

## Prevalence of obstetric complications in pregnant women in Osisioma-Ngwa Local Government Area, (LGA). Abia State, Nigeria

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### ABSTRACT

**Background:** Complications during pregnancy and childbirth are leading causes of death and disability among women of reproductive age in developing countries even though majority of these deaths are due to preventable causes; consequently, improving maternal health is one of the Millennium Development Goals with a target of 75% reduction in maternal deaths by 2015.

**Objective:** To determine the prevalence of obstetric complications in both orthodox and un-orthodox health care in Osisioma-Ngwa LGA., Abia state, Nigeria.

**Methods and Materials:** A descriptive cross-sectional study carried out in Osisioma-Ngwa LGA, Abia State, among 431 women of child bearing age selected using systemic sampling method. Data were collected using a self-administered questionnaire; data analysis was done using Statistical Package for Social Sciences (SPSS) version 26.

**Result:** Out of the 431 participants in the study, there was 384 (90%) response rate, 178 (46.40%) had Ante-natal Care (ANC) in non-orthodox centers, whereas 206 (53.60%) had ANC in orthodox centers. One hundred and twenty-one (31.50%) delivered their babies outside a hospital setting and 263 (68.50%) had their babies in orthodox setting. Out of 92 (24.40%) of those who had problem during pregnancy, 51 (55.43%) of them had ANC outside a hospital setting while 41 (44.57%) used the hospital ANC. These problems were hypertension 22 (23.91%) and bleeding 70 (76.09%). Also, out of 231 (60.20%) of those who had problem during delivery or immediately after, 119 (51.52%) delivered outside a hospital setting. Prevalence of complication is 13.28% from non-orthodox centres against 10.68% from orthodox centres. The major problems included; bleeding per vaginum 120 (31.25%), failure to progress in labor 53 (13.80%), fever 51 (13.28%).

**Conclusion:** The findings in this study suggest the importance of strengthening maternal and child health policies in the state. The prevalence of obstetric complications is higher with the patronage of non-orthodox obstetric care facilities.

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## Keywords

Prevalence, Obstetric Complications, Pregnant women, Osisioma-Ngwa LGA, Abia State, Nigeria.

## Introduction

### Background

Usually, pregnancy is seen as a normal process but is now frequently faced with potential risk to the unborn child and the expectant mother; notwithstanding, most women still believe that pregnancy is a delightful period in their lives [1]. Proper care during pregnancy and delivery is important for the health of both the mother and the baby are indicator of the status of maternal and child health in the society. Complications during pregnancy and child birth are leading causes of death and disability among women of reproductive age in developing countries even though majority of these deaths are due to preventable causes [2], consequently, improving maternal health is one of the Millennium Development Goals with a target of 75% reduction in maternal deaths by 2015. However, up until now, maternal mortality still remains a major public health challenge in Nigeria with an unacceptable ratio of 545 per 100,000 live births [3].

Obstetrics may be defined as the specialty of medicine and surgery concerned with the care of women during pregnancy, parturition (labour) and the puerperium [1]. Acute conditions arising from a direct cause of maternal death (for example, obstructed) or indirect causes (such as anaemia) are known as obstetric complications. Obstetric complications are referred to as pathological changes that can occur in an obstetric patient (this includes care during pre-conception, pregnancy, childbirth and immediately after delivery) with a severity manifesting in higher number of signs and symptoms which are related to her state of pregnancy [2]. Obstetric complications include Pre-eclampsia/Eclampsia, Haemorrhages, syndrome of haemolysis, elevated liver enzymes and low platelet count syndrome. Others include threatened abortions, uterine rupture, thrombosis, gestational diabetes, placenta praevia/infarction, cephalo-pelvic disproportions, cord prolapsed, congenital malformations and prolonged labour, among others [4]. World Health Organization defines dangerous or life-threatening, severe and acute obstetric complications within the concept of near-miss, as “a woman who almost died but survived a complication that arose during pregnancy, childbirth or within 42 days of termination of pregnancy”[3].

The prevalence of obstetric complication differs widely across various parts of the globe, with low and middle-income countries having very high rates. Women choose non-orthodox health care, which include community health workers, traditional birth attendants, prayer houses and other unskilled health care providers while women in high-income countries mostly make use of orthodox health care services [3]. There are myriads of obstetric complications that may occur, however this work will be focused on four major life-threatening ones, which are also the most associated with maternal and neonatal morbidity and mortality [2]. These include haemorrhage, complications of obstructed

labour, hypertensive disorders in pregnancy and puerperal sepsis. Obstetric hemorrhage (bleeding) is a major complication of pregnancy, which could be severely morbid as well as rapidly fatal. Obstetric hemorrhage is the single most significant cause of maternal mortality worldwide accounting for 25-30% of all maternal deaths [2].

The emergency units of the obstetric department of several hospitals especially tertiary health institutions are saddled with patients presenting with obstetric complications arising from lack of, or inadequate orthodox, or unprofessional antenatal, perinatal and immediate post-natal management. Some of these complications are significantly life-threatening and most women are rushed to the tertiary health institutions at a critical stage when little or nothing can be done to salvage the life of the mother and/or the baby. At other times when not fatal, they may result in severe maternal and/or neonatal morbidities.

Everyday approximately 830 women die from preventable causes related to pregnancy and childbirth. Ninety-nine percent of all these maternal deaths occur in developing countries with more than half of these occurring in sub-Saharan Africa [3]. According to WHO analysis, most maternal deaths in Africa are related to direct obstetric complications that occur around the time of childbirth—mainly haemorrhage, hypertension, sepsis and obstructed labour, which combined account for 64% of all maternal deaths. Sub-Saharan Africa accounts for 11% of the world’s population yet half of the world’s burden of maternal, newborn and child deaths—nearly 4.7 million deaths per year [3].

Death from obstetric hemorrhage could arise due to massive blood loss, leading to shock, coma and eventually death. It could be ante partum or post-partum. Ante partum hemorrhage is bleeding from the genital tract after the age of viability (for Nigeria after the 28<sup>th</sup> of gestation) and before the onset of labour [5]. Causes include placenta praevia, abruptio placenta (placental abruption), vasa praevia and other local causes such as cervical erosion, polyp, cancer of the cervix, trauma, etc [5]. Post-partum hemorrhage (PPH) on the other hand is defined as bleeding of 500ml or more ensuing from the birth canal after complete delivery of the baby, or resultant bleeding which compromises the clinical condition of the patient [5]. The causes of PPH may be easily remembered by being grouped broadly as due to tone, trauma and thrombosis [6]. Causes related to tone are factors that cause over-distention of the uterus leading to uterine atony. These include: multifetal gestation fetal macrosomia, polyhydramnios, fetal abnormalities like fetal hydrocephalus or distension with blood before delivery of placenta. Causes related to tissue including retention of placenta, which occurs commonly in succenturiate placenta, and preterm gestation; placenta praevia. Traumatic causes include damage to the genital tract, uterine rupture, prolonged vigorous labour in the face of cephalo-pelvic disproportion, or following attempts to manually remove retained placenta. Other traumatic causes include cervical laceration during forceps delivery and vaginal sidewall lacerations. Other causes due to thrombosis include disorders of clotting

such as idiopathic thrombocytopenic purpura, HELLP syndrome (HELLP (haemolysis, elevated liver enzymes, low platelet count) syndrome usually develops before the 37th week of pregnancy but can occur shortly after delivery), Disseminated intravascular coagulation (DIC) or sepsis. Losing lots of blood quickly from PPH can cause a severe drop in blood pressure, which may lead to shock and death if not promptly treated [7].

Obstructed labour is one in which progress has come to a complete halt in the presence of good and adequate uterine contraction [2]. Labour is considered obstructed when the presenting part of the fetus cannot progress into the birth canal, despite strong uterine contractions [3]. It may be due to cephalo-pelvic disproportion in which the woman's pelvic size or shape cannot accommodate the head of the fetus; transverse lie, where the fetus is lying horizontally inside the uterus; or dysfunctional labour where the uterus fails to contract adequately in a manner conducive to delivery. Obstructed labour is one of the common preventable causes of maternal and perinatal morbidity and mortality in developing countries. Africa has the highest maternal mortality in the world, estimated at an average of about 1,000 deaths per 100,000 live births [8]. Maternal mortality rate from obstructed labour is largely the result of ruptured uterus or puerperal infection, whereas perinatal mortality is mainly due to asphyxia. Significant maternal morbidity is associated with prolonged labour, since both post-partum hemorrhage and infection are common in women with long labour. Obstetric fistulas are long-term complications. Traumatic delivery affects both mother and child [9].

Hypertensive diseases of pregnancy include both chronic and pregnancy-induced hypertension. Gestational hypertension (GHTN), formerly known as pregnancy-induced hypertension, is defined as a new rise in blood pressure (BP) >140/90mmHg, presenting at or after 20 weeks gestation without significant proteinuria (>300mg/24 hour urine collection of urine, or 2 specimens of urine collected >4 hours apart with >2+ on the protein reagent strip, or protein creatinine ratio {PCR} >30mg/mmol) or other features of preeclampsia which usually resolves within 6-12 weeks of delivery [10]. Pregnancy-induced hypertension could be gestational hypertension defined as the development of hypertension in the second half of pregnancy on two or more occasions about four hours apart in a woman who has previously been normotensive, and in whom blood pressure (BP) returns to normal within six weeks of delivery [5]; or preeclampsia which is gestational hypertension with proteinuria. Preeclampsia may be associated with increased obstetric morbidity and mortality.

When preeclampsia is accompanied by convulsion, the condition is called eclampsia. Eclampsia is an obstetric emergency, which if not managed properly by a skilled obstetrician may culminate in severe morbidity or even death. Chronic (pre-existing) hypertension may be diagnosed before gestation or assumed when a woman is found to be hypertensive in early pregnancy [11].

## Materials and Methods

### Study Area

The study was carried out in Osisioma Local Government Area of Abia State. Abia State is a South-Eastern State of Nigeria comprised of 17 Local Government Areas of which Osisioma Local Government is one [12]. Osisioma is a semi-urban area and is in close Connections with the commercial industrial city of Aba. It has 10 districts namely. Ama – Asaa, Amaitolu/Mbutu/Umuojima, Amasator, Amator, Amavo, Aro-Ngwa, Okpu-Umuobo, Oso Okwa, Umunneise and Uratta [13]. It has an area of 198 km<sup>2</sup> and a population of 219,632 at the 2006 census [12]. The people are a heterogeneous population of both literate and illiterate persons but probably with a preponderance of semi-literate individuals and also both people of low and high socio-economic status, albeit more of the former. Osisioma-Ngwa people generally make a living as farmers, traders, artisans and craftsmen. Just like most Igbo communities, a very high percentage of the populations are Christians by religion, though with varying denominations and hence certain differences in doctrines. Many persons in the population believe in, and patronize prayer houses in seeking solutions to their problems. Traditions beliefs are still upheld by many persons. Some combine this with their Christian beliefs, while yet some others are core traditionalists though fewer. Even though there are a good number of orthodox obstetric facilities in the area and other private obstetric hospitals, a lot of pregnant women in the area still patronize traditional birth homes which are located in the area.

Home delivery by traditional birth attendants is also not an uncommon practice amongst the people. These women are most times referred to teaching hospitals from these centers especially when the conditions of the pregnant women are markedly deteriorated. However, a good number of people in the area also patronize the orthodox obstetric facilities. These are mostly those living within then urbanized areas of the community, and who can afford orthodox healthcare cost.

Education in Osisioma-Ngwa receives little support from the State and Federal government, thereby opening up opportunities for private schools to thrive. However, these are some of the Secondary Schools [14]: Ngwa High School, Abayi, Girls' Secondary School, Abayi, Umuocham, Girls Senior Secondary School, Osokwa Community Secondary School, Comprehensive Senior Secondary School, Okpu-Umuobo, City Laboratory Comprehensive Secondary School, Ariaria, St. Leo The Great Secondary School, Oberete, Uratta Comprehensive Secondary School, Egbede, Royal Foundation College, Osisioma, Mbutu Umuojima Community Secondary School, Umuojima Ogbu, Heritage Comprehensive Secondary School, Ariaria, Amator Technical Secondary School, Umuoyoro Ngwa, Boys Secondary School, Abayi-Umuocham, Community Secondary School, Umuojima Okereke and St. Anne's Secondary School, Umuobasi Amavo Osisioma does not have any Federal government institution of higher learning, college or university despite its large population and size.

Health Facilities include Isiala – Osokwa Health Center, Akanu

– Ukwu Health Center, OkpualaUmugwor Health Center, UmuoyoroNgwa Health Center, Owuala Primary Healthcare Center, MbutuUmuojima Health Center, Umueze Health Center, Etiti-Amavo Health Center, Oberete Asa Health Center, AmankwuOsokwa Health Center, Eke Aro Health Center, Umuobasi Health Center, Umuagbara Health Center, Otuobi Health Center, Umuojima Okereke Health Center, OkpuUmuobo Health Center, World Bank Health Center, Ekenwaobasi Health Center and Umugaa Health Center.

These health centres have not been inspected and approved by the World Health Organization (WHO), The United Nation Children's Fund (UNICEF) and Federal Ministry of Health, Nigeria as standard healthcare facilities to take care of the well-being of residents in OsisiomaNgwa.

### Study Population

This study population was women of child-bearing [15] age, (15 – 48 years) 24,800 living in OsisiomaNgwa LGA of Abia State, Nigeria. This will include both literate and illiterate women.

### Inclusive criteria

Pregnant women and women who have been pregnant in the past, regardless of the outcome and had giving consent to the study.

### Exclusive Criteria

These are women who didn't give consent to the study.

### Sample Size Determination

The sample size was statistically determined using the formula [16]

$$n = (Z^2pq)/d^2, \text{ where}$$

n= minimum sample size  
 Z= 1.96 (constant)  
 p= proportion with desired characteristics (0.5 or 50%)  
 q= 1-p =1-0.5= 0.5  
 d= 0.05 (constant)  
 $n = (1.96)^2 \times 0.5 \times 0.5 / (0.05)^2$   
 $= 3.8416 \times 0.25 / 0.0025$   
 $= 0.9604 / 0.0025$   
 $= 384.16$  (approximately 384)

Adjustment for Non-Response

$$NR = n/RR$$

Where RR = assumed response rate (90% / 0.9)

$$384/0.9 = 426.7 = 427$$

Therefore, additional questionnaire = 427 — 384 = 43.

### Sampling Techniques

The systematic sampling method was used, the Local Government Area level has ten electoral wards from where forty-three participants selected from each of the ten electoral wards. The questionnaire was administered consecutively to consenting child bearing women in each of the ten Ward Primary Health Centres while maintaining forty-three participants per electoral ward unstill the sample size was reached.

### Data Collection Method

Data were collected using self-administered questionnaires. Explanation/clarification were given where necessary.

### Study Instrument

Self /Interviewer administered questionnaires were used for the study and others included laptop, calculator, paper, pen and participants.

### Method of Data Analysis Measurement of Variables

Variables were duly measured.

### Statistical Analysis

Data collected was analysed using International Business Machine Statistical Package for the Social Sciences (IBM SPSS) software version 26.0. Data is presented in frequency tables. Chi-square was used to test association between categorical variables, P – value of <0.05 was taken to be a statistically significant.

### Ethical Considerations

Participants were assured of adequate and confidential handling of their personal information. Verbal consent was gotten from women who participated. Approval was gotten from the Department of Community Medicine, Abia State University. Approval was gotten from relevant authorities in cultural or religious settings where the study population was accessed en-masse

### Limitations

Difficulty in assessing individuals in the study population en-masse at the time of data collection, due to differences in their schedule and illiteracy of certain individuals, which may affect extraction of reliable information. This was addressed by following them up at the Wards Primary Health Centres and taking time to explain to the illiterate women the reason for the assessment.

### Result

After distribution and collection of data and out of the 431 questionnaires distributed, 384 were returned giving a 90% response rate. The results of the findings are as presented below. Mean age is 31±7.435

**Table 1:** Socio-demographic characteristics.

	Variables	Frequency	Percentage (%)
Age group	≤19	19	4.90
	20 – 24	87	22.70
	25 – 29	197	51.30
	30 – 34	64	16.70
	35 – 59	5	1.30
	40 – 44	11	2.90
Marital status	45 – 50	1	0.30
	Single	8	2.10
Occupation of the respondents	Married	376	97.9
	Unemployed	105	27.30
	Trading	119	31.00
	Farming	59	15.40
	Civil service	101	26.30

Religion	Christianity	384	100
Educational level	Primary	46	12.00
	Secondary	178	46.40
	Post-Secondary level	152	39.60
	None	8	2.10
Number of times pregnancy occurs	1 – 3	329	85.70
	4 – 6	52	13.50
	>6	2	0.60
Last period pregnancy occurred	2006 – 2010	98	25.60
	2011 – 2017	228	59.40
	2018 – 2021	57	14.80

The table 1 above shows the socio-demographic characteristics of the respondents. Majority 197 (51.30%) were aged 25-29 years, followed by those aged 20-24 years 87 (22.70%). Almost all 376 (97.90%) were married, only 8 (2.10%) were single and none divorced or separated. Majority 119 (31.00%) were traders, followed by the unemployed respondents 105 (27.30%), followed by civil servants 101 (26.30%) and farmers 59 (15.40%). Majority 178 (46.40%) only completed secondary school, followed by those who attended university level of education 152 (39.60%), primary school 46 (12.00%) and a few 8 (2.10%) that had no formal education. Majority 329 (85.70%) had been pregnant for 1-3 times, followed by 4-6 times 52 (13.50%) and above 6 times 2 (0.60%). Most of the respondents 228 (59.40%) had their last pregnancy in 2011-2017, followed by those 98 (25.60%) that had last in 2006-2010 and 57 (14.80%) that had last in 2018-2021.

**Table 2:** Frequency of obstetric complication from non-orthodox maternity.

Variables	Yes (%)	No (%)
Had ANC outside orthodox setting	178 (46.40)	206 (53.60)
Delivered a baby outside orthodox setting	121 (31.50)	263 (68.50)
Had any problem during pregnancy	92 (24.0)	292 (76.00)
1. Hypertension	22 (5.73)	23 (5.94)
2. Bleeding	70 (18.23)	70 (18.23)
Total	92 (100.0)	
Had problems during delivery/ immediately after	231 (60.20)	153 (39.80)
1. Bleeding	120 (31.25)	51 (13.28)
2. Ruptured uterus	5 (1.30)	53 (13.80)
3. Failure to progress	53 (13.80)	2 (0.52)
4. Fever	51 (13.28)	2 (0.52)
5. Retained placenta	2 (0.52)	
Total	231 (100.0)	

The table 2 above illustrates the proportion of respondents that patronize non-orthodox maternity services and some of the complications they may develop. A total of 92 (55.21%) respondents; had hypertension 22 (5.73%) and bleeding 70 (18.23%) during pregnancy. During delivery or immediately after delivery 231 (60.20%); had bleeding per vaginam 120 (31.25%), ruptured uterus 5 (1.30%), failure to progress in labor 53 (13.80%), fever 51 (13.28%), and retained placenta 2 (0.52%). Measures that could mitigate the burden of maternal morbidity and mortality.

**Table 3:** Measures that could mitigate the burden of maternal morbidity and mortality (obstetric complication).

Variables	Indifference & depends on (%)	Yes (%)	No (%)
Free hospital ANC services	19.50	63.80	16.70
1. The standard	10.50		
2. Attitude of health workers	9.00		
Use of hospital ANC services if close by	20.80	76.0	3.20
1. Presence of qualified doctors	12.00		
2. Presence of qualified nurses	8.80		
Community programs that encourage women to attend ANC	Nil	24.20	75.80
Creation of more media awareness	Nil	100.0	0.00
Training of TBAs	Nil	79.40	20.60

Table 3 shows some of the measure to reduce obstetric complications from non-orthodox practices. Majority 63.80% of the respondents would attend free hospital ANC clinics, 19.50% would attend provided it is standard (10.50%) and the attitude of the health workers is not discouraging (9.00%). Majority (76.0%) will attend hospital ANC if the hospital is located close to their house, 20.80% would attend depending on the presence of qualified doctors (12.0%) and the presence of qualified nurses (8.80%). All (100%) agreed that more media awareness will encourage women to attend ANC in hospital and 79.40% agreed that training of the TBAs and other maternity workers will help mitigate problems in pregnancy.

Relationship between obstetric complications and disinclination to obstetric care

**Table 4:** Relationship between non-orthodox ANC and obstetric complication.

Variables	Problem during pregnancy		r- value	X <sup>2</sup>
	No (%)	Yes (%)		
ANC outside the hospital setting	Yes: 127 (33.07)	51 (13.28)	-0.102	0.040*
	No: 165 (42.97)	41 (10.68)		
Total	292 (76.04)	92 (23.96)		

### Statistically Significant

Table 4 above shows that 51 (13.28%) of respondents who had ANC outside hospital setting had complication,  $r = -0.102$ ,  $p = 0.040$ . The relationship ( $r$ ) is negative showing that the more respondents patronize orthodox obstetric care, the less complications they have. Since  $p < 0.05$  the relationship is significant. Thus, the null hypothesis is rejected.

**Table 5:** Relationship between delivery in non-orthodox center and obstetric complication.

Variables	Problem during pregnancy		r- value	X <sup>2</sup>
	No (%)	Yes (%)		
ANC outside the hospital setting	Yes: 2 (0.52)	119 (30.99)	-0.529	0.000*
	No: 15 (3.90)	112 (29.17)		
Total	153 (4.42)	231 (60.16)		

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## Statistically Significant

Table 5 above shows the relationship between delivery of babies in non-orthodox center and obstetric complications. 119 (30.99%) of respondents who delivered outside the hospital setting complained of complications;  $r = -0.529$ ,  $p = 0.000$ . The relationship ( $r$ ) is negative showing that the more respondents patronize orthodox obstetric care the less complications they have. Since  $p < 0.05$ , the relationship is significant. Thus, the null hypothesis is rejected.

## Discussion

Out of the 431 participants, there was 384 (90.0%) response rate, 178 (46.40%) had ANC in non-orthodox centers, whereas 206 (53.60%) had ANC in orthodox centers. One hundred and twenty-one (31.50%) delivered their babies outside a hospital setting. Out of 92 (24.40%) of those who had problem during pregnancy, 51 (55.43%) of them had ANC outside a hospital setting while 41 (44.75%) used the hospital ANC. These problems were hypertension 22 (23.91%) and bleeding 70 (76.09%) among those who had problems. Also, out of 231 (60.20%) of those who had problem during delivery or immediately after delivery, 121 (31.50%) delivered outside a hospital setting. These problems included; bleeding per vaginam 120 (51.94%), failure to progress in labor 53 (22.94%), fever 51 (22.07%), ruptured uterus 5 (2.16%), and retained placenta 2 (0.8%). A similar study carried out among rural women in Southwest<sup>17</sup>Nigeria, and the type of healthcare they use during pregnancy showed that most of the rural women access some form of healthcare during pregnancy, orthodox, unorthodox or both. Those who patronize both services concurrently do so to benefit from the two as each has some unique features such as herbal concoctions for traditional, ultrasound and immunization of babies for orthodox. Traditional belief exerts a strong influence on decision of where to access maternal healthcare services. Actual place of delivery is determined by individual and household factors including financial resources [18].

A similar study carried out in Njaba Imo State, showed that majority of the women (83.3%) used orthodox healthcare services only during pregnancy compared to 11.3% who used traditional healthcare services only [19]. Another study carried out in Kumbotso, Kano had a different result, where about 59% of the rural women accessed orthodox health care, while 6.7% used unorthodox health care services during pregnancy [20].

A research experience with 442 recent consecutive cases in Benin city, Nigeria revealed that the incidence of hypertensive disorders was 11.6% of all deliveries. Gestational hypertension contributed 20.8% of cases, preeclampsia 33.0%, eclampsia 5.7%, chronic hypertension 4.5%, while 36% could not be classified with certainty at presentation [21]. Among a research study group at the antenatal clinic of Usman Danfodiyo University Teaching Hospital (UDUTH) Sokoto, nulliparous and grand-multiparous women had the highest incidence of hypertensive disorders of pregnancy of 27.7% and 22.2% respectively. Multiparous pregnancy, previous history of preeclampsia, gestational diabetes and body mass index (BMI) greater than 27Kg/m<sup>2</sup> were found to be the significant risk

factors in the development of hypertension during pregnancy [22]. Several other epidemiologic studies demonstrate that all women with a history of preeclampsia have an increased risk of cardiovascular diseases later in life [23].

Puerperal sepsis refers to severe infection of the uterus after delivery, which may spread throughout the body. According to a recent World Health Organization estimate, sepsis is responsible for 10.7% of maternal deaths during pregnancy or delivery or shortly after [24]. Risk factors for occurrence of puerperal sepsis include; low standard personal hygiene an obstetric care, poverty, lack of knowledge of, or utilization of healthcare facilities available, unplanned pregnancies, unnecessary induction and delivery run by unskilled personnel. All these result in severe life-threatening complications such as septicemia, disseminated intravascular coagulation as well as maternal death [25]. The signs and symptoms can include severe lower abdominal pain, high fever, lower back pain, and foul-smelling vaginal discharge.

Obstetric complications remain a major source of concern in both high-income and low-income countries owing to the associated morbidities and mortality on both mother and baby. This is however known to be worse amongst low-income countries and even within this group, it is thought to be far more prevalent amongst women who do not seek orthodox obstetric care but resort to the services of either Traditional Birth Attendants [26] (TBAs) or other unprofessional care-givers.

A previous study carried out showed that the frequency of obstetric complications is higher from patients who patronize non-orthodox obstetric care facilities, 13.28% from non-orthodox centres and 10.68% from hospitals. There is high (46.40%) patronage of non-orthodox ANC services. The commonest complications from the non-orthodox centers during pregnancy were vaginal bleeding (hemorrhage) 18.23%, followed by hypertension 5.73%. The most frequent complication in labour were bleeding per vagina 31.25%, followed by failure to progress in labor 13.80%, fever (puerperal sepsis) 51 (13.28%), and retained placenta 2 (0.52%). Majority (75.80%) of the women prefer hospitals to manage their pregnancies. However, in the absence of doctors, they resort to the maternity homes (78.10%) and TBAs (21.60%) [26]. Our findings are consistent the proportions of self-reported complications in other studies from South Asia. Population-based since indicated that between 15% and 38% of women experienced an obstetric complication during their most recent pregnancy [27-31]. Our study is consistent with another study in Northwest Bangladesh [32] which indicated that 25% of women of reproductive age with their recent pregnancy reported obstetric complications which is similar to a study in West Bengal and in Uttar Pradesh, India where 23% of women with pregnancies in the four year prior to survey and 21% of women with pregnancies in the year prior respectively. Were considered to have intrapartum obstetric complications [33,34] This similarity may arise from the common, though not identical, definitions used for obstetric complications.

For individual complications, the proportion of women reporting haemorrhages in our study (18.23%) falls within the range of the 5% to 24% of surveyed women of reproductive age who reported “excessive bleeding” in studies conducted in South Asia [23,27,30,31,33-37]. Our estimate of puerperal sepsis of 13.28% is higher than that of Bangladesh 32 of 8% and both of which lie in the lower range of the proportions reported in previous studies [33,34,40-44].

From the findings above, it can be deduced that the frequency of occurrence of obstetric complications are higher with the patronage of non-orthodox obstetric care facilities. However, the proportion of complications observed with the orthodox facilities could be explained in part by non-compliance to ANC visits, as several women register for antenatal in the hospitals but would not keep to the appointment. Secondly, most women who booked for ANC in hospitals resort to the services of TBAs during labor. Thirdly, most of the women who present to the hospitals are already complicated cases from peripheral non-orthodox centers. Again, inadequacy of resources (both human and material) at the hospitals and lack of prompt referral to the tertiary health facility, are all contributing to the rising level of complications observed. The reason for the observed frequency of complications from non-orthodox centers is understandable because a good number of the obstetric care are undertaken by untrained illiterate traditional birth attendants, lacking professional skills in management as well as recognition of complications for prompt referral.

It was observed in this survey that majority 63.80% of the respondents would attend free hospital ANC clinics, 19.50% would attend; provided it is standard (10.50%) and the attitude of the health workers is not discouraging (9.00%). Majority (76.0%) will attend hospital ANC if the hospital is located close to their houses, 20.80% would attend; depending on the presence of qualified doctors (12.0%) and the presence of qualified nurses (8.80%). All (100%) agreed that more media awareness will encourage women to attend ANC in hospital and 79.40% agreed that training of the TBAs and other maternity workers will help mitigate problems in pregnancy. These further buttress the success of Free Maternal and Child Health (FMCH) programmes in Enugu state, Nigeria which has up-surged the number of mothers that now patronize the hospital facilities for medical and antenatal care services [10].

In our study, it was found out that there was correlation between attendance to non-orthodox ANC and obstetric complication and there was statistically significant association between the occurrence of obstetric complications and disinclination to orthodox obstetric care, as seen in table 4, 51 (13.28%) of the respondents who had complications with product moment coefficient of correlation designated as  $r$  equal to  $-0.102$  and  $p$ -value of  $0.040$ . The relationship “ $r$ ” being strong negative correlation implied that the more respondents patronized orthodox obstetric care, the less complication they had and vice versa. Since  $p$ -value  $< 0.05$ , the relationship is statistically significant.

Again, the relation between delivery of babies in non-orthodox

facility and obstetric complications was established, as seen in table 5, 119 (30.99%) of the respondents who delivered outside the hospital setting had complications with “ $r$ ” equal to  $-0.529$ , and  $p$ -value =  $0.000$ . The relationship, product-moment coefficient of correlation “ $r$ ” also being strong negative showed that the more the respondents patronized orthodox obstetric care, the less complications they had. Since  $P$ -value  $< 0.05$ , the relationship is also statistically significant.

## Conclusion

The findings in this study suggest the importance of strengthening maternal and child health policies in the state. The prevalence of obstetric complications is higher with the patronage of non-orthodox obstetric care facilities; 13.28% from non-orthodox centers against 10.68% from hospitals. There is high patronage of non-orthodox ANC services. The commonest complications from the non-orthodox centers during pregnancy were vaginal bleeding (hemorrhage) followed by hypertension.

## Recommendations

The findings in this study necessitated the following recommendations.

Government should formulate policies and programs to extensively enlighten women on the benefits of modern obstetric care, as well as enabling legislation protecting women’s autonomous decision-making rights. Provision of policies that would increase the availability and accessibility of maternal and child health services. For example, the government of the state could start Free Maternal and Child Health Services (FMCHS) where women can access health services during pregnancy and delivery free of charge. Training programs and strict policies for the TBAs. This will improve their practices and minimize the rate of complication resulting from their practices.

Due to increasing demand for maternal health care services, the government should train community health workers to assist in the provision of primary health care services to the population. The Primary Health Care centers should be adequately funded and staffed. The facilities needed for basic emergency obstetric care services should be readily available.

The health workers should enlighten the women more on what constitutes danger signs during pregnancy or labour and the need for experts' urgent intervention in such cases. Encourage women to book early for ANC and be compliant with antenatal appointments. They should discourage them from resorting to TBAs for delivery after attending hospital ANCs especially if they have been told the pregnancy is high risk. The Obstetricians should spend more time with their patients during ANC visits and avoid the “hit and run” approach to consultations. Each member of the health team should avoid attitudes capable of deterring women from using hospital ANC.

Women should prioritize the matters relating to their pregnancies and delivery. They should not allow anyone make decisions for

them compelling them to seek non-orthodox obstetric services. Men should ensure their wives are not subjected to non-orthodox obstetric care services that endanger their lives. Untrained birth attendants should seek proficiency and limit themselves to their level of competence.

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