

An assessment of reproductive health services in selected health facilities, Anambra State, Nigeria

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Abstract

The national figure for skilled attendance at delivery in Nigeria is 38.1 percent, with some observed regional difference. In Anambra State for instance, 87.6 percent of deliveries are taken by skilled providers. However, the efficiency and effectiveness of skilled providers can be hampered by a lack of essential reproductive health drugs, commodities, supplies and equipment.

Aim: Of this study is to assess reproductive health care services in Anambra State, Nigeria.

Methodology: This is a descriptive study carried out in Anambra state of Nigeria in 2010. A stratified multi stage sampling method was used to select a total of 30 health facilities from both the public and private health facilities in Anambra state of Nigeria. A tertiary health facility in Anambra state was purposively selected and data was analysed using SPSS.

Results: A majority (86.7%) of the facilities provided 24 hours services. All, except two of the facilities surveyed were open for services seven days of the week. Maternal health services such as antenatal care, delivery, and postnatal care were available in most of the health facilities studied (93% to 100%). The comprehensive emergency obstetrics care (26.7%) was the most common type of emergency obstetric care. Nurses constituted the most frequent cadre (57.4%) among the various categories of skilled health attendants, followed by medical non specialist doctors (31.1%). Seven facilities used partograph to monitor labour, while 11 health facilities provided adolescent reproductive health care services. HIV/AIDS counselling and STI services (ranging from 90% to 96%) were available in most of the health facilities studied. A majority of deliveries were conducted in the National teaching hospital (36.8%) followed by mission hospital (31.1%), while Mission hospitals reported the highest rate (13.2%) of Caesarean section performed in the health facilities. Obstetric haemorrhage constituted the commonest obstetric complication (88.7%) followed by prolonged/ obstructed labour (6.8%) found in the health facilities studied.

Conclusion: The reproductive health services in Anambra state with specific reference to services coverage was found to be near adequate, although there is room for improvement.

Keywords: Assessment of reproductive health services, emergency obstetric care services, basic emergency obstetrics care services, Anambra State, Nigeria

Introduction

There have been global paradigm shifts in the concept of Reproductive Health care over the years. Since Alma Ata and the advent of primary health care in 1978, the concept of reproductive health has evolved from an earlier global policy focus on fertility control and family planning prior to the 1990s to a wider scope embracing broader health and social contexts at

the International Conference on Population and Development (ICPD) in 1994, a scope which continues to expand today [1]. Since ICPD 1994, several key components have been added to the concept of reproductive health which include: family planning; maternal and newborn health care; prevention, diagnosis and treatment of sexually transmitted infections, including HIV; adolescent sexual and reproductive health; cancer screening;

and infertility counselling. Other areas include post-abortion care, the elimination of gender-based violence, harmful practices, coercion or abuse and gender inequalities [1].

Globally, reproductive health problems contribute significantly to the burden of disease and sub-Saharan Africa ranks highest among all World Health Organisation (WHO) regions in total disability-adjusted life years lost due to reproductive ill health as a percentage of total DALYs lost among 15-44 year olds, 39.7% of DALYs among females and 8.5% among males [2]. Maternal and perinatal conditions, HIV/AIDS, STIs and cancers dominate this burden [3]. The 2013 Nigeria Demographic and Health Survey (NDHS) report estimates the maternal mortality ratio at 576 maternal deaths per 100,000 live births [4]. Nigeria accounts for 10 percent of global maternal mortality losing about 52,900 women annually to death from pregnancy-related complications [5,6]. The leading causes of maternal death in the country are haemorrhage, infections, unsafe abortions, eclampsia and obstructed labour although these conditions are preventable and treatable through access to adequate health-care services including safe and effective family planning methods and emergency obstetric care [7-10].

Lifesaving emergency obstetric care is core to reducing maternal and neonatal morbidity and mortality since many of the obstetric complications cause death within a critical time period [11]. Emergency obstetric care procedures are grouped under two categories, basic or comprehensive emergency obstetric care (EmOC). Basic EmOC comprises the ability of a health facility to provide the following services (signal functions): administration of parenteral antibiotics, parenteral oxytocics, parenteral anticonvulsants, manual removal of retained placenta, removal of retained products of conception, and assisted vaginal delivery either vacuum extraction or forceps delivery and basic neonatal resuscitation. On the other hand, signal functions for comprehensive EmOC are the ability to provide blood transfusion and perform caesarean section in addition to basic EmOC [12]. Clear guidelines have been laid down for what constitutes minimum coverage for EmOC; for every 500,000 people, there should be at least five facilities providing emergency obstetric care with at least one of them providing comprehensive EmOC [12].

The partograph is a low-cost graphical tool that can be used in developing countries for monitoring labour where cardiotocographs are not available [17].

The importance of skilled health care providers to reproductive health care cannot be overemphasized. The national figure for skilled attendance at delivery in Nigeria is 38.1 percent [4]. There are however regional differences; in Anambra State for instance, 87.6 percent of deliveries are taken by a skilled provider [4]. The efficiency and effectiveness of skilled providers can however be hampered by a lack of essential reproductive health drugs, commodities, supplies and equipment.

The ICPD called for the integration of sexual and reproductive health into primary health care and since then, there has been a growing recognition of the need of an overall strengthen-

ing of health systems and achievement of universal access to reproductive health. Universal access to reproductive health requires a functioning health system that includes health facilities, trained personnel, a steady supply of relevant commodities and interventions [1]. This paper assesses reproductive health care services in Anambra State, Nigeria with specific reference to service coverage, maternal health, emergency obstetric care, HIV and STI management, treatment of non-communicable reproductive tract conditions, staffing and skilled birth attendance, supplies, equipment and infrastructure as well as obstetric records.

Methodology

Study area

The study was carried out in Anambra State, South Eastern Nigeria. The state consists of 21 local government areas (LGAs), 235 districts, 330 wards and 177 communities, with the administrative capital at Awka. The population of Anambra State is approximately 4.2 million people, about 3% of the Nigerian population according to the 2006 National Population Census figures [13]. The male:female sex ratio is 1.02: 1 (50.5% and 49.5% of the population respectively) [14] and approximately 27.2% are women in reproductive age group (15-49 years). The people are predominantly Christians, traders, farmers and civil servants. According to the 2011 Nigeria Multiple Indicator Cluster Survey report, 62% of the Anambra population reside in urban areas while 64.3% and 78.3% of households have access to improved sources of drinking water and sanitary facilities, respectively [15].

Various categories of health care facilities provide health services to the population. Some of these belong to government, mission (faith based) organisations and private individuals. These include Nnamdi Azikiwe University Teaching Hospital (NAUTH), a Federal government-owned tertiary hospital, Anambra State University Teaching Hospital, a state-owned tertiary health facility and 32 secondary health facilities dispersed widely in the State. There are also 382 primary health care centres, 14 mission hospitals, 600 private hospitals, 186 maternity homes, 126 registered pharmaceutical premises, 10 health training institutions and 1,500 licensed patent medicine shops [16].

Study design

This paper was extracted from a descriptive study of maternal, newborn and child health care in Anambra State, Nigeria conducted on behalf of the Nigeria Federal Ministry of Health (FMOH) in 2010. This paper reports the details of a health facility survey which was one of the three components of the FMOH project. The other two were a desk review of official documents relevant to maternal health in Anambra State and key informant interviews of selected officials in the Anambra State Ministry of Health.

Study population and sampling technique

The study population comprised government-owned and

mission-owned health care facilities in Anambra. All government-owned and mission-owned health care facilities providing antenatal, delivery care and other maternal health services were eligible for inclusion in the study, while privately-owned health care facilities and government-owned or mission-owned health care facilities that do not render maternal health services were excluded.

The selection of health facilities for assessment employed a multistage sampling technique in such a manner as to provide adequate spread in terms of geographical area (senatorial zones and urban-rural settings) and categories and levels of health care facility (tertiary, secondary, primary and mission). Stratified sampling was used to select local government areas from the three senatorial zones in Anambra State namely Ek-wusigo (rural), Nnewi North (urban), and Ihiala (mixed) LGAs from Anambra South senatorial zone; Anambra East (rural) and Onitsha South (urban) LGAs from Anambra North senatorial zone; and Idemili north (mixed), Awka South (mixed) and Njikoka (mixed) LGAs from Anambra Central senatorial zone. Lists of eligible health care facilities for each LGA served as sampling frames and health facilities were selected by simple random sampling. The LGAs designated as "mixed" were made up of both rural and urban areas therefore health facilities were selected from both areas in each mixed LGA by simple random sampling following stratification by geographical setting. One of the two government-owned tertiary health care facilities in the State, Nnamdi Azikiwe University Teaching Hospital Nnewi was purposively included in the survey. A total of 30 health facilities were included in the survey.

Results

Thirty health care facilities were surveyed out of which 22 were located in rural areas and eight were in urban areas. There were 11 hospitals including a federal government-owned teaching hospital which provided tertiary health care, five government general hospitals that provided secondary care and five mission/faith-based hospitals. In addition there were 19 government primary health care centres (**Table 1**).

Service operation periods & shift duties

All except two of the facilities surveyed were open seven days of the week. These two facilities operated five days of the week except Saturdays and Sundays (**Table 2**). Overall, twenty-six (86.7%) of the facilities surveyed provided 24-hour services. These were the federal government-owned tertiary facility, four secondary health facilities, 16 primary health care facilities and all five mission health facilities.

Maternal health services

Table 3 shows the availability of maternal health care services performed by the 30 health facilities. Twenty-nine health facilities provided antenatal care; all the health facilities provided delivery care while 28 provided postnatal care. Only 16 provided post-abortion care (out of which only nine were primary

Table 1. Distribution of 30 surveyed health facilities grouped by senatorial zone, category and geographical setting, Anambra State, Nigeria.

Health facilities	Senatorial zone			Total
	Anambra north	Anambra south	Anambra central	
By Category				
Tertiary	--	1	--	1
Secondary	2	2	1	5
Primary	7	6	6	19
Mission	1	2	2	5
Total	10	11	9	30
By Geographical setting				
Rural	5	10	7	22
Urban	5	1	2	8
Total	10	11	9	30

Table 2. Seven days per week operation and 24-hour service coverage in 30 facilities, Anambra State, Nigeria grouped by category of health facility.

Category of Health Facility	Number of facilities N=30	Percent
Operational 7 days per week		
Tertiary (n=1)	1	100.0
Secondary (n=5)	4	80.0
Primary (n=19)	18	94.7
Mission (n=5)	5	100.0
Total	28	93.3
Availability of 24-hour service coverage		
Tertiary (n=1)	1	100.0
Secondary (n=5)	4	80.0
Primary (n=19)	16	84.2
Mission (n=5)	5	100.0
Total	26	86.7
	86.7	--

Table 3. Availability of Maternal Health Services in 30 health facilities, Anambra State.

Maternal Health Service	Number of facilities N = 30	Percent
Ante-natal care	29	96.7
Delivery Services	30	100.0
Post-natal Care	28	93.3
Post-abortion care	16	53.3
Family Planning	24	80.0

health facilities) while 24 offered family planning services.

Emergency obstetric care

Table 4 shows the proportion of facilities that performed the signal functions for emergency obstetric care (EmOC) and on this basis were further categorised as basic or comprehensive EmOC facilities.

Table 4. Signal functions and type of emergency obstetric care in 30 health facilities, Anambra State, Nigeria.

Signal function/type of EmOC	Number of facilities N=30	Percent
Signal function		
Parenteral antibiotics	25	83.3
Parenteral oxytocics	25	83.3
Parenteral anticonvulsants	22	73.3
Manual removal of placenta	14	46.7
Removal of retained products of conception	21	70.0
Assisted vaginal delivery	12	40.0
Basic neonatal resuscitation	21	70.0
Caesarean Section	9	30.0
Blood transfusion	9	30.0
Type of EmOC		
Basic EmOC ^a	1	3.3
Comprehensive EmOC ^b	8	26.7
Basic EmOC “minus 1” ^c	5	16.7
Comprehensive EmOC “minus 1” ^d	1	3.3
Not applicable ^e	15	50.0

^aA basic Emergency obstetric care (EmOC) facility performs the following six signal functions: parenteral antibiotics; parenteral oxytocics; parenteral anticonvulsants; manual removal of placenta; removal of retained products of conception; assisted vaginal delivery; and basic neonatal resuscitation.

^bA comprehensive EmOC facility performs all six signal functions of basic EmOC with Caesarean section and blood transfusion.

^cBasic EmOC without manual removal of placenta, assisted vaginal delivery or basic neonatal resuscitation

^dComprehensive EmOC without manual removal of placenta

^eDoes not meet criteria for Basic EmOC “minus 1”

Skilled birth attendants

Table 5 presents the distribution of skilled birth attendants in the surveyed health facilities. A total of 1067 skilled birth attendants were in the 30 health facilities included in the study. The bulk of the health workers were found in the tertiary facility. Out of a total of 360 doctors working in the 30 health facilities 251 (69.7 percent) were in the tertiary facility; a similar picture was observed for the nurse-midwives.

Use of partograph during labour

The facilities were assessed for the frequency in the use of a partograph for monitoring labour. The partograph is a low-cost graphical tool that can be used in developing countries for monitoring labour where cardiotocographs are not available [17]. Seven health facilities always used a partograph; this included the federal government-owned tertiary centre, one general hospital, three primary facilities and two mission facilities. Ten health facilities sometimes used the partograph while 13 never used this tool (**Table 5**).

Availability of HIV/AIDS and STI services

The survey obtained information on the following services:

Table 5. Distribution of 1067 skilled birth attendants and frequency of the use of partograph for monitoring labour in 30 health facilities, Anambra State, Nigeria.

Variable	Number	Percent
Category of skilled birth attendant	Health workers (N=1067)	--
Nurse-midwives (double qualified)	613	57.5
Medical doctors (non-obstetrician)	332	31.1
Registered midwives (single qualified)	45	4.2
Obstetricians	28	2.6
Registered nurses (single qualified)	27	2.5
Nurse/midwife community health officers	22	2.1
Use of partograph	Facilities (N=30)	--
Always used	7	23.3
Sometimes used	10	33.3
Never used	13	43.4

HIV/AIDS counselling/IEC, HIV/AIDS voluntary testing, HIV anti-retroviral treatment, counselling about other STIs/IEC, diagnosis of other STIs, and treatment of other STIs (**Table 6**). All services were available at the tertiary facility. One health facility did not provide HIV/AIDS counselling, information and education while 27 health facilities performed HIV testing. Seven health facilities provided antiretroviral treatment (the national teaching hospital, two general hospitals and four mission hospitals) while counselling, diagnosis and treatment for STIs were provided by 28, 22 and 27 of the health facilities respectively.

Table 6. Availability of HIV/AIDS and STI services; treatment of non-communicable conditions of the reproductive tract and other reproductive health services in 30 health facilities, Anambra State, Nigeria.

Reproductive health service	Number of facilities N=30	Percent
HIV/AIDS and other STI services		
HIV/AIDS counselling/IEC	29	96.7
HIV/AIDS voluntary testing	27	90.0
HIV anti-retroviral treatment	7	23.3
STI counselling/IEC	28	93.3
STI diagnosis	22	73.3
STI treatment	27	90.0
Adolescent/youth-friendly health service	11	36.7
Treatment of non-communicable RT conditions/other RH services		
Treatment for RH Cancers	6	20.0
Fertility consultation	18	60.0
Counselling on menopause & andropause	20	66.7
Counselling on sexual dysfunction	21	70.0

Provision of adolescent reproductive health services

Only 11 health facilities in the study provided adolescent reproductive health care services (Table 6). These were the teaching hospital, one secondary facility five of the PHC facilities and four of the mission health facilities.

Treatment of non-communicable conditions of the reproductive tract and other reproductive health services

Six health facilities provided treatment for reproductive tract cancers; these were the national teaching hospital, two general hospitals and three mission hospitals. Eighteen health facilities provided fertility consultations, 20 provided counselling on menopause and andropause, 10 of which were primary health facilities; and 21 provided counselling on sexuality dysfunction (Table 6).

Equipment, supplies and infrastructure

The provision of quality obstetric care and EmOC in particular is dependent on the availability of adequate equipment, supplies and infrastructure. However essential equipment, supplies and infrastructure were lacking in some facilities. For example, the manual vacuum aspirator used for treatment of first trimester miscarriages was available in good working condition in only 17 facilities. The non-pneumatic anti-shock garment (NASG), an effective first aid device that can be used in low-resource settings for management of obstetric haemorrhage [18] was found in 12 facilities. Magnesium sulphate was available in only seven health facilities while only 11 had piped running water (Table 7).

Delivery records and caesarean section rate

Out of a total of 7950 deliveries recorded in 2008, there were 7475 normal deliveries (94 percent), 444 caesarean deliveries (5.6 percent) and 31 assisted vaginal deliveries (0.4 percent). The 19 primary health care facilities together accounted for only 10.2 percent of all the deliveries whereas the national teaching hospital recorded 2925 (36.8 percent) of the deliveries for that year (Table 8). Among the health facilities that recorded caesarean deliveries, the mission hospitals had the highest caesarean section rate of 13.2 percent compared to 2.7 percent for the national teaching hospital and 2.3 percent for the general hospitals. Overall, the caesarean section rate for the study was 6.2 percent (Table 9).

Distribution of obstetric complications

The distribution of cases and deaths from seven major obstetric complications is shown in Table 10. Overall, there were 354 cases and 39 deaths. Obstetric haemorrhage accounted for the majority of cases (314; 88.7 percent) followed by prolonged/obstructed labour with 24 cases (6.8 percent). There were four cases of post-partum sepsis, six cases of complications from unsafe abortion, five cases of pre-eclampsia/eclampsia and one ectopic pregnancy. Fourteen mortalities occurred from obstetric haemorrhage giving rise to a case fatality rate of 4.5

Table 7. Distribution of selected equipment, supplies and infrastructure in 30 health facilities, Anambra State, Nigeria.

Equipment/Supplies/Infrastructure	Number of facilities N=30	Percent
Equipment in good working condition		
Sphygmomanometer	28	93.3
Manual vacuum aspirator	17	56.7
Sterilising equipment	17	56.7
Non-pneumatic anti-shock garment	12	40.0
Neonatal intubation set	21	70.0
Caesarean Section pack	21	70.0
Surgical gloves	23	76.7
Supplies		
Parenteral antibiotics	17	56.7
Magnesium Sulphate	7	23.3
Parenteral oxytocics	27	90.0
Oxygen	7	23.3
Partograph	16	53.3
Ante-natal Risk Assessment Form (ARAF)	10	33.3
Infrastructure		
Piped running water	11	36.7
Working toilet	26	86.7
Electricity		
National grid	20	66.7
Generating set	12	40.0
Solar panel	3	10.0

Table 8. Distribution of total deliveries recorded in 2008 in 30 health facilities, Anambra State, Nigeria, stratified by type of delivery and category of health facility.

Variable	Number of deliveries, N=7950	Percent
Type of delivery		
Normal delivery	7475	94.0
Caesarean delivery	444	5.6
Assisted vaginal delivery	31	0.4
Category of health facility		
National teaching hospital (N=1)	2925	36.8
General hospitals (N=5)	1740	21.9
Primary health facilities (N=19)	816	10.2
Mission hospital (N=5)	2469	31.1

percent. Case fatality rates for prolonged/obstructed labour, sepsis and unsafe abortion were 58.3 percent, 75 percent and 83.3 percent respectively. Fifty-six percent of the maternal deaths occurred in the mission hospitals, 30.8 percent in the primary health care facilities while the national teaching hospital and the general hospitals accounted for 5.1 percent

Table 9. Caesarean section rates in surveyed health facilities that recorded caesarean deliveries in 2008, Anambra State, Nigeria stratified by category of health facility.

Category of health facility ^a	Deliveries	Caesarean sections	Caesarean section rate (%)
National teaching hospital	2925	79	2.7
General hospitals	1740	40	2.3
Mission hospital	2469	325	13.2
Total	7134	444	6.2

^aNo caesarean delivery was recorded in any of the primary health facilities

Table 10. Distribution of major obstetric complications and deaths recorded in 2008 in 30 health facilities, Anambra State, Nigeria.

Obstetric complications	Cases, N=354		Maternal deaths N=39	Case fatality rate (%)
	Number	Percent		
Obstetric haemorrhage	314	88.7	14	4.5
Prolonged/ obstructed labour	24	6.8	14	58.3
Post partum sepsis	4	1.1	3	75.0
Unsafe abortion	6	1.7	5	83.3
Pre-eclampsia/ eclampsia	5	1.4	2	40.0
Ectopic Pregnancy	1	0.3	1	100.0
Ruptured uterus	0	0.0	0	0.0

and 7.7 percent of the maternal deaths respectively.

Discussion

Health data is critical to improving the health of populations as it plays a vital role in identifying their needs and determining solutions to their health problems. This study took a close look at reproductive health services in the Anambra State health system. It was however limited by incompleteness of information obtained and in some cases a total lack of records regarding certain aspects of the study.

Access to reproductive health services particularly maternal and child health services is fairly good in Anambra State. Many of the health facilities provided 24-hour services and were open seven days a week. Although there are many factors that contribute to maternal mortality, access to 24-hour emergency obstetric care, along side availability of skilled attendance at delivery, is one the most effective ways of preventing maternal death [19]. Nnebue et al., [20] in their study on the adequacy of resources for maternal health services in primary health care facilities in Nnewi, Nigeria found that a lack of residential accommodation for health facility staff and

security personnel prevented the facilities from providing 24-hour service [20].

Maternal mortality remains a serious problem in Nigeria. Although some progress was made on the fifth millennium development goal -reduce the maternal mortality ratio (MMR) by three quarters between 1990 and 2015-Nigeria is unlikely to achieve it. The survey showed 11 percent maternal mortality from seven major obstetric complications but this did not include mortality data from traditional birth attendants, traditional healers, maternity homes and other sources.

Majority of the secondary and primary health care facilities failed to meet the standard for Basic EmOC which has serious implications for their ability to manage emergency obstetric and newborn conditions. Assisted vaginal delivery was generally lacking as just 12 facilities offered the service. Furthermore only 31 out the 7950 deliveries (0.4%) recorded in 2008 where assisted vaginal deliveries which may reflect a lack of skills for such procedures rather than the occurrence of few indications or provider bias against assisted vaginal delivery [17]. Adequate training of skilled birth attendants could mitigate this and will prevent any unnecessary caesarean operations for prolonged second stage [17]. Unfortunately, global trends over the past two decades show declining rates of assisted vaginal delivery while caesarean section rates have been on the increase. Both types of instrumental vaginal delivery (vacuum extraction or forceps) have clear indications for use and can potentially not only reduce the risks associated with caesarean sections but also lower the cost of obstetric care [21].

Skilled attendance means that a pregnant woman and her infant receive adequate care during pregnancy, labour, delivery, and the postpartum and immediate newborn periods, whether she gives birth at home, in a health centre, or hospital. Importantly, the attendant must have the necessary skills and must be supported by an enabling environment at various levels of the health system [19]. The World Health Organisation defines a skilled birth attendant as an accredited health professional-such as a midwife, doctor or nurse who has been educated and trained to the level of proficiency in the skills needed to manage uncomplicated pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns [22]. Non-nurse/midwife community health officers, community health extension workers, auxiliary nurses and traditional birth attendants are not regarded as skilled birth attendants. Skilled health workers were inadequate among the health facilities in this study, similar to what was observed by Wilunda et al., in the Karamoja region, Uganda [23]. There was also an inequitable distribution of the health care workers with the bulk of the doctors and double qualified nurse-midwives found in the tertiary facility (69.7 percent and 62.2 percent respectively).

Aside from maternal health services, the most commonly provided reproductive health services were HIV and STI

care possibly because a large share of the funding for these conditions is donor-driven [24,25]. This may have given rise to the so-called 'dependency syndrome' [26] resulting in less political will and funding from the State government to other areas of reproductive health such as adolescent sexual and reproductive health, reproductive cancers e.t.c. Few health facilities in the study offered adolescent reproductive health services. Due to the unique reproductive and sexual needs of adolescents, access to youth friendly services is paramount to ensure their sexual and reproductive health and wellbeing [27]. Denno et al., [27] found positive associations between strategies that combined training of health workers, improvements in adolescent-friendly facilities, and broad information dissemination and outcomes such as uptake of SRHS or sexual and reproductive health commodities and sexual and reproductive health biologic outcomes. It is hoped that the information provided here would stimulate improvements or changes in reproductive health policy, financing, implementation, and monitoring and evaluation of health facilities in the State and by extension the Anambra State health care delivery system thereby completing a significant step towards improving sexual and reproductive health in Nigeria.

Conclusion

This study has served to provide baseline information for the implementation of reproductive health care in Anambra State. Information has been presented on the magnitude of the problem including the health system functions and performance; the quality of available services including essential obstetric and newborn care, prevention of mother to child transmission of HIV, adolescent health e.t.c. Equipment such as the manual vacuum aspirator and the non-pneumatic anti-shock garment were unavailable in several facilities as well as supplies such as magnesium sulphate, oxygen, partographs and piped running water.

We recommend regular monitoring and supervisory visits and an annual accreditation process that will determine deficiencies, constraints and challenges to providing reproductive health in health facilities in the State, which will help improve service delivery. Further studies are needed in this area to help a better understanding of the availability and utilisation of reproductive health services.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

Authors' contributions	COI	NNE	GAN	OFE	UMU	CCO
Research concept and design	✓	✓	--	--	--	--
Collection and/or assembly of data	✓	✓	--	--	--	--
Data analysis and interpretation	✓	✓	✓	✓	✓	✓
Writing the article	✓	✓	✓	--	--	✓
Critical revision of the article	✓	✓	✓	✓	✓	✓
Final approval of article	✓	✓	✓	✓	✓	✓

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