



Utilization of delivery services among antenatal attendees in the selected health facilities in Ekiti State: A three year retrospective study

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Abstract

Utilization of delivery services is a roadmap to achieving a safe delivery outcome and preventing maternal and neonatal mortality/morbidity among mothers. This study aims to evaluate the utilization of delivery services at the primary and secondary health facilities within the 3 senatorial district in Ekiti State. Low utilization of health facilities during delivery by pregnant mothers is still a major contributory factor for maternal and childhood morbidity and mortality in Nigeria. The aim of this study was to determine the rate of Health care facilities utilization for delivery by antenatal care attendees in Ekiti State Nigeria. A retrospective study called chart review was used to collect data from selected Hospitals in the three senatorial district using existing data on booking and delivery between 2020 to 2022. The study cut across the State Specialist Hospitals, Comprehensive Health Centres and Basic Health Centres. Overall utilization of health facility for the three years were 75.5%, percentage of pregnant women who did not give birth in the health facility over the three years were 24.5% This implies that despite the efforts of the state Government to ensure easy access to health care, the pregnant women still delivers elsewhere. This study identified disparity between booking and deliveries cases in different Hospitals meaning that there is inadequate utilization of health care facilities for deliveries by pregnant women and this cut across different level of health care and at different location.

Keywords: Antenatal attendees, booking, delivery, retrospective, utilization

Introduction

A retrospective study is a purely observational review or reassessment of past records with the aim of analyzing previous events of interest. Retrospective studies are carried out in health care settings with various types of data sources which may be available for conducting patient/client reviews [1]. In health care retrospective studies are often called "chart reviews" because the data source is the medical record. There are 3 general types of retrospective study: case report, case series, and case-control study.

Utilization of delivery services is a roadmap to achieving a safe delivery outcome and preventing maternal and neonatal mortality/morbidity among mothers [2]. The location where a woman decides to give birth plays a crucial role in determining the outcome of her labor. Delivery as a natural physiological process, has evolved into a medical event in most modern countries, where it predominantly occurs in well-equipped hospitals with advanced medical instruments and tools. The results of childbirth deeply impact the health and well-being of women and their families, leading to both immediate and long-term effects [3].

In Nigeria for instance, 26% of births take place in public health facilities and 13% in private ones, making up 39% of the nation's skilled birth attendance. Despite this, 61% of Nigerian women still give birth at home [4].

The National Population Commission (NPC, 2019) reports that the use of unskilled traditional attendants for delivery care varies significantly by region and state, ranging from

0.5% to 71.8%. This practice is more common in rural areas (25.5%) compared to urban areas (12.4%).

The country lacks comprehensive health coverage for maternal health, primarily due to the underutilization of available and affordable services in Primary Health Care centers (PHCs) [5]. Enhancing women's access to skilled pregnancy care and ensuring they use these services are vital steps in preventing maternal deaths in Nigeria.

Women who delivered in health facilities with skilled birth attendants tend to have better outcomes, experiencing lower rates of maternal and child morbidity and mortality compared to those who give birth elsewhere [6]. Despite these advantages, more than half of births in low-resource countries still take place at home.

Statement of problem

The high MMR in Nigeria is closely associated with the widespread practice of giving birth outside health institutions. Nigeria is one of the top six countries contributing to over 50% of global maternal mortality [7]. According to the Nigerian Demographic and Health Survey [8], 61% of births among women of childbearing age occurred at home, and 60% of these were not attended by skilled birth attendants. Nigeria also ranks second globally in terms of neonatal deaths, with around 262,000 babies dying at birth annually. Nigeria infant mortality rate was 72.2 deaths per 1,000 live births in 2020, in contrast to the global estimate of 27.4 per 1,000 live births [9]. The choice

of delivery place significantly impacts neonatal mortality rates [10].

In sub-Saharan Africa (SSA), the current maternal mortality ratio is 534 per 100,000 live births, which is higher than the average ratio globally (211 per 100,000 live births). Despite significant efforts to reduce maternal deaths through enhanced maternal healthcare services utilization globally. Health facility deliveries have been found to be associated with reduction in maternal and newborn deaths, it provides access to appropriate equipment and drugs, skilled attendants and immediate referral to a higher facility. One of the key strategies recommended by the World Health Organization (WHO) in its attempt to reduce maternal and infant death is the accessibility of health facilities with skilled birth attendants who can deal with emergency obstetric cases [11].

In Nigeria, there is evidence suggesting that low utilization of prenatal, birth, and postnatal services by women may stem from perceptions of inadequate care in health facilities. Despite various initiatives aimed at promoting health facility deliveries and increasing the availability of skilled health personnel, women still end up in delivering in TBA homes [12].

Non-use of health service during delivery among middle-aged women (25-34) is higher compared to women in older age category of 35 years and above. Although the older women may comprise those whose pregnancy is considered risky as a result of their age bracket, which consequently prompts them to seek facility delivery [13].

Those who utilizes health facility may be due to the danger of non-facility delivery experienced at one time or the other or had friends or relatives who have been victims of complications during delivery outside health facility.

Research objectives

1. To examine the disparities in Hospital utilization among pregnant women in the Ekiti State.
2. To examine the rate of Health care utilization for deliveries in the selected Hospitals in Ekiti State

Research questions

1. What are the disparities in Hospital utilization among pregnant women in the Ekiti State?
2. What is the rate of Health care utilization for deliveries in the selected Hospitals in Ekiti State?

Methodology

A retrospective study using the Hospital records to collect the number of antenatal attendees and the number of deliveries for 3 consecutive years, starting from January 2020- December 2022. One Basic Health Centre, one Comprehensive Health Centres and one General Hospital from selected LGA were used. The LGA selected from the 3 senatorial District were Ikere (Ekiti south), Ikole (Ekiti North) and Irepodun/Ifelodun (Ekiti Central). Total enumeration of antenatal attendees and delivery cases in the same Hospital were used between January 2020 to December, 2022. Taking record of clients attending the facility from January to December each year. Descriptive statistics was used to analyse the data collected to know the

disparities between the number of pregnant women who booked in the selected Hospitals and the number of women who delivered in the same Hospital.

Main outcome measures

Study from antenatal attendees for a year was compared with the number of deliveries in the same year and this was done for three consecutive years

Ekiti North (Ikole local Government)

Table 1: Booking and delivery report in state specialist hospital, Ikole Ekiti

Month	Booking			Deliveries		
	2020	2021	2022	2020	2021	2022
January	29	22	24	10	15	16
February	36	27	27	14	19	15
March	33	20	12	19	21	20
April	11	18	16	15	22	24
May	22	15	19	15	25	22
June	18	16	13	13	24	19
July	15	6	23	8	20	25
August	9	24	16	5	21	18
September	13	15	14	12	19	18
October	20	11	17	18	29	25
November	17	23	17	29	24	11
December	32	14	12	17	22	14
Total	255	211	210	175	261	227

Table 2: Booking and delivery reports in methodist comprehensive health Centre Ikole

Month	Booking			Deliveries		
	2020	2021	2022	2020	2021	2022
January	13	17	14	11	8	12
February	26	12	14	7	5	7
March	19	17	11	4	4	6
April	14	12	6	3	3	7
May	15	10	19	6	4	3
June	22	12	26	13	8	3
July	12	14	14	16	7	8
August	17	16	21	3	6	8
September	19	14	14	8	11	9
October	9	19	19	8	6	6
November	11	13	13	4	4	16
December	13	9	7	4	4	10
Total	190	165	178	87	70	95

Table 3: Booking and delivery report in basic health centre, Esun

Month	Booking			Deliveries		
	2020	2021	2022	2020	2021	2022
January	3	5	5	1	1	2
February	0	2	0	1	0	3
March	6	1	1	4	3	3
April	4	6	4	3	2	2
May	3	5	3	0	3	2
June	5	1	0	2	0	0
July	3	5	0	2	1	4
August	2	1	5	0	3	1
September	0	1	0	3	1	0
October	1	0	2	2	2	1
November	0	3	0	4	3	1
December	1	3	1	1	3	1
Total	28	33	21	23	22	20

Ekiti Central**Table 4:** booking and delivery report in general hospital, Iyin-Ekiti

Booking				Deliveries		
Month	2020	2021	2022	2020	2021	2022
January	14	16	21	10	10	7
February	17	11	9	5	7	11
March	18	14	11	9	15	6
April	3	20	9	18	11	14
May	9	14	23	10	4	13
June	20	12	19	17	9	15
July	13	12	6	5	7	6
August	24	15	9	7	8	9
September	31	14	13	10	11	9
October	6	11	14	11	6	15
November	26	14	9	12	14	7
December	16	6	7	14	15	9
Total	197	159	150	128	117	121

Table 5: Booking and delivery report in comprehensive health centre Afao-Ekiti

Booking				Deliveries		
Month	2020	2021	2022	2020	2021	2022
January	5	4	8	4	0	6
February	7	6	5	1	0	8
March	7	9	7	0	2	0
April	7	5	2	2	6	0
May	5	3	5	3	0	8
June	3	4	9	0	0	1
July	6	5	5	4	6	2
August	7	7	8	1	0	2
September	3	5	3	9	2	7
October	3	9	0	3	8	3
November	2	9	6	1	8	0
December	1	5	1	6	0	2
Total	56	71	59	34	32	39

Table 6: booking and delivery report in basic health centre Aaye, Igede-Ekiti

Booking				Deliveries		
Month	2020	2021	2022	2020	2021	2022
January	8	8	7	5	1	2
February	6	7	5	4	3	4
March	8	10	4	4	6	3
April	5	10	3	0	2	3
May	7	5	5	0	9	2
June	11	5	3	2	3	3
July	13	10	11	3	3	1
August	5	9	18	3	1	4
September	6	3	6	2	2	1
October	1	7	7	1	4	6
November	8	6	6	1	1	3
December	0	5	4	1	2	1
Total	78	85	79	26	37	33

Ekiti south

Table 7: Booking and delivery report in state specialist hospital, Ikere

Month	Booking			Deliveries		
	2020	2021	2022	2020	2021	2022
January	72	66	47	62	44	50
February	42	50	26	60	54	28
March	41	50	60	62	37	47
April	48	42	30	40	40	36
May	59	62	50	56	70	44
June	53	54	53	56	42	52
July	50	56	39	7	46	35
August	26	56	46	17	52	42
September	56	40	32	47	46	30
October	41	29	36	60	38	37
November	56	43	34	50	37	25
December	42	37	20	56	39	44
Total	586	585	473	573	545	470

Table 8: Booking and delivery report in comprehensive health centre, Kajola Ikere

Month	Booking			Deliveries		
	2020	2021	2022	2020	2021	2022
January	18	9	18	8	2	5
February	17	12	11	6	5	7
March	13	21	17	7	4	6
April	7	14	11	5	0	7
May	9	13	17	8	6	7
June	16	17	12	7	4	8
July	14	5	17	8	6	5
August	19	14	9	3	6	8
September	13	15	12	2	9	7
October	14	15	9	2	6	6
November	17	16	13	9	8	6
December	11	12	9	4	5	15
Total	168	163	155	69	61	87

Table 9: Booking and delivery report in basic health centre, are Araromi Ikere

Month	Booking			Deliveries		
	2020	2021	2022	2020	2021	2022
January	0	6	2	0	0	1
February	0	2	2	0	0	0
March	0	4	2	0	1	0
April	0	8	1	0	1	0
May	0	3	3	0	1	2
June	0	1	4	0	1	0
July	6	7	4	0	1	1
August	6	5	5	0	1	2
September	0	2	7	0	2	3
October	2	1	3	0	3	0
November	4	3	3	0	0	0
December	4	4	3	0	1	0
Total	22	46	39	0	12	9

Booking and Delivery Reports within the 3 Years at Different Levels of Health Care System

Table 10: Table showing report of the three level facilities

	Ekiti north		Ekiti central		Ekiti south	
	Booking	Deliveries	Booking	Deliveries	Booking	Deliveries
SSH	676	663	506	366	1644	1588
CHC	533	252	186	105	486	217
BHC	82	65	242	96	107	21
TOTAL	1,291	980	934	567	2,237	1,826

Results

Table 10 showed that booking cases in the Ekiti North, Ekiti Central and Ekiti South are more higher than delivery cases in all the health facilities between year 2020 to 2022. For example number of booking in State Specialist Hospital Ikole is higher than the delivery cases (676/663), while in

CHC it was (533/252) and in BHC (82/65). Booking cases in General Hospital Iyin are higher than the delivery cases (506/366), while in CHC it was (186/105) and in BHC (242/96). At SSH Ikere booking is equally higher than delivery (1644/1588), in CHC (486/217) and CHC (107/21).

Table 11: Summary of bookings and deliveries in the three senatorial district from year 2020-2022

Year	Ekiti north		Ekiti central		Ekiti south		Total	
	Bookings	Deliveries	Bookings	Deliveries	Bookings	Deliveries	Bookings	Deliveries
2020	473	285	331	188	776	642	1580	1115
2021	409	353	315	186	794	618	1518	1157
2022	409	342	288	193	667	566	1364	1101
Total	1291	980	934	567	2237	1826	4462	3373

Disparity in hospital utilization among pregnant women in the Ekiti State

The data collected revealed that Hospital utilization in secondary facilities is higher than that of primary level, the rate of booking and deliveries for the three consecutive year is higher in secondary facilities than the primary level despite the fact that primary hospitals are at the door step of the people at the Community. However the booking cases is higher than delivery cases at both secondary and primary level of care.

Rate of health care utilization for deliveries in the selected hospitals in Ekiti State

Health facility utilization in

2020: $1115/1580 \times 100 = 70.5\%$ utilization

2021: $1157/1518 \times 100 = 72.2\%$ utilization

2022: $1101/1364 \times 100 = 80.7\%$ utilization

Overall utilization of health care facility from year 2020-2022 was $3373/4462 \times 100 = 75.5\%$, non-utilization 24.5%.

The outcome of the retrospective study from year 2020-2022 showed that the rate of booking in health care facilities is far higher than the rate of deliveries for example in Ekiti North senatorial district, at the secondary facility 473 pregnant women booked in the hospital and only 285 women delivered in the facility in the year 2020, in the same year at Comprehensive Health Centre 409 women booked and only The highest population of pregnancy bookings was found in 2020 with 1580 entries but 1115 deliveries was taken. This is followed by a booking of 1518 in 2021 with 1157 deliveries; and 1364 bookings in 2022 with 1101 deliveries. Pregnancy bookings were more experienced in Ekiti South senatorial district with a total number of 2237 in the 3 years with 1826 deliveries. Highest booking of 794 was observed in 2021 but with 618 deliveries, followed by 776 bookings in 2020 with 642 deliveries, and 667 bookings in 2022 with 566 deliveries. Ekiti North senatorial district has a total of 1291 bookings between the year 2020 and 2022 with a total deliveries of 980. The pregnancy bookings was prominent in year 2020 (473) but with delivery rate of 285. In year 2021, a booking of 409 was recorded with a delivery rate of 353, while in 2022 a booking of 409 was recorded with a delivery rate of 342. The Table revealed further that Ekiti South senatorial district has a total of 934 bookings between the year 2020 and 2022 with a total delivery of 567. The pregnancy bookings was prominent in year 2020 (331) but with delivery rate of 188. In year 2021, a booking of 315 was recorded with a delivery rate of 186,

while in 2022 a booking of 288 was recorded with a delivery rate of 193. Therefore, overall utilization for the three years were 75.5%, percentage of pregnant women who did not give birth in the health facility over the three years were 24.5% This implies that the pregnant women in their large numbers always come to the health facilities and register for antennal services but when it is time for delivery some of them go to somewhere else. It could be said therefore that pregnant women in Ekiti state still engaged the use of TBAs and faith based home during child birth despite the effort of the State Government to ensure that everybody in the state has access to health care. This corroborate the study conducted by¹⁴ in Osun State, Ile-Ife, revealing that 86.1% of respondents received antenatal care during their last pregnancy, with 73.4% attending ANC at institutional facilities and averaging four visits. Despite high ANC attendance at hospitals, only 38.2% of women had institutional births, while 61.8% delivered in non-institutional settings. Therefore, the factors responsible for non-utilization of health care facility for delivery by pregnant women need to be verified in the subsequent studies so that solution can be proffered in order to encourage the women to make use of hospital services. Training programme that will increase the knowledge of women on danger signs during pregnancy and child birth and guide them to make health facility delivery their best choice should be developed.

Limitation

The study is limited to selected Hospitals in three Local Government.

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