [NPC] & ICF, 2019). As a result, localized data that captures the realities of marginalized populations—particularly those in rural communities of Osun State—remain limited. Additionally, few studies incorporate the sociocultural and systemic barriers that shape women's understanding and use of reproductive health services in this part of Nigeria. Without such localized, gender-sensitive data, health interventions and policies are likely to remain ineffective or poorly targeted, missing the specific needs of the most vulnerable groups.

Therefore, this study addresses a critical research gap by empirically examining the reproductive health

knowledge, attitudes, and practices of underserved women of childbearing age in Osun State. By generating context-specific evidence, the study aims to inform more equitable and effective reproductive health programming that aligns with the lived realities of this population.

Research Objectives

The main objective of this study is to examine the reproductive health knowledge, attitudes, and practices (KAP) among underserved women of childbearing age in Osun State, Nigeria. Other specific objectives are:

- i. To assess the level of reproductive health knowledge among underserved women of childbearing age in Osun State.
- ii. To examine the attitudes of these women toward reproductive health services and practices.
- iii. To evaluate the reproductive health practices commonly adopted by the respondents.
- iv. To determine the relationship between reproductive health knowledge and reproductive health practices.
- v. To identify socio-demographic factors (e.g., age, education, marital status, location) associated with reproductive health knowledge, attitudes, and practices.

Research Questions

- i. What is the level of reproductive health knowledge among underserved women of reproductive age in Osun State?
- ii. What are the prevailing attitudes of these women toward reproductive health issues such as family planning, antenatal care, and STI prevention?
- iii. What reproductive health practices are most commonly

Research Hypotheses

These hypotheses are formulated based on expected relationships between variables and were tested using statistical chi-square, correlation and regression analysis.

H₀₁: There is no significant relationship between reproductive health knowledge and reproductive health practices among underserved women of childbearing age in Osun State.

H₀₂: There is no significant relationship between attitudes toward reproductive health and reproductive health practices.

H₀₃: Socio-demographic factors (e.g., age, education level, marital status, and residence) do not significantly influence reproductive health knowledge, attitudes, and practices.

H₀₄: There is no significant difference in reproductive health knowledge, attitudes, and practices between rural and urban underserved women.

LITERATURE REVIEW

Health Belief Model and the KAP Theory: This study is grounded in the Health Belief Model (HBM) and the Knowledge-Attitude-Practice (KAP) theory, which collectively offer a comprehensive explanation of health-related behaviors. The HBM posits that individuals' health actions are influenced by their perceptions of susceptibility, severity, benefits, and barriers, along with cues to action and self-efficacy (Rosenstock et al., 1988). It provides a useful lens for understanding how women's perceived risks of reproductive health challenges (e.g., unintended pregnancy or maternal death) influence their decisions to seek care or use contraceptives.

Complementing this, the KAP theory emphasizes a linear relationship: knowledge is expected to influence attitudes, which in turn shape practices. This model is particularly useful in reproductive health studies, as it allows researchers to track how informational gaps or cultural attitudes may predict risky or health-promoting behaviors (Launiala, 2009).

Reproductive Health Knowledge: Reproductive health knowledge encompasses a woman's understanding of her reproductive anatomy, contraception, sexually transmitted infections (STIs), maternal health services, and fertility regulation. Inadequate knowledge in these domains is a major barrier to achieving positive reproductive outcomes, particularly among women in underserved communities (Ali et al., 2020). For instance, lack of awareness about modern contraceptive methods contributes significantly to unmet needs for family planning in sub-Saharan Africa (UNFPA, 2022). In Nigeria, studies indicate that while awareness of contraceptive methods is relatively high, actual understanding of correct usage and access is often limited, especially among rural and low-income women (Okigbo et al., 2017). Knowledge about antenatal care, postpartum care, and STI prevention is often fragmented, with many women relying on informal sources of information, such as peers or religious leaders, rather than professional health workers (Fagbamigbe et al., 2017).

Attitudes toward reproductive health are shaped by complex socio-cultural, religious, and gendered factors. Negative attitudes—such as fear of side effects from contraceptives, belief that family planning is morally or religiously wrong, or mistrust in health systems—remain prevalent across many parts of Nigeria (Akinyemi et al., 2020). In many rural communities, decisions around reproduction are often influenced by male partners or elders, limiting women's autonomy in seeking care (Ezeanolue et al., 2021). Stigma also plays a significant role, particularly in discussions about contraception or sexually transmitted infections. Young or unmarried women, for instance, often avoid health facilities for fear of being judged (Onah et al., 2019). These attitudinal barriers are not only psychological but are reinforced by community norms, low health literacy, and poor provider-patient communication.

Reproductive practices refer to the actual behaviors adopted by women to protect their reproductive health, including use of contraceptives, regular clinic visits, antenatal and postnatal care attendance, and STI screening. In Nigeria, although there is growing awareness about the importance of reproductive health services, actual practice remains suboptimal—particularly in underserved communities. For example, the 2018 Nigeria Demographic and Health Survey reported that only 43% of women received at least four antenatal care visits during pregnancy, and less than 20% used modern contraceptives (NPC & ICF, 2019). Moreover, many women continue to rely on traditional birth attendants, especially in rural areas where access to formal healthcare is limited (Adewoyin & Hassan, 2021).

Globally, various studies have established the importance of knowledge, attitudes, and practices in shaping reproductive health outcomes. In Ethiopia, Gebre et al. (2020) found a strong positive correlation between reproductive health knowledge and contraceptive use among rural women. Similarly, in Bangladesh and India, community-based interventions that targeted knowledge and attitudes led to significant improvements in reproductive behaviors (Ahmed et al., 2019). In the Nigerian context, most studies have focused on adolescent reproductive health, urban populations, or specific issues like family planning or HIV/AIDS. While some studies have examined barriers to service utilization, few have employed a holistic KAP framework to assess the broader reproductive health behaviors of underserved adult women in semi-urban and rural settings (Olamijuwon & Odimegwu, 2021).

Despite growing interest in maternal and reproductive health in Nigeria, there remains a critical gap in localized, community-specific studies that focus on underserved women—particularly in states like Osun. Most existing studies are concentrated in urban centers and fail to account for the lived experiences of women in rural or low-resource settings. There is also limited empirical evidence on how reproductive health knowledge and attitudes interact to influence actual practices in these communities. Moreover, the influence of socio-demographic variables—such as education, marital status, income, and religious affiliation—on reproductive health KAP remains underexplored at the state level. Without such data, health programs risk being top-down, generic, and misaligned with local realities. This study, therefore, aims to fill this empirical void by providing a nuanced understanding of reproductive health knowledge, attitudes, and practices among underserved women of reproductive age in Osun State, using a theory-driven and data-informed approach.

METHODOLOGY

This study adopted a mixed-methods research design, combining both quantitative and qualitative approaches to provide a comprehensive understanding of reproductive health knowledge, attitudes, and practices (KAP) among underserved women of childbearing age. The quantitative aspect used structured questionnaires, while the qualitative aspect utilized focus group discussions (FGDs) to capture deeper socio-cultural insights and contextual nuances influencing reproductive health behaviors. The research was conducted in Ile-Ife, located in Osun State, southwestern Nigeria. Ile-Ife is a historically significant urban center but is surrounded by several underserved rural and peri-urban communities where access to reproductive health services remains limited. The town comprises mixed populations with varying religious, cultural, and socioeconomic backgrounds. Many of these communities suffer from poor infrastructure, limited health outreach, and persistent poverty, making them ideal for assessing reproductive health inequalities. The target population consisted of women aged 15–49 years residing in underserved communities within Ile-Ife. According to local health department records, the total population of women in this reproductive age group across selected underserved communities is estimated at 7,245. The sample size was determined using Yamane's formula (1967) for finite populations. Therefore, the study sampled 380 respondents for the quantitative survey. A multi-stage sampling technique was employed: Stage One: Purposive selection of four underserved communities in Ile-Ife based on geographic spread and limited access to reproductive health services. Stage Two: Cluster sampling of households within each community. Stage Three: Systematic random sampling of eligible women from selected households. For the qualitative component, three FGDs were held, each comprising 6–8 women selected purposively to represent diversity in age, education, and marital status. Data were collected using a structured Knowledge-Attitude-Practice (KAP) questionnaire, and a semi-structured FGD interview guide. The questionnaire was developed based on existing reproductive health KAP models and adapted for local relevance. Knowledge items included awareness of contraceptives, STI prevention, and maternal care. Attitude items measured personal and cultural beliefs using a 5-point Likert scale; Practice items focused on frequency and consistency of reproductive health service use; The questionnaire was pre-tested on a sample of 30 women from a nearby community, yielding validity indices of 87% (content validity) and a Cronbach's alpha reliability score of 0.75, indicating good internal consistency. Trained field assistants administered the questionnaires and facilitated FGDs. Prior to data collection: Ethical approval was obtained from the Institutional Review Board of Obafemi Awolowo University, Ile-Ife; Written informed consent was secured from all participants; Participants were informed about the study's purpose, and confidentiality and anonymity were assured; Participants were informed of their right to withdraw at any time. Quantitative data were analyzed using SPSS Version 25. Analysis involved: Descriptive statistics (means, frequencies, standard deviations); Inferential statistics including: Chi-square tests for categorical variables; Independent samples t-tests and ANOVA for group comparisons and Logistic regression to identify predictors of reproductive health practices. Qualitative data from FGDs were thematically analyzed using NVivo software, allowing for triangulation of findings.

Results Analysis and Interpretation

Demographic Characteristics of Respondents

The sample included 380 women aged 15–49. The majority were married (61.8%), with secondary education (48.2%), and a monthly household income below ₦30,000 (62.4%). About 55% resided in rural settlements, while 45% were from peri-urban communities.

Research Question One: What is the level of reproductive health knowledge among underserved women of reproductive age in Osun State?

Respondents demonstrated moderate knowledge of reproductive health issues, with an average knowledge score of 2.85 out of 5. Knowledge of modern contraceptives was fair (e.g., 62% correctly identified oral contraceptives), but only 39% could identify at least two methods of STI prevention. Awareness of the importance of antenatal care was relatively high (71%), though only 33% knew the recommended number of antenatal visits. The average knowledge score of 2.85 (on a 5-point Likert scale) suggests that while basic awareness of reproductive health components such as contraceptives and antenatal care exists, deep and functional understanding remains limited. This is particularly evident in the low awareness of STI prevention methods and the appropriate timing and frequency of antenatal visits. These findings are consistent with previous

studies conducted in other Nigerian states (Ijadunola et al., 2007; Omo-Aghoja et al., 2010), which reported that while women may have heard of reproductive health services, misconceptions and knowledge gaps are widespread. The implications are clear: mere exposure to reproductive health messages does not necessarily translate to comprehensive knowledge, especially in contexts with low health literacy.

Research Question Two: What are the prevailing attitudes of these women toward reproductive health issues such as family planning, antenatal care, and STI prevention?

Attitudinal scores averaged 2.78 out of 5, suggesting cautiously positive but culturally constrained perceptions. While many women expressed openness to using family planning, 47% believed it could cause infertility. Fear of partner disapproval and religious beliefs were cited as major influencers of negative attitudes. The attitudinal score (2.78/5) indicates a moderate level of openness to reproductive health services, constrained by strong cultural, religious, and relational influences. Many women reported fear of social stigma, partner disapproval, and religious opposition—barriers frequently documented in reproductive health literature (Akwara et al., 2003; Izugbara & Ezech, 2010). According to the Health Belief Model (HBM), health behaviors are shaped by perceived susceptibility, perceived benefits, and perceived barriers (Glanz et al., 2015). In this context, perceived social and religious barriers outweigh the perceived benefits of family planning or STI prevention, leading to attitudinal ambivalence or outright resistance. This underscores the critical role of culturally contextualized health promotion strategies that engage not only women, but also men, religious leaders, and community elders.

Research Question Three: What reproductive health practices are most commonly to underserved women in childbearing age?

Reported practices were generally poor, with a mean score of 1.94 out of 5. Only 28% of respondents had used any modern contraceptive method in the last 12 months. Less than half (43%) attended at least four antenatal visits during their last pregnancy. Routine STI screening was almost nonexistent (7%). The most alarming finding was the poor reproductive health practice score (1.94/5). Although many respondents recognized the importance of antenatal care, less than half had met the WHO-recommended four visits. Similarly, contraceptive uptake remains suboptimal, with less than one-third reporting use of any modern method. This disconnect between knowledge/attitudes and actual practices is supported by the Knowledge-Attitude-Practice (KAP) theory, which posits that knowledge and attitudes should ideally influence practices, but structural and psychosocial barriers often hinder this translation (Launiala, 2009). In underserved communities like those studied, economic hardship, poor access to clinics, and gender-based power dynamics exacerbate this disjunction. Comparable studies in Sub-Saharan Africa (e.g., Apanga & Adam, 2015; Mekonnen et al., 2020) similarly highlight that women's decision-making autonomy and mobility are key determinants of health-seeking behavior.

Hypotheses

These hypotheses are formulated based on expected relationships between variables and were tested using statistical chi-square, correlation, and regression analysis.

Hypothesis One: H₀₁: There is no significant relationship between reproductive health knowledge and reproductive health practices among underserved women of childbearing age in Osun State. Chi-square analysis showed a statistically significant relationship between knowledge and reproductive health practices ($\chi^2 = 22.54$, $p < .001$).

Hypothesis Two: H₀₂: There is no significant relationship between attitudes toward reproductive health and reproductive health practices. Logistic regression identified education level and marital status as significant predictors of positive reproductive health practices ($p < .05$).

Hypothesis Three H₀₃: Socio-demographic factors (e.g., age, education level, marital status, and residence) do not significantly influence reproductive health knowledge, attitudes, and practices. ANOVA indicated that women in peri-urban communities had significantly higher practice scores compared to rural counterparts ($F(1, 378) = 5.37$, $p = .021$).

Hypothesis Four: H₀₄: There is no significant difference in reproductive health knowledge, attitudes, and practices between rural and urban underserved women. Correlation analysis revealed a modest positive relationship between knowledge and practice ($r = 0.34, p < .01$).

DISCUSSION

The present study assessed the reproductive health knowledge, attitudes, and practices (KAP) of underserved women of childbearing age in Ile-Ife, Osun State. Findings reveal a concerning gap between awareness and actual use of reproductive health services—an observation that mirrors trends across low-resource settings globally (Sedgh et al., 2016).

Socio-demographic Influences and Urban-Rural Differences: As expected, educational attainment and marital status were significant predictors of positive reproductive health behaviors, echoing findings by Okonofua et al. (2009). Women with at least secondary education were more likely to use contraceptives and attend antenatal clinics. Rural women were particularly disadvantaged, exhibiting significantly lower KAP scores compared to their peri-urban counterparts. This rural-urban divide reflects structural inequalities in Nigeria's healthcare system, where rural women face greater travel distances, fewer qualified providers, and less exposure to health campaigns (Adebowale et al., 2014).

These findings reinforce the urgent need for community-level interventions that integrate reproductive health education with culturally sensitive engagement. Effective programming must address not just informational gaps, but also the socio-cultural and infrastructural barriers that inhibit behavior change. Policies should prioritize: Mobile health outreach programs; Male-inclusive reproductive health education; Integration of traditional and religious leaders into advocacy campaigns; Youth-focused interventions that begin early in the reproductive life cycle. Furthermore, improving service accessibility through primary healthcare revitalization and subsidization of maternal services would mitigate structural challenges.

Theoretical and Empirical Contributions

This study contributes to the growing body of evidence linking health inequalities with reproductive health disparities. It validates the utility of both the Health Belief Model and the KAP framework in understanding the behavioral determinants of reproductive health in underserved Nigerian contexts. By grounding empirical findings in theory, the study offers actionable insights for researchers, policymakers, and health workers alike.

Limitations

The study relied on self-reported data, which may be affected by recall bias or social desirability bias. Also, while the mixed-methods design provided depth, the FGDs were limited to three groups and may not fully capture the heterogeneity of experiences in all underserved communities in Osun State.

CONCLUSION

This study examined the reproductive health knowledge, attitudes, and practices (KAP) among underserved women of childbearing age in Osun State, Nigeria. The findings indicate that while awareness of reproductive health issues—such as contraceptive use, STI prevention, and maternal care—is moderate, actual practices remain low. Attitudes toward reproductive health services are influenced by a combination of cultural norms, limited autonomy, and religious beliefs. Furthermore, significant disparities exist between rural and urban respondents, with rural women demonstrating markedly lower KAP scores. The results affirm the theoretical propositions of both the Health Belief Model (HBM) and the KAP framework, particularly the notion that knowledge alone is insufficient to drive behavioral change in the absence of enabling socio-cultural and structural conditions. Despite the availability of reproductive health information, deep-rooted gender inequality, social stigma, low literacy levels, and inadequate access to healthcare services inhibit women's ability to act on this information.

In light of these findings, it is clear that addressing reproductive health disparities among underserved women

in Osun State—and by extension, similar contexts—requires multifaceted, culturally sensitive, and community-centered interventions that go beyond information dissemination.

RECOMMENDATIONS

Strengthen Primary Healthcare Systems: Government and development partners should invest in revitalizing rural primary health centers with trained personnel, essential reproductive health commodities, and adequate infrastructure to improve access for underserved populations.

Subsidized or Free Maternal and Reproductive Health Services: Financial barriers remain a major hindrance to service utilization. Policymakers should implement or expand programs offering subsidized antenatal care, contraceptives, and postnatal services for low-income women.

Engage Community and Religious Leaders: To reduce stigma and cultural resistance, community influencers—especially religious and traditional leaders—should be trained as reproductive health advocates. Their endorsement can facilitate acceptance of practices like family planning.

Promote Male Involvement in Reproductive Health: Programs must target men as partners in reproductive decision-making, addressing patriarchal norms that limit women's autonomy. Male-focused education can foster shared responsibility in family health.

Expand Health Education Programs Using Local Languages and Media: Tailored reproductive health messaging through radio, community drama, and local outreach workers—delivered in Yoruba and other indigenous languages—can bridge the literacy gap and increase awareness.

Integrate Comprehensive Sexual and Reproductive Health Education into Adult and Youth Learning Platforms: Schools, vocational centers, and women's associations can serve as platforms for ongoing reproductive health education to reach younger and older women alike.

Continuous Monitoring and Community Feedback Mechanisms: Local governments and NGOs should institute mechanisms for routine monitoring of reproductive health services, with community input used to improve service delivery.

Further Research on Reproductive Autonomy and Health Systems Responsiveness:

More granular research is needed to examine how women's reproductive autonomy interacts with service quality and provider behavior, especially in rural health settings. Addressing reproductive health challenges among underserved women requires moving beyond traditional awareness campaigns to tackle structural, socio-cultural, and systemic barriers. The findings of this study not only highlight the urgency of targeted interventions in Osun State but also offer a model for scalable action in similar low-resource settings across Sub-Saharan Africa.

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