Awareness, Perception and Implementation of Focus Antenatal Care (FANC) among Health Care Providers Working in Mother Care Clinics and Hospitals in Benue State, Nigeria

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Abstract

This non-experimental, cross-sectional descriptive study assessed the "awareness, perception and implementation of focus antenatal care (FANC) among health care providers working in mother care clinics and hospitals in Benue State, Nigeria". The target population comprised all skilled health care providers working in all the mother care clinics and hospitals in Benue State. The sample size consisted of 195 respondents who were selected using the convenient sampling technique after stratified sampling method. The demographic data obtained from the distributed questionnaire were analyzed using pie chart, and bar graph. Data collected were presented in frequency and percentage. Mean scores were used to analyze the data. 2.50 was chosen as the bench mark (≥2.5 as criteria of acceptance). Inferential statistics (chi-square) [x^2] was used to test the hypothesis at 0.05 level of significance. Findings revealed that health care providers are aware of FANC in their hospitals/clinics. Result also shows that health workers have positive perception about FANC. The health workers have tried to implement most of the activities under FANC, but some important ones such as assessment for referral, screening and some tests were not properly implemented. There were no major factors militating against the implementation of FANC in hospitals/clinics in Benue State. The hospitals/clinics do not want to implement FANC because it may deter the quantity of visits that contributes to the earning of the hospital/clinics. Hence, they are unwilling neither to implement the recommended four visits of FANC nor to educate the mothers about FANC. Based on the results, the researchers recommend that government should enforce the full implementation of FANC in all the other care hospitals/clinics in Benue State because of its significant impact on the quality care for expectant mothers. Thus, ensures a complication free pregnancy and child birth. The health care providers should implement all other activities under FANC such as assessment for referral, and some important screening and tests as these activities are also very important at ensuring complication free pregnancy and child birth. Health workers should try to educate the mothers on the importance of FANC so that they can embrace it since it has been proven to be the best approach to ANC.

Keywords: Awareness, Perception, Implementation, FANC, Skilled, Healthcare, Providers, Nigeria

Introduction

Antenatal care (ANC) is the care given to a pregnant woman from the time conception is confirmed until the beginning of labour (Marshall and Raynor, 2014; Agboola, 2006; Shaikh, 2016). Such screening program intends to detect early complications; provide health education and implement effective health promotive and preventive interventions (Gaym, 2009). During the antenatal periods, the health care providers especially the midwife provides accessible and relevant information to help the pregnant woman make informed choices throughout pregnancy (Marshall and Raynor, 2014). Antenatal period also provides opportunities for pregnant women to receive prophylactic medications, vaccinations,

diagnosis and treatment of infectious diseases and health education programs (Campbell and Graham, 2006). Emphasis on the quality instead of quantity of visits reflects this new understanding about the role of FANC as further recommended by the World Health Organisation (WHO) (UK Essays, 2016). Health care providers are expected to be fully aware of the FANC model, to develop the skills and awareness on the implementation of the associated activities. Maternal mortality and morbidity have continued to persist in Nigeria. The rates of its decline are slow, because antenatal care services for addressing this problem remain severely underutilized (Funmi, 2014).

Every year, nearly half a million women and girls needlessly die as a result of complications during pregnancy, childbirth or the 6 weeks following delivery. Almost all (99%) of these deaths occur in developing countries like Nigeria (United Nations, 2009). To prevent these unwanted outcomes of pregnancy, ANC is the most important method for detecting pregnancy problems in the early period. ANC is a critical element for reducing maternal mortality, and for providing pregnant women with a broad range of health promotion and preventive health services (Agus and Horiuchi, 2012). However, health care providers must first be aware and knowledgeable about the current ANC guidelines provided by the WHO. With this, proper implementations of the ANC activities will be carried out. FANC is the modern approach to ANC which ensures quality of services by skilled health care providers as against traditional ANC that emphasizes quantity of visits ((Banda, 2013)). Frequent visits to traditional ANC do not improve pregnancy outcome especially among the developing countries due to logistics and financial concerns. Many women who have risk factors never develop complications, while women without risk factors often do. The implication is that scarce health care resources may be devoted to unnecessary care for - "high-risk"- women who never develop complications, and -"low-risk"- women may be unprepared to recognize or respond to signs of complications (Ekabua, Ekabua, and Njoku, 2011). FANC recognizes that every pregnant woman is at risk for complications and should receive the same basic care and monitoring for complications. Hence, the need for every health care provider to embrace the core principles and ensure a timely implementations (Funmi, 2014).

One of the strategies to improve maternal health is the implementation and appropriate use of (FANC) services (Banda, 2013). This strategy promotes pregnant-woman centered care throughout the pregnancy (WHO 2001). Trials conducted in Argentina, Cuba, Saudi Arabia, and Thailand proved that FANC was safe, sustainable, comprehensive, and effective antenatal care (ANC) model (WHO, 2001). Based on the results from numerous studies on FANC, the (WHO) in 2001 issued the implementing guidelines in developing countries. The new FANC model reduces the number of required antenatal visits to four, and provides focused services shown to improve both maternal and neonatal outcomes (Banda, 2013).

Purpose of the study

The purpose of the study was to assess the awareness, perception and implementation of focus antenatal care (FANC) among health care providers working in mother care clinics and hospitals in Benue state, Nigeria.

Hypotheses

The following four null hypotheses were tested in this study;
1. Health care providers are not aware of FANC
2. Health care providers prefer traditional ANC to FANC
3. Health care providers does not implement FANC in their hospitals/clinics
4. There are no factors militating against implementation of FANC by health care providers in hospitals/clinics.

Methodology

Research design

This non-experimental, cross-sectional descriptive survey design aimed to assess the awareness, perception, and implementation of FANC among health care providers working in mother care clinics and hospital in Gboko, Benue State, Nigeria. This design is fitting because the study was based on observations that took place in study group at once. Hence, there was neither experimental procedure nor variables been manipulated by the researchers (Glass and Hopkins, 1996).

Setting for the study

The study was conducted in Benue State Nigeria. Benue State has two major cities – Makurdi (the capital) and Gboko, a traditional caliphate of Tiv people. The study was conducted in Gboko city due to the mixture of government, non-governmental and private owned mother care clinics and hospitals than other cities within the State.

Target population

The target population included all the health care providers working in; (a) government owned or public mother care clinics, primary health care centers, hospitals and maternity (b) private or individual owned mother care clinics, hospitals and maternity (c) non-governmental organizational owned mother care clinics, primary health centers, hospitals and maternity located within Gboko city, Benue State.

Sample and sampling techniques

Samples were selected from the various target population groups using a convenience sampling technique. The qualifying criteria required for inclusion in the survey was health care providers such as midwives, nurses, doctors, community health extension workers (CHEWS) working in the above context areas. Before using a convenience sampling technique a stratified sampling was used ie the population was divided into homogeneous sub-groups. This step ensured that the representation of all various groups of mother care clinics and hospitals were included in the study. Gboko town has about 25 hospitals/clinics of which 15 hospitals and clinics were selected and surveyed out of which 205 sample.

Instrument for data collection

A self-designed, structured questionnaire was used for the data collection to achieve the objectives of this study. The questionnaire has introductory part to provide detailed information about researcher, expected outcomes in the participation and instruction on how to answer the research instrument. Section A of the questionnaire has to do with the socio-demographic data of the respondents while section B, C,D,E were designed to answer the research questions. The questionnaire comprised about 30 items that comprised of both open and close ended questions. Some part of the questionnaire consisted of 4-point Likert scale (Strongly Agree (SA) =4, Agree (A) =3, Disagree (D) =2, and Strongly Disagree (SD) =1).

Data collection

A total of 205 questionnaires were distributed by the researchers and a trained research assistant to all the health care providers who were selected from various groups of mother care clinics and hospitals in Gboko city, Benue State. However, there were only 195 completed questionnaires used for the analysis that yielded a 95.12% response rate. The questionnaires were given to the respondents at their various workplaces with a two-day waiting period for the return questionnaire prior to the data analysis.

Method of data analysis

The demographic data obtained from the distributed questionnaires were analyzed using pie chart, and bar graph. Collected data were presented in frequency and percentage. Mean

scores were used to analyze the data and interpreted as from which >2.50 as positive and <2.50 as negative. Chi-square (X^2) was used to test the hypotheses at 0.05 level of significance.

Ethical consideration

A letter of introduction from the researchers was taken to the directors and in charge of the various mother care institutions requesting for the approval of the study in their institutions. Following the approval, consent was obtained from the respondents prior to the completion of the survey. Respondents were informed that participation was voluntary. Privacy and confidentiality were maintained in getting information from the respondents by demanding for neither the names nor address of the respondents. The researchers ensured that the respondents understood the nature and purpose of the research, and how they will benefit from it.

Data presentation and discussion of findings

Demographic data of the respondents (n=195)

Data collected from the respondents showed that 100 percent were female because of the common cultural believe that males are not supposed to be working in maternity, antennal and postnatal units of the hospitals. The analysed data also showed that majority of the respondents belonged to 41 and 45 years of age. Results revealed that nurses, midwives and CHEWs who participated were females.

Majority of the respondents were Chief Nursing Officers (CNO) and senior community health extension workers (CHEW). Newly employed health care providers are not normally employed to work in some sensitive units like maternity, antenatal and postnatal units. On the other hand, majority of the respondents had working experience between 26 and 30 years. Long experienced health care providers preferred to work in maternity, antenatal and postnatal units. On the educational qualification, majority were registered nurse (RN)/registered midwife (RM).The trained and licensed health care providers were the ones rendering health care services in the units of the hospital/clinics been studied. Majority of the respondents were selected from public (government) hospitals/clinics followed by the private and mission-owned hospitals/clinics. This shows that Gboko city have good number of government health institutions.

Awareness level of skilled health care providers on FANC

Table 1. Level of awareness of health care providers on FANC (n=195)

No.	Item	SA (%)	A (%)	D (%)	SD (%)	Mean
1.	You are aware of FANC	130(66.7)	65(33.3)	0(0)	0(0)	3.67
2.	FANC has four visit approach	145(74.4)	50(25.6)	0(0)	0(0)	3.74
3	FANC emphasizes quality of care rather than quantity of visits	45(23.1)	150(76.9)	0(0)	0(0)	3.23
4.	Care rendered under FANC is only by skilled or trained health care provider	120(61.5)	75(38.5)	0(0)	0(0)	3.62
5.	FANC deal with each woman specific needs	128(65.6)	65(33.3)	2(1.1)	0(0)	3.65
6.	FANC helps in birth preparedness and complication planning	145(74.4)	50(25.6)	0(0)	0(0)	3.74

7.	FANC emphasizes evidence based and goal directed actions	45(23.1)	150(76.9)	0(0)	0(0)	3.23
Cluster Mean						**3.55**

Note :< 2.50 means negative, >2.50 means positive

From table 1 above, all the items in the table have mean scores above 2.50. The cluster mean of 3.55 shows that health care providers were aware of FANC in their hospitals/clinics. This finding is in agreement with study by Ekabua, Ekabua and Njoku (2011) using 200 participants selected from 5 Teaching Hospital in Nigeria which showed high level of awareness (80%) of tenets of FANC among resident doctors. This finding of this present study differ from that of Amosu et al (2011) whose study was on the acceptance and practice of focused antenatal care by health care providers in South-east zone of Nigeria using 600 health workers showed that healthcare providers and pregnant women were ignorance about FANC and this was one of the major factors affecting the utilization of FANC. The difference could be as a result of the time in which the study was carried out since new concepts are not easily being disseminated especially in developing country like Nigeria. The time gap since his study was carried out may have been a good reason for the difference.

Perception of health workers on FANC

Table 2. Perception of health care providers on FANC (n=195)

No.	Item	SA (%)	A (%)	D (%)	SD (%)	Mean
1.	FANC and traditional ANC offer the same quality of service and yield the same result.	0(0)	12(6.2)	110(56.4)	73(37.4)	1.68
2.	FANC emphasizes too much of visit	0(0)	0(0)	61(31.3)	134(68.7)	1.31
3	Women who attend traditional ANC deliver easier and do not have complications.	0(0)	30(15.4)	93(47.7)	72(36.9)	1.63
4.	FANC provide more opportunity in thorough assessment than traditional ANC	52(26.7)	130(66.7)	13(6.7)	0(0)	3.18
5.	Most women who give birth in your hospital attend FANC	0(0)	15(7.7)	150(76.9)	30(15.4)	1.92
6.	Mothers are educated on FANC in your hospital/clinic	5(2.6)	30(15.4)	110(56.4)	50(25.6)	1.95
Cluster Mean						**1.95**

Note :< 2.50 means negative, >2.50 means positive

From table 2 above, almost all the items in the table have mean scores below 2.50. The cluster mean of 1.95 shows that health care providers have positive perception about FANC. This finding is in agreement with that of Yengo (2009) whose study on nurses' perception about the implementation of focused antenatal care services in Tanzania using 143 nurses showed that nurses viewed FANC as beneficial to women and their perception did not affect implementation of FANC.

Implementation of FANC among health care providers

Table3a. Implementation of FANC by health care providers (1st visit).(n=195)

No.	Item	SA (%)	A (%)	D (%)	SD (%)	Mean
1.	Confirm the existence of the pregnancy	65(33.3)	130(66.7)	0(0)	0(0)	3.33
2.	Weight/Height measurement	35(17.9)	160(82.1)	0(0)	0(0)	3.26
3	Classify women for basic or specialized care	35(17.9)	30(15.4)	110(56.4)	20(10.3)	2.05
4.	Conduct complete general obstetric and genital examination	20(10.3)	70(35.8)	90(46.2)	15(7.7)	2.49
5.	Health education, advice and counseling	195(100)	0(0)	0(0)	0(0)	4.00
6.	Administration of T.T	170(87.2)	25(12.8)	0(0)	0(0)	3.97
7	Administration of iron/folate tablets supplement	195(100)	0(0)	0(0)	0(0)	4.00
8	Screening and test					
	i.　Hemoglobin/PCV	5(2.6)	190(97.4)	0(0)	0(0)	3.03
	ii.　Syphilis/STIs	25((12.8)	50(25.6)	75(38.5)	45(23.1)	2.28
	iii.　HIV	25(12.8)	170(87.2)	0(0)	0(0)	3.13
	iv.　Urinalysis for proteinuria and glycosuria	20(10.3)	40(20.5)	95(48.7)	40(20.5)	2.21
	v.　Urine for bacteria	35(17.9)	45(23.1)	65(33.3)	50(25.6)	2.33
	vi.　Blood/Rhesus group	15(7.7)	65(33.3)	90(46.2)	25(12.8)	2.36
	vii.　Hemoglobin genotype	35(17.9)	55(28.2)	75(38.5)	30(15.4)	2.46
Cluster Mean						**2.92**

Note :< 2.50 means negative, >2.50 means positive

Table 3a above shows that some of the items have mean scores above 2.50 while others have mean score below 2.50. The Cluster mean of 2.92 shows that health care providers have implemented majority of the activities needed under first visit.

Table 3b. Implementation of FANC by health care providers (2nd visit).(n=195)

No.	Item	SA (%)	A (%)	D (%)	SD (%)	Mean
1.	Check BP	160(82.1)	35(17.9)	0(0)	0(0)	3.82
2.	Check for signs of anaemia	150(76.9)	45(23.1)	0(0)	0(0)	3.77
3	Check fetal growth and well-being	5(2.6)	190(97.4)	0(0)	0(0)	3.03
4.	Screening and tests					
	i.　Urine for bacteriauria	120(61.5)	75(38.5)	0(0)	0(0)	3.62
	ii.　Urinalysis for proteinuria in primigravida	35(17.9)	47(24.1)	75(38.5)	38(19.5)	2.41
	iii.　Hemoglobin/PCV	5(2.6)	190(97.4)	0(0)	0(0)	3.12

No.	Item	SA (%)	A (%)	D (%)	SD (%)	Mean
	for anemia					
5.	Administration of 2nd dose of T.T	195(100)	0(0)	0(0)	0(0)	4.00
6.	Administration of ARV therapy if indicated	160(82.1)	35(17.9)	0(0)	0(0)	3.82
7.	Administration of antibiotics for bacteriauria if indicated	15(7.7)	180(90.9)	0(0)	0(0)	3.08
8.	Administration of anthelminthic for worms	0(0)	15(7.7)	120(61.5)	60(30.8)	1.77
9	Administration of iron/folate tablets	195(100)	0(0)	0(0)	0(0)	4.00
10	Administration of 1st dose of antimalarial using SP	15(7.7)	180(90.9)	0(0)	0(0)	3.08
11	Health education, advise and counseling	195(100)	0(0)	0(0)	0(0)	4.00
Cluster Mean						**3.35**

Note :< 2.50 means negative, >2.50 means positive

From table 3b above, almost all the items in the table have mean scores above 2.50. The cluster mean of 3.35 shows that the health workers have implemented most of the activities needed during the second visit.

Table 3c. Implementation of FANC by health care providers (3rd visit).(n=195)

No.	Item	SA (%)	A (%)	D (%)	SD (%)	Mean
1.	Check BP	150(76.9)	45(23.1)	0(0)	0(0)	3.77
2.	Check for signs of aneamia	150(76.9)	45(23.1)	0(0)	0(0)	3.77
3	Check fetal growth and wellbeing	70(35.8)	125(64.1)	0(0)	0(0)	3.36
4.	Administration of ARV therapy if indicated	195(100)	0(0)	0(0)	0(0)	4.00
5.	Administration of antibiotics for bacteriuria if indicated	95(48.7)	100(51.3)	0(0)	0(0)	3.49
6.	Administration of 2nd dose of T.T	170(87.2)	25(12.8)	0(0)	0(0)	3.87
7.	Administration of 2nd dose of antimalarial using SP	160(82.1)	35(17.9)	0(0)	0(0)	3.82
8	Health education, advice and counseling	195(100)	0(0)	0(0)	0(0)	4.00
9.	Screening and tests i. Urine for bacteriuria	25(12.8)	55(28.2)	55(28.2)	60(30.8)	2.23
	ii. Urinalysis for proteinuria in primigravida	15(7.7)	35(17.9)	85(43.6)	60(30.8)	2.06
Cluster Mean						**3.44**

Note :< 2.50 means negative, >2.50 means positive

Table 3c above shows that most of the items in the table have mean scores above 2.50. The cluster mean of 3.44 shows that the health workers have implemented most of the activities needed during 3rd visit.

Table 3d. Implementation of FANC by health care providers (4th visit) (n=195)

No.	Item	SA (%)	A (%)	D (%)	SD (%)	Mean
1.	General physical examination	55(28.2)	140(71.8)	0(0)	0(0)	3.28
2.	Measure BP	150(76.9)	45(23.1)	0(0)	0(0)	3.77
3	Measure fundal height	170(87.2)	25(12.8)	0(0)	0(0)	3.87
4.	Palpate abdomen for fetal lie and presentation as well as for twins and breech	160(82.1)	35(17.9)	0(0)	0(0)	3.82
5.	Review and modification of birth and emergency plan	15(7.7)	33(16.9)	88(45.1)	59(30.3)	2.02
6.	Assess for referral	10(5.1)	50(25.6)	120(61.5)	15(7.7)	2.28
7.	Administration of iron/folate tablets	195(100)	0(0)	0(0)	0(0)	4.00
8.	Administration of malaria prophylaxis	120(61.5)	75938.5)	0(0)	0(0)	3.62
9.	Enforce use of LLINS	195(100)	0(0)	0(0)	0(0)	4.00
10.	Administration of ARV therapy if indicated	195(100)	0(0)	0(0)	0(0)	4.00
11.	Administration of antibiotics for bacteriuria if indicated	35(17.9)	160(82.10)	0(0)	0(0)	3.12
12.	Screening/Test					
	i. Test for proteinuria in nullipara	10(5.1)	25(12.8)	85(43.6)	75(38.5)	1.85
	ii. Screen for preeclampsia	10(5.1)	30(15.4)	80(41.0)	75(38.5)	1.87
13	Health education, advise and counseling	195(100)	0(0)	0(0)	0(0)	4.00
Cluster Mean						**3.25**

Note :< 2.50 means negative, >2.50 means positive

From table 3d above majority of the items have mean scores above 2.50. Cluster mean of 3.25 shows that the health care providers have implemented most of the activities needed for fourth visit.

This finding shows that the health care providers are trying at implementing some of the activities as required under FANC but are failing to implement some. The efforts is quite commendable, however every efforts should be made to ensure that the remaining activities that are not being implemented are also being implemented because these non-implemented activities are also very important at ensuring that full gain of FANC is derived.

In a similar vein, Conrad et al (2011) showed that health workers working in health facilities in Burkuna Faso, Uganda and Tanzania performed most of the procedures but also omitted certain practices stipulated in the FANC guidelines. Gross, Schellenberg, Kessy, Pfeiffer and Obrist (2011) examined the antenatal care practice in selected clinics situated in Kilombero Valley, South-Eastern Tanzania. Result showed that some recommended services of focused antenatal care guidelines were given to all women while other services were not. Similarly, Boller et al (2003) assessed the quality of care in public and private ANC clinics in

Dar es Salaam, which found that guidelines were frequently not respected and diagnostic examinations were not carried out by health workers.

Factors militating against FANC

Table 4. Factors militating against implementation of FANC (n=195)

No.	Item	SA (%)	A (%)	D (%)	SD (%)	Mean
1.	Skilled health providers are not aware of FANC	0(0)	27(13.8)	70(35.8)	98(50.3)	1.64
2.	There are no facilities for FANC in the hospital/clinic	25(12.8)	30(15.4)	120(61.5)	20(10.3)	2.31
3	There are inadequate skilled health personnels to implement FANC	15(7.7)	100(51.3)	30(15.4)	50(25.6)	2.41
4.	Your hospital/clinic does not want FANC	20(10.3)	150(76.9)	10(5.1)	15(7.7)	2.90
5.	Mothers prefer traditional ANC to FANC	60(30.8)	115(59.0)	15(7.7)	5(2.6)	3.18
6.	There is corruption/diversion of funds meant for FANC implementation	5(2.6)	60(30.8)	100(51.3)	30(15.4)	2.21
Cluster Mean						**2.45**

Note :< 2.50 means negative, >2.50 means positive

Table 4 above shows that most of the items in the table have mean scores below 2.50.

The cluster mean score of 2.45 shows that there are no factors militating against implementation of FANC in hospitals/clinics in Benue State rather the hospitals/clinics does not want to implement FANC. Additional information from the respondents showed that hospitals and clinics in Benue does not want to implement FANC because quantity of visits by the consumers of ANC earns the hospitals and clinics more money.

Conrad et al (2011) conducted a study using a descriptive systematic observation of 788 ANC sessions and service providers which showed that services providers non-compliance of procedures in FANC guidelines was one of the factors contributing to low utilization of FANC.

Testing of hypothesis

Hypothesis one: Health care providers are not aware of FANC

Table 5. Chi-square (x^2) test on level of awareness of skilled health providers on FANC

O	E	(O-E)	(O-E)^2	$\frac{(O-E)^2}{E} = x^2$
130	108.3	21.7	470.89	4.35
65	86.4	-21.4	457.96	5.30
0	0.3	-0.3	0.09	0.30
0	0.0	0.0	0.00	0.00
145	108.3	36.7	1346.89	12.44
50	86.4	-36.4	1324.96	15.34
0	0.3	-0.3	0.09	0.30
0	0.0	0.0	0.00	0.00
45	108.3	-63.3	4000.89	37.00
150	86.4	63.6	4044.96	46.82
0	0.3	-0.3	0.09	0.30
0	0.0	0.0	0.00	0.00

120	108.3	11.7	136.89	1.26
75	86.4	-11.4	129.96	1.50
0	0.3	-0.3	0.09	0.30
0	0.0	0.0	0.00	0.00
128	108.3	19.7	388.09	3.58
65	86.4	-21.4	457.96	5.30
2	0.3	1.7	2.89	9.63
0	0.0	0.0	0.00	0.00
145	108.3	36.7	1346.89	12.44
50	86.4	-36.4	1324.96	15.34
0	0.3	-0.3	0.09	0.30
0	0.0	0.0	0.00	0.00
45	108.3	-63.3	4006.89	37.00
150	86.4	63.6	4044.96	46.82
0	0.3	-0.3	0.09	0.30
0	0.0	0.0	0.00	0.00
Total				**255.92**

The calculated chi-square (x^2) value is 255.92

The tabulated chi-square (x^2) value is 25.99

Since the Chi-square (x^2) test (calculated) =96.28 is greater than the tabulated value =16.92. There is therefore no statistical evidence to accept the null hypothesis (Ho).This means that the health care providers are fully aware of FANC in their hospitals/clinics.

Hypothesis two: Health care providers prefer Traditional ANC to FANC

Table 6. Chi-square (x^2) test on health care provider of preference of traditional ANC to FANC

O	E	(O-E)	(O-E)²	$\frac{(O-E)^2}{E} = x^2$
0	95.0	-95.0	9025.00	95.00
12	36.2	-24.2	585.64	16.18
110	89.5	40.5	1640.25	18.32
73	59.8	13.2	174.24	2.91
0	95.0	-95.0	9025.00	95.00
0	36.2	-36.2	1310.44	36.20
61	89.5	-28.5	812.25	9.08
134	59.8	74.2	5505.64	92.06
0	95.0	-95.0	9025.00	95.00
30	36.2	-6.2	38.44	1.06
93	89.5	3.5	12.25	0.14
72	59.8	12.2	148.84	2.49
52	95.0	-4.3	18.49	0.19
130	36.2	93.8	8798.44	243.05
13	89.5	-76.5	5852.25	65.39
0	59.8	-59.8	3576.04	59.80
0	95.0	-95.0	9025.00	95.00
15	36.2	-23.2	538.24	14.87
150	89.5	60.2	3624.04	40.49
30	59.8	-29.8	888.04	14.85
5	95.0	-90.0	8100.00	85.26
30	36.2	-6.2	38.44	1.06
110	89.5	20.5	420.25	4.70
50	59.8	-9.8	96.04	1.61
Total				**1089.71**

The calculated chi-square (x^2) value is 1089.71

The tabulated chi-square (x^2) value is 25.00

Since the Chi-square (x^2) test (calculated) =1089.71 is greater than the tabulated value =25.00. There is therefore no statistical evidence to accept the null hypothesis (Ho).This means that the health care providers do not prefer traditional ANC to FANC.

Hypothesis three: Health care provider does not implement FANC in their hospitals/clinics.

Table 7. Chi-square (x^2) test for health care providers and implementation of FANC in hospitals/clinic (first visit).

O	E	(O-E)	(O-E)^2	$\frac{(O-E)^2}{E} = x^2$
65	62.5	25	625.00	10.00
130	73.6	56.4	3180.96	43.22
0	42.9	-42.9	1840.41	42.90
0	16.1	-16.1	259.21	16.10
35	62.5	-27.5	756.25	12.10
160	73.6	86.4	7464.96	101.43
0	42.9	-42.9	1840.41	42.90
0	16.1	-16.1	259.21	16.10
35	62.5	-27.5	756.25	12.10
30	73.6	-43.6	1900.96	25.83
110	42.9	67.1	4502.41	104.95
20	16.1	3.9	15.21	0.94
20	62.5	-42.5	1806.25	28.90
70	73.6	-3.6	12.96	0.18
90	42.9	47.1	2218.41	51.71
15	16.1	-1.1	1.21	0.08
195	62.5	132.5	17556.25	280.90
0	73.6	-73.6	5416.96	73.60
0	42.9	-42.9	1840.41	42.90
0	16.1	-16.1	259.21	16.10
170	62.5	107.5	11556.25	184.90
25	73.6	-48.6	2361.96	32.09
0	42.9	-42.9	1840.41	42.90
0	16.1	-16.9	259.21	16.10
195	62.5	132.5	17556.25	280.90
0	73.6	-73.6	5416.96	73.60
0	42.9	-42.9	1840.41	42.90
0	16.1	-16.1	259.21	16.10
5	62.5	-57.5	3306.25	52.90
190	73.6	116.4	13548.96	184.10
0	42.9	-42.9	1840.41	42.90
0	16.1	-16.1	259.21	16.10
25	62.5	-37.5	1406.25	22.50
50	73.6	-23.6	556.96	7.57
75	42.9	32.1	1030.41	24.02
45	16.1	28.9	835.21	51.88
25	62.5	-37.5	1406.25	22.50
170	73.6	96.4	9292.96	126.26
0	42.9	-42.9	1840.41	42.90
0	16.1	-16.1	259.21	16.10
20	62.5	-42.5	1806.25	28.90

40	73.6	-33.6	1128.96	15.34
95	42.9	53.1	2819.61	65.73
40	16.1	23.9	571.21	35.48
35	62.5	-27.5	756.25	12.10
45	73.6	-28.6	817.96	11.11
65	42.9	22.1	488.41	11.38
50	16.1	33.9	1149.21	71.38
15	62.5	-47.5	2256.25	36.10
65	73.6	-8.6	73.96	1.04
90	42.9	47.9	2294.41	53.48
25	16.1	8.9	79.21	4.92
35	62.5	-27.5	756.25	12.10
55	73.6	-18.6	345.96	4.70
75	42.9	32.1	1030.41	24.02
30	16.1	13.9	193.21	12.00
Total				**2621.94**

Table 8. Chi-square (x^2) test for health care providers and implementation of FANC in hospitals/clinic (Second Visit).

O	E	(O-E)	(O-E)^2	$\frac{(O-E)^2}{E} = x^2$
160	96.2	63.8	4070.44	42.31
35	76.5	-41.5	1722.25	22.51
0	15.0	-15.0	225.00	15.00
0	7.5	-7.5	56.25	7.50
150	96.2	53.2	2894.44	30.09
45	76.5	-31.5	992.25	12.97
0	15.0	-15.0	225.00	15.00
0	7.5	-7.5	56.25	7.50
5	96.2	-91.2	8317.44	86.45
190	76.5	113.5	12882.25	168.40
0	15.0	-15.0	225.00	15.00
0	7.5	-7.5	56.25	7.50
120	96.2	23.8	566.44	5.89
75	76.5	-1.5	2.25	0.02
0	15.0	-15.0	225.00	15.00
0	7.5	-7.5	56.25	7.50
35	96.2	-41.4	1722.25	22.51
47	76.5	-29.1	870.25	11.38
75	15.0	60	3600.00	240.00
38	7.5	30.5	930.25	124.03
5	96.2	-91.2	8317.44	86.46
190	76.5	113.5	12882.25	168.40
0	15.0	-15.0	225.00	15.00
0	7.5	-7.5	56.25	7.50
195	96.2	98.2	9761.44	101.47
0	76.5	-76.5	5852.25	76.50
0	15.0	-15.0	225.25	15.00
0	7.5	-7.5	56.25	7.50
160	96.2	63.8	4070.44	42.31
35	76.5	-41.5	1722.25	22.51

0	15.0	-15.0	225.00	15.00
0	7.5	-7.5	56.25	7.50
15	96.2	-81.2	6593.44	68.54
180	76.5	103.5	10712.25	140.03
0	15.0	-15.0	225.00	15.00
0	7.5	-7.5	56.25	7.50
0	96.2	-96.2	9254.44	96.20
15	76.5	-61.5	3782.25	49.44
120	15.0	105.0	11025.00	735.00
60	7.5	52.5	2756.25	367.50
195	96.2	98.2	9761.44	101.47
0	76.5	-76.5	5852.25	76.50
0	15.0	-15.0	225.00	15.00
0	7.5	-7.5	56.25	7.50
15	96.2	-81.2	6593.44	68.54
180	76.5	103.5	10712.25	140.03
0	15.0	-15.0	225.00	15.00
0	7.5	-7.5	56.25	7.50
195	96.2	98.2	9761.44	101.47
0	76.5	-76.5	5852.25	76.50
0	15.0	-15.0	225.00	15.00
0	7.5	-7.5	56.25	7.50
Total				**3532.93**

Table 9. Chi-square (x^2) test for health care providers and implementation of FANC in hospitals/clinic (Third Visit).

O	E	(O-E)	(O-E)^2	$\frac{(O-E)^2}{E} = x^2$
150	122.5	27.5	756.25	6.17
45	46.5	-1.5	2.25	0.04
0	14.0	-14.0	196.00	14.00
0	12.0	-12.0	144.00	12.00
150	122.5	27.5	756.25	6.17
45	46.5	-1.5	2.25	0.04
0	14.0	-14.0	196.00	14.00
0	12.0	-12.0	144.00	12.00
70	122.5	-52.0	2756.25	22.5
125	46.5	78.5	6162.25	132.52
0	14.0	-14.0	196.00	14.00
0	12.0	-12.0	144.00	12.00
195	122.5	72.5	5256.25	42.91
0	46.5	-46.5	2162.25	46.50
0	14.0	-14.0	196.00	14.00
0	12.0	-12.0	144.00	12.00
95	122.5	-27.5	756.25	6.17
100	46.5	53.5	2862.25	61.55
0	14.0	-14.0	196.00	14.00
0	12.0	-12.0	144.00	12.00
170	122.5	47.5	2256.25	18.42
25	46.5	-21.5	462.25	9.94
0	14.0	-14.0	196.00	14.00

0	12.0	-12.0	144.00	12.00
160	122.5	37.5	1406.25	11.48
35	46.5	-11.5	132.25	2.84
0	14.0	-14.0	196.00	14.00
0	12.0	-12.0	144.00	12.00
195	122.5	-72.5	5256.25	42.91
0	46.5	-46.0	2162.25	46.50
0	14.0	-14.0	196.00	14.00
0	12.0	-12.0	144.00	12.00
25	122.5	-97.5	9506.25	77.60
55	46.5	8.5	72.25	1.55
55	14.0	41	1681.00	120.07
60	12.0	48.0	2304.00	192.00
15	122.5	-107.5	11556.25	94.34
35	46.5	-11.5	132.25	2.84
85	14.0	71.0	5041.00	360.07
60	12.0	48.0	2304.00	192.00
Total				**1705.13**

Table 10. Chi-square (x^2) test for health care providers and implementation of FANC in hospitals/clinic (Fourth Visit).

O	E	(O-E)	(O-E)^2	$\frac{(O-E)^2}{E} = x^2$
195	108.2	86.8	7534.24	69.63
0	44.1	-44.1	1944.81	44.1
0	26.6	-26.6	707.56	26.00
0	16.0	-16.0	256.00	16.00
35	108.2	-73.2	5358.24	49.52
165	44.1	120.9	14616.81	331.44
0	26.6	-26.6	707.56	26.00
0	16.0	-16.0	256.00	16.00
10	108.2	-98.2	9643.24	89.12
25	44.1	-19.1	364.81	8.27
85	26.6	58.4	3410.56	128.22
75	16.0	-59.0	3481	217.56
10	108.2	-98.2	9643.24	89.12
30	44.1	-14.1	198.81	4.51
80	26.6	53.0	2851.56	107.20
75	16.0	59.0	3481	217.56
195	108.2	86.8	7534.24	69.63
0	44.1	-44.1	1944.81	44.1
0	26.6	-26.6	707.56	26.00
0	16.0	-16.0	256.00	16.00
Total				**3100.71**

The average calculated chi-square (x^2) using the four visits of FANC is 2740.18

The highest tabulated chi-square (x^2) value is 53.77

Since the Chi-square (x^2) test (calculated) =2740.18 is greater than the tabulated value =53.77 There is therefore no statistical evidence to accept the null hypothesis (Ho).This means that the health workers have implemented most of the activities under FANC.

Hypothesis four: There are no factors militating against implementation of FANC by health care providers in hospitals/clinics

Table 11. Chi-square (x^2) test on factors militating against implementation of FANC by health care providers in hospitals/clinics

O	E	(O-E)	(O-E)^2	$\frac{(O-E)^2}{E} = x^2$
0	20.8	-20.8	432.64	20.8
27	80.3	-53.3	2840.89	35.38
70	57.5	12.5	156.25	2.72
98	36.3	61.7	3806.89	104.87
25	20.8	4.2	17.64	0.85
30	80.3	-50.3	2530.09	31.50
120	57.5	62.5	3906.25	67.93
20	36.3	-16.3	265.69	7.32
15	20.8	-5.8	33.64	1.68
100	80.3	19.7	388.09	4.83
30	57.5	-27.5	756.25	13.15
50	36.3	13.7	187.69	5.19
20	20.8	-0.8	0.64	0.03
150	80.3	68.7	4858.09	60.50
10	57.5	-47.5	2256.25	39.24
15	36.3	-21.3	453.69	12.50
60	20.8	39.2	1536.64	73.88
115	80.3	34.7	1204.09	14.99
15	57.5	-42.5	1806.25	31.41
5	36.3	-31.3	979.69	26.99
5	20.8	-15.8	249.64	12.00
60	80.3	-20.3	412.09	5.13
100	57.5	42.5	1806.25	31.41
30	36.3	-6.3	39.69	1.09
Total				**605.31**

The calculated chi-square (x^2) value is 605.3

The tabulated chi-square (x^2) value is 25.00

Since the Chi-square (x^2) test (calculated) =605.31 is greater than the tabulated value =25.00 There is therefore no statistical evidence to reject the null hypothesis (Ho).This means that there is no factors militating against the implementation of FANC in hospitals and clinics in Gboko.

Conclusion

From the result of this study, health care providers were aware of FANC in their hospitals/clinics. Furthermore, there were no major factors militating against FANC implementation in Benue State. It can be inferred that the hospitals/clinics do not want to implement FANC because of the common that it may affect the revenues that these facilities are getting from the number of visits. Focus antenatal care (FANC) is an evidence-based, goal-directed action, and family-centered, quality-focused approach to antenatal care FANC further promotes health and survival of both mother and child. FANC is an individualized care provided to pregnant woman with emphasis on woman's overall health including the preparation for childbirth and readiness for complications (emergency preparedness). Hence, it should be accepted and implemented for the overall interest of expectant mothers, their unborn child, the family and the society at large as this will go a long way at reducing maternal and infant mortality rate.

Recommendations

Based on the findings from this present study, the researchers recommend that the government should enforce the full implementation of FANC in all the mother care clinics/hospitals in Benue State. FANC has been found to promote overall women's health and prevent any possible expected complications from conception to child birth. The health care providers should develop awareness on the benefits of FANC that will facilitate an advocacy towards implementation supported by the health care institutions. The implementation of FANC integrated activities such as assessment for referral, and some important screening and tests should be disseminated to ensure complication-free pregnancy and child birth. Health care providers should educate the mothers and support alliance on the importance of FANC as a proven best approach to ANC.

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