

# Level of awareness of primigravida about pregnancy and antenatal care at the time of booking in a South West Nigerian tertiary hospital

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## ABSTRACT

It is pertinent for the pregnant woman to understand the concept of what she is embarking on. Antenatal care is a specialized form of health care given to pregnant women in order to have safe delivery for both mother and child. Pregnant women need to be informed of the meaning and importance of Antenatal Care and the need for them to avail themselves of the opportunity in order to benefit from expert monitoring of the progress of pregnancy, prompt identification of anything that may jeopardize the outcome of the pregnancy and access to skilled personnel at delivery. This study assessed the level of awareness of pregnant women about pregnancy and antenatal care at the time of booking in their first pregnancy. This is a descriptive cross-sectional study. Questionnaires were used to obtain information on the level of awareness of primigravid women about pregnancy. A simple structured questionnaire was used to get the consented pregnant women's awareness or otherwise about basic pregnancy issues and antenatal care. The questionnaire was administered by research assistants already trained with the questionnaire. Data was fed into and analyzed with the Statistical package for Social Sciences (SPSS) version 20.0. Proportions were calculated using percentages and crosstabulation of variables to find out relationship and statistical significance by chi-square. Majority, 110 (34.7%), of the respondents were booked at 8 to 16 weeks gestation. Majority of respondents were aware of doing basic investigations like PCV (98.1%), HIV (94.3%) and Hepatitis B (85.8%) in pregnancy. Majority of the respondents 259 (78.9%) know that high blood pressure of pregnant mother can affect the baby. One hundred and seventy-eight respondents (56.2%) said they do not know that previous caesarean section has effect on subsequent deliveries. Majority of the respondents 278 (87.7%) knew that they will start immunization for their babies at birth. In conclusion, there is fair awareness of basic pregnancy issues and antenatal care among pregnant women. Notable area of inadequate knowledge is the impact of caesarean section on subsequent pregnancies. It is recommended that all efforts must be made to ensure that discussions about pregnancy and antenatal care with women starts at younger age as early as in the secondary school days to prepare them for the eventuality of pregnancy, its care and childbirth. The health education aspect of antenatal care should be well organized to fill all information gaps for the pregnant women.

**Keywords:** Primigravida, pregnancy, knowledge, antenatal care.

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## INTRODUCTION

Important services provided at the antenatal clinic are, risk assessment and categorization of pregnant women,

identification of concurrent or undercurrent medical health conditions in pregnancy and treating them, birth

preparedness, provision of information on pregnancy delivery and child care for the pregnant women and general health information and promotion. Antenatal care should also address the psychosocial and medical needs of the woman within the context of the health care delivery system and the culture in which she lives (Mandara and Otubu, 2007).

Women have to know that they have to be pregnant before registering for antenatal care and that the earlier they do so the better for them. This can help them against subsequent pregnancies for early identification and presentation for care and also reduce the incidence of people registering for antenatal care without being pregnant. Apart from absence of menses (Cunningham et al., 2010), pregnancy can be confirmed by urine pregnancy test (with dip stick) or serum pregnancy test in the hospital. Other early pregnancy symptoms include nausea and vomiting in early pregnancy, breast fullness, anorexia or increased appetite. Pregnant women must be informed that these symptoms may be exaggerated at times and may even warrant hospital care (Miller, 2002). Pregnant women must be informed of the need for early booking (Hatherall et al., 2016) for antenatal care in the hospital and the benefits there-in. These include evidence based, goal directed actions to guarantee better pregnancy outcome and qualitative health care by skilled provider.

The importance of giving accurate information to health care provider at booking has to be explained to the pregnant women because this will enable the provider to appropriately categorize the patient, individualize patients care and plan for possible anticipated complications. Example, history of previous caesarean section and the number need to be volunteered because this can immensely affect the line of management (Fitzpatrick et al., 2019). History of preexisting or current Medical conditions should also be given to the doctor so as to put in place appropriate measures to mitigate the adverse consequences such illnesses may have on the pregnancy and encourage compliance (Omotayo et al., 2019). It is also in order to establish possible presence of ongoing domestic violence against the woman with the aim of managing it (ACOG, 2006).

Pregnant women should be aware of basic investigations that may be required of them, like packed cell volume (PCV), blood group, genotype, urinalysis and others. When they are aware of them and the importance they will be willing to do them. Some of these laboratory investigations can actually reveal medical conditions which has been on or just developed in pregnancy but that the woman was not aware of like urinalysis revealing glucose in the urine pointing to possibility of diabetes mellitus (Delamou et al., 2016), early ultrasound scan which is useful in dating pregnancy especially when last menstrual period (LMP) is doubtful or unclear (Saleh et al., 2017). HIV test and HbsAg screening is done to prompt counseling and care.

The causes, ways of detection and effects of other

medical conditions like diabetes, hypertension, anaemia, preeclampsia etc on pregnancy should be well explained to them. This will go a long way in enhancing the outcome of the pregnancy. For those that are already diagnosed diabetic and have been on treatment, the need for effective medical and dietary control of diabetes in pregnancy in order to have a favorable outcome must be well explained. They must also be informed about other infectious diseases that can affect pregnancy like tuberculosis and syphilis etc therefore they must be advised to be screened (Agboola, 2010) for these diseases so that prompt treatment could be instituted.

Pregnant women should be informed of available measures for preventing complications in pregnancy especially the ones that are common in this part of the world. Malaria is endemic in the subtropical region and can be the cause of various pregnancy complications like febrile illness in pregnancy, abortion, intrauterine growth restriction (IUGR), preterm delivery, small for gestational age babies, other neonatal and maternal morbidities and even mortality (Guyatt and Snow, 2004). Malaria and its complications can be prevented using intermittent preventive therapy (IPT) an example of which is sulphadoxin pyrimethamine. Other modalities include use of insecticide treated nets, regular cutting of bushes in the surroundings, maintenance and clearing of gutters (Sabin et al., 2018). The importance of adequate quality nutrition to prevent malnutrition and anaemia, various preparations of nutrient supplements like iron (Bhutta et al., 2013), multivitamins etc should be discussed with the pregnant women. Pregnant women should also be aware of specific interventions as appropriate; for example, vitamin A supplementation and antihelminthics to prevent hypovitaminosis A and worm, respectively (Duckworth et al., 2012). They should know about the availability of tetanus toxoid (TT) immunization to prevent maternal and neonatal tetanus (Muhammad-Ildris et al., 2017) and other vaccines available and applicable to pregnant women.

Pregnant women should know their expected date of delivery with the help of their care-giver, prepare for delivery. They should be informed to make prompt decision on who will assist them at delivery and where she is going to deliver. She should always be conscious of the appropriate facility for emergency (Berhe et al., 2018). They should however know the danger signs in pregnancy and danger signs in newborn. They should have prior decision on what transportation is reliable and accessible to them especially in odd hours in case of labour or before complication arises. It is also important that the pregnant woman should know that she has to be economically empowered. A pregnant woman should decide as soon as possible on who she will be comfortable with to make decisions on her behalf especially in an emergency (Ganle et al., 2015). She should rally support especially from family and community in order to get people to care for her immediate family in her absence and a companion during labour. Arrangement should also be made on how to get

blood donor in case of emergency requiring blood transfusion. Needed items for clean and safe birth and for newborn care should be provided ahead of delivery. List of such items (baby list, doctors' list) may be given to the woman at ANC ahead of time (Lawrence et al., 2015). Signs of advanced labour and danger signs of labour should be well explained to the patient (Sufiyan et al., 2016). Health education should include how to prevent common ailments in pregnancy; for instance, achieving generally clear environment free of breeding sites for mosquito. Other personal protective measures like adequate clothing, mosquito repelling creams and soaps can be adopted (Micheal et al., 2017). They should be enlightened on how to make hygienic and nutritive food from locally produced cheap materials available.

It is also important for them to know the dangers in the use of potentially harmful substances like tobacco (Man and Chang, 2006), use of herbal concoction, alcohol (Ethen et al., 2009) and unprescribed drugs. They also need to observe adequate regular exercise and rest as appropriate (Mbada et al., 2014). They should be dissuaded from all traditional harmful practices and taboos that may have adverse effect on reproductive health such as female circumcision, gishiri cut and baseless avoidance of particular food items. They should know that there is no harm in sexual activity with their husbands in pregnancy (Grudzinkas et al., 1979), however should endeavour to engage in only safe sex. They should be aware of unfavourable signs in pregnancy like vaginal bleeding, fever, severe headache, blurring vision, convulsions, loss of consciousness and labour pains before 37 weeks. They should be given tips on preventions of home and work accident. Types of comfortable maternity wears (cloths and shoes) that will make them have fewer tendencies to fall and injury (Martinez, nd). They should also be taught how to care for the breast in pregnancy and lactation and also carry out breast-self-examination (BSE) as self-screening method for breast cancer (Ogunbode et al., 2015).

Pregnant women need to know that one of the main implications of HIV in pregnancy is possible transmission to the baby and this is the major contributor to AIDS in children. Light must be shed on the basic mechanisms which have been proposed for vertical transmission which includes intrauterine (transplacental), intrapartum (at the time of delivery), postpartum (mainly through breast feeding). Breast feeding probably contributes to the higher vertical transmission rates; therefore women must be well informed and counseled to make informed decision on breastfeeding of their babies and available options. Prevention of mother to child transmission (PMTCT) are measures for prevention of transmission of HIV from infected mother to her child which include avoiding unprotected/unsafe sexual intercourse. Abstaining from indiscriminate sex, being faithful to their husband and use of condom when necessary (Abiodun et al., 2007). Counseling on the need for prophylactic antiretroviral drugs and compliance is also expedient.

They can also be intimated on effects of elective caesarean section in reducing the risk of vertical transmission (European collaborative study, 1994).

All efforts must be made to avoid discrimination and segregation of HIV positive pregnant women at the ANC. They must be well informed about their condition and that the disease can be managed. They should also be aware of the methods of partner disclosure, screening and encouragement to access care. They need information about side effects of antiretroviral drugs, avoiding unsafe sex and used of condom with positive partner to avoid super infection by different strains and what to do when ready to get pregnant. Also signs and symptoms of advanced disease and what to do in case any such signs are noticed.

Pregnant women need to be intimated of the concept of congenital anomaly. Though not common but they do occur with 6.3% prevalence in Nigeria (Akinmoladun et al., 2018). Mothers should be aware of predisposing factors to congenital anomaly including: elderly gravidity (age >35 yrs), diabetes mellitus especially with poorly controlled blood sugar, multiple gestation and family history of anomaly, chronic smoking, alcoholism and consanguinity (Taksande et al., 2010). Others are exposure to teratogenic drugs in early pregnancy, exposure to irradiation, chromosomal abnormalities and genetic disorders. This will enable pregnant women or women generally to avoid the avoidable predisposing factors and also to disabuse their minds against some traditional beliefs of causation of congenital anomalies. Some of the false traditional beliefs regarding causation of congenital anomaly include walking at night, intake of some specific food items, pregnant women being outside at one o'clock in the afternoon and quarreling with aged people, wearing bracelets and crossing under a wire fence or ladder (Garcias and Schuller-Faccini, 2004). It should be explained to pregnant women at ANC that all these beliefs are baseless and unproven. Our pregnant women should also be abreast of technological advancement in the area of prenatal diagnosis which enables the fetus to be assessed in-utero in at-risk pregnant women in order for the couple to make informed decision on the malformed baby with the option of termination of the pregnancy or continuing with the pregnancy.

Our pregnant women must be introduced to family planning which is a way of thinking and living that is freely adopted by a woman or a couple upon the bases of knowledge, attitude and understanding to improve the health of the family group and contribute effectively to the development of the nation. The benefits of spacing their children should be well highlighted while the dangers of too many, too frequent pregnancies should be made known to them. They must know about contraception in order to increase its relatively low uptake in our environment (Utoo et al., 2010; Omolase et al., 2009). They should be appropriately linked to the specific points of provision of these services.

Pregnant women especially primigravida have to be informed about the process of labour and what is expected of them in the labour room so also what they should expect from their care givers during labour. The fears of pregnant women about labour should be allayed to reduced anxiety that may be associated with pregnancy and labour (Madhavanprabhakaran et al., 2013). They should be aware ahead about getting materials that will be needed for both mother and baby in labour and delivery. They can also be informed about various birthing positions and analgesia in labour like epidural, its advantages and side effects (Omotayo et al., 2019). They should know about the advantages of companionship in labour, indications for episiotomy and its post-delivery care. Peculiarities of preterm delivery, the possible predisposing factors and causes, and neonatal intensive care unit should be explained to the pregnant women. Some complications that may arise in labour and how to take care of them e.g retained placenta and manual removal of placenta, labour dystocia and counseling on indications for caesarean section. Patients should be well enlightened on indications for caesarean section and need to cooperate with their doctors when such decision is arrived at. Patients should be informed of the need of doing cervical screening test (pap's smear) after delivery.

Mothers should be aware of schedule of immunization of children against preventable childhood killer diseases. Other important baby care related information include exclusive breast feeding and its advantages. This can even include practical demonstration of correct positioning and attachment for mother and child during breast feeding which are required for effective breastfeeding, general care of newborn, dangers in force feeding babies and the need to avoid it. They must also be advised against self-medication for children and the need to desist from harmful traditional practices like female genital cutting especially in this part of the world where a survey revealed that about 66% of respondents disagreed with legislation against female genital cutting and 25% said they will subject their female child to genital cutting (Omolase et al., 2012).

### **Aim of the study**

The study assessed the level of awareness and information about pregnancy and its care that primigravid women possess at the time of attending booking clinic.

### **Justification**

Considering the various challenges experienced in obstetrics care like late booking, late presentation in labour, late or non-presentation when having pregnancy complications, mother difficulty with adjusting to post-delivery, baby caring status and other challenges. It is

desirable to have standardized information package for pregnant women in our antenatal clinics.

### **Objectives of the study**

This study intends to find out the proportions of primigravid pregnant women that have specific information about pregnancy and antenatal care on their first day at antenatal clinic.

### **Ethical clearance**

Ethical clearance was secured from the research ethics committee of the hospital.

## **MATERIALS AND METHODS**

### **Site**

The study was carried out at the antenatal clinic in the Obstetrics and Gynaecology Department, University of Medical Sciences Teaching Hospital Complex, Akure Unit, Nigeria.

### **Design**

The study is a descriptive cross sectional study.

### **Study population**

About 308 primigravid pregnant women coming for their first antenatal clinic (booking clinic) attendance were recruited into the study after giving their consent. This number includes the allowance for attrition.

### **Inclusion criteria**

Only pregnant women that are carrying their first pregnancy and that are coming for their first antenatal visit (booking) at the antenatal clinic of the hospital were eligible for the study.

### **Sampling method**

Women that met the inclusion criteria and gave consent were serially recruited as they come by simple random sampling method until the required number of 308 which includes the allowance for attrition was completed. The questionnaire was administered to the consented patients by antenatal clinic nurses and intern doctors under the supervision of the researchers.

### **Data collection instrument**

A simple structured questionnaire was used as instrument for collecting data. It was written in plain English language and provision for interpretation made for those that could not understand or read English. Components of the questionnaire include biodata, respondents' awareness of pre-pregnancy issues, basic investigations in antenatal clinic, common antenatal clinic

activities, common danger signs in pregnancy, basic knowledge of common labour ward activities, awareness about HIV in pregnancy, and basic knowledge of post-delivery issues.

### Sample size calculation

The Study is a descriptive study. The following formula was used to calculate the sample size:

$$N = \frac{4(z_{crit})^2 p(1-p)}{D^2}$$

Where  $Z_{crit}$  is standard normal deviate corresponding to chosen Confidence Interval (CI). For Confidence interval of 95%, it is 1.96  
P is pre-study estimation of proportion to be measured  
D is the width of confidence interval.  
Therefore

$$N = \frac{4 \times (1.96)^2 \times 0.95 (1 - 0.95)}{0.05^2}$$

N = 291.96

N = 292

Adding the allowance for attrition of 16 to above gives 308.

### Data management

Data was processed by feeding the information into the Statistical package for social statistics (SPSS) and then analyzed using the SPSS version 20. Proportions were calculated using percentages and crosstabulation of variables done to find out relationship and statistical significance by chi-square.

## RESULTS

About half (49.2%) of the respondents were aged 30 and 39 years while only 4% were teenagers. Over 90% of the respondents were married (Table 1). Majority of the respondents (245) 77.3% were of the Yoruba ethnicity with only about 22% from other Nigerian ethnic groups (Table 1). Ninety-five percent (95%) of the respondents were Christians and 3.2% were Muslims, about 2% were neither Christians nor Muslims (Table 1). Majority of the respondents 205 (64.7%) were graduates only 3(0.9%) were primary school drop-out (Table 1). Only 48 (15.1%) of the respondents were civil servants, majority 201 (63.4%) were business women and 16(5.0%) were full house-wives. Using Olusanya et al social class classification, 93 (29.3%) of the respondents were in social class 1, 120 (37.9%) were in social class 2 while 94 (29.7%) were in social class 3. Only 3 respondents were in social class 5 (Table 1).

Majority 110 (34.7%) of the respondents booked at 8 to 16 weeks gestation, 73 (23.0%) booked at less than 8 weeks while only 21 (6.6%) booked at 33 to 40 weeks (Table 2). Majority 307 (96.8%) of the respondents said

**Table 1.** Socio-demographic biodata.

Age	Frequency	Percentage (%)
<20	4	1.3
20-29	141	44.5
30-39	156	49.2
40-49	16	5.0
Total	317	100.0
Marital Status		
Single	26	8.2
Married	291	91.8
Total	317	100.0
Ethnicity		
Yoruba	245	77.3
Igbo	59	18.6
Hausa	10	3.2
Others	3	0.9
Total	317	100.0
Religion		
Islam	10	3.2
Christianity	301	95.0
Traditional	3	0.9
Others	3	0.9
Total	317	100.0
Education		
Primary	3	0.9
Secondary	78	24.6
Post-Secondary	31	9.8
Graduate	205	64.7
Total	317	100.0
Occupation		
Full Housewife	16	5.0
Artisan	52	16.4
Business	201	63.4
Civil Servants	48	15.1
Total	317	100.0
Social Class		
Social Class 1	193	29.3
Social Class 2	120	37.9
Social Class 3	94	29.7
Social Class 4	7	2.2
Social Class 5	3	0.9
Total	317	100.0

Values given in the table are absolute number of respondents and the corresponding percentage of total.

normal pregnancy duration was 9 months, only few 10 (3.1%) said 7 or 8 months is normal duration for

**Table 2.** Respondents' knowledge of pre-pregnancy issues.

<b>Parameter</b>	<b>Frequency</b>	<b>Percentage</b>
Gestational age of respondents using LMP		
<8 weeks	73	23.0
8-16 weeks	110	34.7
17-24 weeks	63	19.9
25-32 weeks	50	15.8
33-40 weeks	2	16.6
Total	317	100.0
Normal pregnancy duration		
7 months	7	2.2
8 months	3	0.9
9 months	307	96.8
Total	317	100.0
Best time to book pregnancy for ANC		
2 months	82	25.9
3 months	78	24.6
4 months	130	41.0
5 months	13	4.1
6 months	14	4.4
Total	317	100.0
Do you need to stop alcohol for pregnancy		
Yes	264	83.3
No	47	14.8
Don't know	6	1.9
Total	317	100.0
How pregnancy was discovered		
Missed period	70	22.1
Missed period & Pregnancy test	237	74.8
Others	10	3.2
Total	317	100.0
Number of children wanted in all		
2	50	15.8
3	140	44.2
4	111	35.0
5	16	5.0
Total	317	100.0

Values given in the table are absolute number of respondents and the corresponding percentage of total.

pregnancy (Table 2). One hundred and thirty respondents (130) (41.0%) indicated that the best time to book for ANC was 4 months (20 weeks), 78 (24.6%) believe 3 months is best time for booking while 82 (26.9%) believe 2 months is best to book for ANC (Table 2). Majority of respondents 264 (83.3%) said they need to stop alcohol intake when pregnant while 47(14.8%) believe they do

not need to stop alcohol intake because of pregnancy (Table 2). In 237 (74.8%) respondents, pregnancy was discovered by missed period and confirmed with pregnancy test while 70 (22.1%) respondents only had missed period and never did pregnancy test, 10 (3.2%) confirmed their pregnancy with ultrasound scan after missed period. When asked about number of children

**Table 3.** Knowledge of basic investigations in antenatal clinic.

Parameter	Frequency	Percentage
Knowledge of the need for PCV check in pregnancy		
Yes	311	98.1
No	6	1.9
Total	317	100.0
Knowledge of blood sugar screening in pregnancy		
Yes	275	86.8
No	42	13.2
Total	317	100.0
Knowledge of HIV screening in pregnancy		
Yes	299	94.3
No	18	5.7
Total	317	100.0
Knowledge of Hepatitis B screening in pregnancy		
Yes	272	85.8
No	45	14.2
Total	317	100.0
Knowledge of Hepatitis C screening in pregnancy		
Yes	251	79.2
No	66	20.8
Total	317	100.0
Syphilis screening		
Yes	201	63.4
No	116	36.6
Total	317	100.0

Values given in the table are absolute number of respondents and the corresponding percentage of total.

respondents desire to have, 140 (44.2%) said they desire 3 children in all, 111 (35.0%) want to have 4 children in all (Table 2)

Most of the respondents 311 (98.1%) know that they will do packed cell volume (PCV) test in pregnancy, only 6 (1.9%) don't know that they will do PCV in pregnancy (Table 3). Majority of the respondents 275 (86.8%) are aware of doing blood sugar test in pregnancy, 42 (13.2%) were not aware (Table 3). Nearly all the respondents 299 (94.3%) were aware of doing Human Immunodeficiency Virus (HIV) test in pregnancy, only 18 (5.7%) were not aware (Table 3). Majority of the respondents 272 (85.8%) were aware of doing hepatitis B screening in pregnancy, 45 (14.2%) were not aware. Similarly, 251 (79.2%) were aware of doing hepatitis C in pregnancy while 66 (20.8%) were not aware. Two hundred and one respondents (63.4%) were aware of doing syphilis screening in pregnancy, 116 (36.6%) were not aware (Table 3).

Majority of respondents 282 (89.0) indicated that they know about malaria prevention in pregnancy, 35 (11.0%)

were not aware (Table 4). Majority 239 (75.4%) were aware of mother immunization in pregnancy while 78 (24.6%) were not aware (Table 4). One hundred and seventy-six respondents (55.5%) believe none of walking at night, walking outside at mid-noon, drinking bournvita and eating snail in pregnancy causes abnormality for the fetus though about 24% still believe that walking at night causes fetal abnormality (Table 4). When asked about gestational age at which mother starts feeling fetal kicks, 157 (49.5%) said 4 months, 120 (37.9%) said 5 months, 33 (10.4%) said 6 months while only 7 (2.2%) said its 7 months. Majority of the respondents 270 (85.2%) know that they cannot take drugs in pregnancy like they do before pregnancy, while 47 (14.8%) were not aware (Table 4). Majority of the respondents 234 (73.8%) know that some mother's medical conditions can cause baby abnormality, 83 (26.2%) don't know (Table 4). At the point of booking, 297 (93.7%) of the respondents have started financial preparation for their delivery and only 20 (6.3%) have not. Seventy-seven percent 77% of

**Table 4.** Basic knowledge of common antenatal clinic activities.

<b>Parameter</b>	<b>Frequency</b>	<b>Percentage</b>
Knowledge of malaria prevention in pregnancy		
Yes	282	89.0
No	35	11.0
Total	317	100
Awareness about pregnant women immunization		
Yes	239	75.4
No	78	24.6
Total	317	100.0
Have you started financial preparation for delivery		
Yes	297	93.7
No	20	6.3
Total	317	100.0
Causes of abnormality for babies in-utero		
Walking at night	75	23.7
Walking outside mid-noon	25	7.9
Drinking bournvita in pregnancy	24	7.6
Eating snail in pregnancy	17	5.4
None of these	176	55.5
Total	317	100.0
Have you bought baby materials already		
Yes	244	77.0
No	73	23.0
Total	317	100.0
When does the mother start feeling baby's movement		
4 months	157	49.5
5 months	120	37.9
6 months	33	10.4
7 months	7	2.2
Total	317	100.0
Can you take drugs in pregnancy like you take before pregnancy		
Yes	47	14.8
No	270	85.2
Total	317	100.0
Some mothers medical condition can cause baby abnormality		
Yes	234	73.8
No	83	26.2
Total	317	100.0
Eating adequate good food in pregnancy is necessary		
Yes	294	92.7
No	23	7.3
Total	317	100.0

Values given in the table are absolute number of respondents and the corresponding percentage of total.

**Table 5.** Knowledge of common danger signs in pregnancy.

Parameter	Frequency	Percentage
Is bleeding in pregnancy a danger sign		
Yes	286	90.2
No	31	9.8
Total	317	100.0
Is liquor drainage before labour a danger sign in pregnancy		
Yes	210	66.2
No	107	33.8
Total	317	100.0
Can mothers high blood pressure affect the baby		
Yes	250	78.9
No	67	21.1
Total	317	100.0
Can mothers high blood pressure in pregnancy cause convulsion		
Yes	234	73.8
No	83	26.2
Total	317	100.0

Values given in the table are absolute number of respondents and the corresponding percentage of total.

respondents have started buying their baby's materials at the time of booking (Table 4). Two hundred and ninety four respondents (92.7%) believe that eating adequate good food in pregnancy is necessary.

Majority of the respondents 286 (90.2%) know that bleeding in pregnancy is a danger sign while 31 (9.8%) did not know it is dangerous (Table 5). Two hundred and ten respondents (66.2%) know that drainage of liquor long before a labour is a danger sign in pregnancy while 107 (33.8%) did not know (Table 5). Majority of the respondents 259 (78.9%) know that high blood pressure of pregnant mother can affect the baby while 67 (21.1%) did not know. Only 83 (26.2%) of the respondents did not know that mothers high blood pressure in pregnancy can cause convulsion but 234 (73.8%) were aware (Table 5).

Majority of the respondents 211 (66.6%) said delivery by caesarean section is safe though a significant percentage (33.4%) said it is not safe (Table 6). While 264 (83.3%) of the respondents believe that babies delivered by caesarean section are normal babies, 53 (16.7%) believe that they are not normal (Table 6). One hundred and seventy eight respondents (56.2%) said they don't know that previous caesarean section has effect on subsequent deliveries while 139 (43.8%) indicated that they knew that caesarean section has effect on subsequent deliveries (Table 6). Almost all the respondents (95.0%) believe that there is need for a relative to accompany pregnant women when going for delivery (Table 6).

Majority of the respondents 227 (71.6%) knew that HIV can be transmitted to the baby in-utero from a positive

mother while 90 (28.4%) did not know that HIV can be transmitted in-utero (Table 7). Similarly, 68.5% of respondents knew that HIV can be transmitted during delivery and (83.6%) knew that HIV can be transmitted to the baby during breastfeeding (Table 7). Majority of the respondents (75.7%) knew that HIV transmission to the baby from positive mother can be prevented and 87.1% said it could be prevented by treatment of the mother (Table 7).

When asked about their view about female circumcision, 86 (27.1%) of the respondents indicated that it is acceptable to them that their female baby be circumcised while 231 (72.9%) said it not acceptable (Table 8). Majority of the respondents 278 (87.7%) knew that they will start immunization for their baby at birth (Table 8). Majority of the respondents 85.8% were aware of family planning methods and 82.0% of respondents indicated their desire to use family planning methods to space their children.

Two hundred and fifty nine (81.7%) of the respondents were aware of need to admit preterm babies to the hospital while 58 (18.3%) were not aware (Table 8)

Almost all the respondents 291 (91.8%) believe that there is no need to stop intercourse with their husbands because of pregnancy (Table 8)

## DISCUSSION

Most pregnant women in the study area are married as less than 10% of respondents were unmarried contrary to

**Table 6.** Basic knowledge of common labour ward activities.

<b>Parameter</b>	<b>Frequency</b>	<b>Parameter</b>
Need for relatives company at delivery		
Yes	301	95.0
No	16	5.0
Total	317	100.0
Is delivery by caesarean section safe		
Yes	211	66.6
No	106	33.4
Total	317	100.0
Does previous caesarean section have any effect on subsequent deliveries		
Yes	139	43.8
No	178	56.2
Total	317	100.0
Are babies delivered by caesarean section normal babies		
Yes	264	83.3
No	53	16.7
Total	317	100.0

Values given in the table are absolute number of respondents and the corresponding percentage of total.

**Table 7.** Basic knowledge about HIV in pregnancy.

<b>Parameter</b>	<b>Frequency</b>	<b>Percentage</b>
Respondents' knowledge of in-utero HIV transmission possibility		
Yes	227	71.6
No	90	28.4
Total	317	100.0
Can HIV be transmitted during delivery		
Yes	217	68.5
No	100	31.5
Total	317	100.0
Do you know HIV can be transmitted at breastfeeding		
Yes	265	83.6
No	52	16.4
Total	317	100.0
Can HIV transmission to baby be prevented		
Yes	240	75.7
No	77	24.3
Total	317	100.0
Can HIV be treated for transmission to baby be prevented		
Yes	276	87.1
No	41	12.9
Total	317	100.0

Values given in the table are absolute number of respondents and the corresponding percentage of total.

**Table 8.** Basic knowledge of post-delivery issues.

Parameter	Frequency	Percentage
Respondents view about female circumcision		
Acceptable	86	27.1
Not acceptable	231	72.9
Total	317	100.0
When to start immunization for baby		
At birth	278	87.7
4 months	16	5.0
6 months	10	3.2
Don't know	13	4.1
Total	317	100.0
Knowledge of family planning methods		
Yes	272	85.8
No	45	14.2
Total	317	100.0
How will you space your children		
Avoid sexual intercourse	57	18.0
Use contraceptives	260	82.0
Total	317	100.0
Do you know anything about preterm baby admission		
Yes	259	81.7
No	58	18.3
Total	317	100.0
Do you stop intercourse with husband because of pregnancy		
Yes	26	8.2
No	291	91.8
Total	317	100.0

Values given in the table are absolute number of respondents and the corresponding percentage of total.

41% of births in the US that were reported to be from unmarried women in 2011 and 39% in the European Union (Livinston and Brown, 2014). Majority of the respondents were of Yoruba ethnicity because the study was conducted in a Yoruba speaking area of Nigeria. About 38 percent of the respondents were in social class 2 and another 30% in social class 3 (Table 1). This may be because the study area was a state capital with lots of civil servants.

Booking was in the first 16 weeks (in line with WHO recommendation) (Adekanle and Isawumi, 2008) for 57.7% of the respondents (Table 2), this is far more than the findings in another Nigerian study that reported 19.1% booking before 17 weeks and an Ethiopian study that reported 34.5% of mothers starting antenatal care in first trimester (Gudayu et al., 2014). This may indicate increasing uptake of antenatal care among pregnant women. Most, (90%) of the pregnant women knew that normal pregnancy lasts for 9 months (Table 2). Majority

of the respondents 83.3% believe that they need to stop alcohol intake in pregnancy (Table 2). This is similar to an earlier report by a Canadian study where 62% agreed to stopping alcohol in pregnancy (Envionics Research Group Limited, 2000). In about 75% respondents, pregnancy was discovered by missed period and confirmed with pregnancy test this is higher than the value from a South African study that reported 50% respondents doing pregnancy test following missed period (Morrini and Moodley, 2006).

Demographic health survey had earlier reported average number of children desired by women to be 4.5 (Westoff, 2010). About 94% were aware of doing Human Immunodeficiency Virus (HIV) test in pregnancy (Table 3). A Ghanaian study earlier reported awareness of HIV of 98% among women and that 13.2% of pregnant women have done HIV test before pregnancy mainly for church blessing of their marriage (Addo, 2005). The good awareness about HIV amongst pregnant women may

therefore be because HIV is also relevant in other social issues. Majority of the respondents 85.8% were aware of doing hepatitis B screening in pregnancy (Table 3); a lesser percentage 70.3% of participants in an American study reported having received information about HBV during their pregnancy (Hang Pham et al., 2019). There is therefore, fair awareness if common relevant infectious diseases in pregnancy amongst the respondents.

Majority of the respondents, 44.2% said they desire to have 3 children while 35.0% want to have 4 children (Table 2). Seventy-seven percent 77% of respondents have started buying their baby's materials at the time of booking (Table 4). This is contrary to the outcome of a south east Nigerian study that reported that majority of respondents do not buy baby materials until delivery (Lawrence et al., 2015). This difference may be because of the study settings.

Majority of the respondents 89% indicated that they know about malaria prevention in pregnancy (Table 4) higher than the value from a south east Nigerian study where 52.2% of their respondent pregnant women were aware of intermittent preventive therapy (IPT) though only 27.3% have received it before (Akinleye et al., 2009). About 75.4% were aware of mother immunization in pregnancy while 24.6% were not aware (Table 4). A north west Nigeria study had earlier reported 87% awareness of tetanus toxoid vaccination among pregnant women (Kehinde and Hassan, 2018). Studies have not established any harmful effect of chocolate containing food in pregnancy (Whiteman, 2016). Eighty five percent (85.2%) of respondents are aware that they cannot take drugs in pregnancy like they do before pregnancy (Table 4). Tanzanian study found 66.5% of respondents reported that they hesitated to take medications without consulting their physicians (Kamuhabwa and Jalal, 2011). About 24% still believe that walking at night causes fetal abnormality (Table 4). A greater percentage was coated in another Ghanaian study 48.1% believed that birth defects were of supernatural origin (Bello et al., 2013). This indicates that awareness of causes of birth defects is poor amongst pregnant women. Gestational age at which mother starts feeling fetal kicks was 4 months in majority, 49.5% of respondents (Table 4). First perception of fetal kicks by mother is usually at 16 to 20 weeks, and can be perceived externally during examination by 20 weeks (Bryant et al., 2020).

About 90.2% know that bleeding in pregnancy is a danger sign (Table 5). This is similar to the outcome of a survey in Tanzania where 81% of respondents identified vaginal bleeding as most commonly known danger sign in pregnancy (Mwilike et al., 2018).

Majority of the respondents 211 (66.6%) said delivery by caesarean section is safe (Table 6), showing fair awareness of safety of caesarean section amongst the pregnant women. A Ghanaian study had reported that 90.5% respondents would agree to caesarean operation when indicated and 98.1% wanted caesarean section to

be part of antenatal clinic education topics (Adageba et al., 2008). Majority of respondents (56.2%) said they don't know that previous caesarean section has effect on subsequent deliveries (Table 6). Awareness is lacking in this regards. A Nigerian study earlier reported that women with one previous caesarean section face markedly increased risk of repeat caesarean section and fetomaternal complications in subsequent deliveries (Iyoke et al., 2014).

There is good awareness of possibility of HIV transmission to the baby as 71.6% knew that HIV can be transmitted to the baby in-utero, 68.5% of respondents knew that HIV can be transmitted during delivery and 83.6% knew that HIV can be transmitted to the baby during breastfeeding (Table 7). The possibility of MTCT during pregnancy, delivery and breastfeeding was known by 48.5, 58.6 and 40.7% of respondents respectively in an Ethiopian study (Asefa and Beyene, 2013).

About 86 (27.1%) of the respondents indicated that it is acceptable to them that their female baby be circumcised (Table 8). This is similar to the findings of a Nigerian study that revealed 25.8% of respondents indicating willingness to allow their daughters to be circumcised (Omolase et al., 2012). Majority of the respondents 85.8% were aware of family planning methods. A similar Nigerian study quoted 89% awareness of family planning among pregnant women (Omolase et al., 2009).

## Conclusion

There is fair knowledge of pregnancy and antenatal care among pregnant women. Notable areas of inadequate knowledge are the impact of caesarean section on subsequent pregnancies. The contribution of adequate and effective information for pregnant women at the Antenatal clinic to favorable pregnancy outcome cannot be overemphasized. If this is further elaborated and intensified with improved antenatal clinic personnel motivation and encouragement, the achievement of ensuring healthy lives and promote wellbeing and target 1 of the SDG to reduce global maternal mortality to less than 70 per 100,000 live births by the year 2030, will not continue to be a mirage.

## Conflicts of interest

There are no conflicts of interest.

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