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Assessment of antenatal care satisfaction amongst postpartum women at the University College Hospital, Ibadan, Nigeria

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ABSTRACT

Background: Maternal mortality is unacceptably high especially in developing countries. About 287,000 women died during and following pregnancy and childbirth in 2020. The vast majority of these deaths (95 %) occurred in low and lower middle countries in 2020 and most could have been prevented. Every day in 2020, approximately 800 women died from preventable causes related to pregnancy and childbirth. Utilization of antenatal visit has been shown to improve birth outcome as well as the maternal outcome during pregnancy-related events, giving a positive impact when the visit frequency and care are adequate while satisfaction has equally been an important outcome measures of quality of care. In order to improve feto-maternal outcome and turn the tide against maternal deaths, it is expedient to assess the satisfaction of women who had experienced antenatal care with the aim of identifying areas requiring additional attention.

Objective: This study aimed to assess the level of antenatal care satisfaction of postpartum women and factors associated with satisfaction at the University College Hospital (UCH), Ibadan and their future intention for subsequent utilization of antenatal care.

Methods: A descriptive cross-sectional study of 261 women in the postnatal ward using simple random sampling technique was conducted with an interviewer-administered structured questionnaire. Items in the questionnaire included sociodemographic and obstetric variables, assessment of quality of amenities, waiting time and level of satisfaction. Data was entered, cleaned and analyzed by computer using the Statistical Package for Social Sciences Version 23.0 (SPSS, IBM). The variables were summarized using frequencies, proportions, means and standard deviation. Chi Square was used for test of significance with the p-value set at $P < 0.05$.

Results: Of the 261 participants 176 (67.5 % percent) were aged 25–34 years; majority (244,93.5 %) had tertiary education while (189, 72.4 %) were skilled workers or professionals. Most of the women (243, 93.2 %) were Para 1–3 and the pregnancy was planned (80.8 %) while financing was mostly out of pocket (60.9 %). Only one-third of the participants has at least eight (8) antenatal contacts. In overall rating, most women (90.0 %) were satisfied with the antenatal care services received. The highest rating of satisfaction was with the competence of the service providers (90.4 %) especially with the care given to them and their unborn babies (90.4 %). The parity, distance of their home from antenatal clinic, number of antenatal contacts, number of health education sessions attended, total time spent, attitude of health workers, cost of services and desire to register again at the facility were statistically associated with patient's satisfaction. Also, the number of antenatal visits was statistically associated with the fetal outcome.

Conclusion: There is a high overall level of satisfaction with antenatal services among postpartum women in UCH. It is important to encourage women to register early to ensure they have adequate number of antenatal contacts and also participate in the health education sessions.

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Introduction

Quality health care during pregnancy and childbirth can prevent many of the maternal deaths, yet globally, only 64 % of women receive antenatal care for four or more times throughout their pregnancy [1]. The global maternal mortality ratio decreased significantly in 2015 however, it is still unacceptably high particularly the low and middle income countries [2]. Every day in 2020, almost 800 women died from preventable causes related to pregnancy and childbirth. A maternal death occurred almost every two minutes in 2020. Between 2000 and 2020, the maternal mortality ratio (MMR, number of maternal deaths per 100,000 live births) dropped by about 34 % worldwide. Almost 95 % of all maternal deaths occurred in low and lower middle-income countries in 2020 [3]. Sub-Saharan Africa and Southern Asia accounted for approximately 86 % (254,000) of the estimated global maternal deaths in 2017. Sub-Saharan Africa alone accounted for roughly two-thirds (196,000) of maternal deaths, while Southern Asia accounted for nearly one-fifth (58,000) [4]. The high number of maternal deaths in some areas of the world reflects inequities in access to health services and highlights the gap between rich and poor. Almost all maternal deaths (99 %) occur in developing countries [4]. Three countries – all in sub-Saharan Africa – are estimated to have had extremely high maternal mortality in 2020 (defined as MMR of over 1000 maternal deaths per 100,000 live births), with the highest MMR being in South Sudan, at 1223 (UI 746–2009), followed by Chad (1063; UI 772–1586) and Nigeria (1047; UI 793–1565). In 2020, Nigeria had the highest number of maternal deaths and accounted for more than a quarter (28.5 %) of all estimated global maternal deaths with approximately 82,000. [5].

Antenatal care (ANC) can be defined as the care provided by skilled health-care professionals to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy. The components of ANC include risk identification; prevention and management of pregnancy-related or concurrent diseases; and health education and health promotion. [6] Antenatal Care (ANC) enables effective management of pre-natal morbidities, and may facilitate institutional delivery and postpartum care, thereby improving obstetric and neonatal outcomes [7–9]. Level of satisfaction is considered one of the indicators of measuring quality of antenatal care as it helps to provide uniform health care services for pregnant women [10,11]. It is expedient to assess the satisfaction of women who had recently completed their antenatal visits with the aim of improving antenatal care patronage and at the long run contributing effectively to reduction in maternal and fetal morbidity or mortality while striving to achieve SDG3.

Globally, while 88 % of pregnant women access antenatal care with a skilled health personnel at least once, only two in three (66 %) receive at least four antenatal care visits. In regions with the highest rates of maternal mortality, such as Western and Central Africa and South Asia, even fewer women received at least four antenatal care visits (53 % and 55 %, respectively). This is mostly due to lack of education, environmental factors as well as limited access to information. Regular contact with a doctor, nurse, or midwife during pregnancy allows women to receive services vital to their health and that of their future children [12]. The World Health Organization (WHO) recommends a minimum of four antenatal care visits [12].

Antenatal care (ANC) utilization rate in Nigeria (a lower-middle income country) is quite low, about 61 % of pregnant women visited a skilled provider at least once during their pregnancy compared with the documented average of 79 % for all lower-middle income countries [13,14]. In Nigeria, 41 % of women who utilized skilled ANC did not deliver in a healthcare facility [7,13]. With just 2.45 % of the world's population, Nigeria accounts for 19 % of maternal deaths [14,15]. Many developing countries have successfully reduced maternal mortality by expanding maternal service utilization through policy innovations [16,17].

This study was designed to assess the level of Satisfaction and associated factors as regards antenatal care received by women in UCH.

Table 1
Sociodemographic characteristics of postpartum women.

CHARACTERISTICS	FREQUENCY (n)	PERCENTAGE (%)
Age (Years)		
20 – 24	18	6.9
25–29	80	30.7
30–34	96	36.8
>35	67	25.7
Parity		
1	85	32.6
2	72	27.6
3	86	33.0
4	7	2.7
>5	11	4.2
Educational Status		
Primary	2	0.8
Secondary	15	5.7
Tertiary	244	93.5
Occupation		
Unemployed	28	10.7
Unskilled	3	1.1
Semi-skilled	41	15.7
Skilled/Professional	189	72.4
Ethnicity		
Yoruba	225	86.2
Igbo	16	6.1
Hausa	20	7.7
Religion		
Christianity	204	78.2
Islam	57	21.8
Marital Status		
Single	2	0.8
Married	259	99.2
Socioeconomic Class		
High	24	9.2
Middle	226	86.6
Low	11	4.2
Place of Residence		
Rural	17	6.5
Urban	244	93.5
Distance from ANC		
Close	48	18.4
Not too far	142	54.4
Far	71	27.2

Materials and method

Study design and Site: This descriptive cross-sectional study was conducted in the Postnatal wards of the University College Hospital, Ibadan between September 1, 2020 and December 31, 2020. The postnatal wards of the hospital have a total of 80 beds and serve the postpartum women who are transferred from the labor ward after delivery. These women are nursed on these wards with their babies till discharge.

Inclusion Criteria: Booked patients who attended antenatal visits sessions and delivered in UCH.

Sample size calculation: Sample size was calculated to 261

Sampling Technique: Respondents were recruited using simple random sampling technique, with the aid of a list of random numbers generated using a *random number generator*, the sample size was selected.

Survey Instrument: Data was collected using pretested interviewer administered semi-structured questionnaire developed using information from the literature. The questionnaire was pre-tested among 20 women attending the postnatal clinic of a nearby secondary care level hospital within the metropolis.

The questionnaire comprised of four sections which included the socio-demographic data of the respondents, relevant information about determinants of satisfaction, satisfaction with specific services and probability of accessing ANC in the facility subsequent pregnancies and

Table 2
Antenatal parameters of postpartum women.

CHARACTERISTICS	FREQUENCY	PERCENTAGE (%)
Planned Pregnancy		
Yes	211	80.8
No	50	19.2
Mode of Healthcare Financing		
Out of Pocket	159	60.9
Health Insurance	102	39.1
Number of Antenatal Contacts		
<4 contacts	45	17.2
4 – 7 contacts	130	49.8
≥8 contacts	86	33.0
Health Education Attendance		
Yes	256	98.1
No	5	1.9
Number of Health Education Attended		
1–2	62	23.8
3 – 5	83	31.8
>5	116	44.4
Mode of Delivery		
Spontaneous Vaginal Delivery	128	49.0
Caesarean Section	133	51.0
Fetal Outcome		
Alive	258	98.9
Dead	3	1.1

Table 3
Assessment of satisfaction with the antenatal care services.

DETERMINANTS OF SATISFACTION (N = 261)	SATISFIED (N/%)	NOT SATISFIED (N/%)
Physical Environment of the ANC	211(80.8)	50(19.2)
Cleanliness of the ANC	198(75.9)	63(24.1)
Availability of human resources, medicines and supplies at the ANC	222(85.1)	39(14.9)
Interpersonal Behavior	219(83.9)	42(16.1)
Privacy at the ANC	218(83.5)	43(16.5)
Promptness to access Care at the ANC	223(85.4)	38(14.6)
Cognitive Care received at the ANC	234(89.7)	27(10.3)
Perceived Provider Competence	236(90.4)	25(9.6)
Emotional Support	231(88.5)	30(11.5)
Care for the health of the mother and fetus.	236(90.4)	25(9.6)
Access to care	224(85.8)	37(14.2)
Cost of services	205(78.5)	56(21.5)
OVERALL SATISFACTION WITH ANC	235(90.0)	26(10.0)

recommendation for others.

The research assistants were trained for the process of data collection

Data Management and Analysis: Data was entered, cleaned and analyzed by computer using the Statistical Package for Social Sciences Version 23.0 (SPSS, IBM). The variables were summarized using frequencies, proportions, means and standard deviation. Chi Square was used for test of significance with the p-value set at $P < 0.05$.

Ethical Consideration: Ethical approval was obtained from the Ethical Committee of the University College Hospital, Ibadan with Registration Number NHREC/05/01/2008a and UI/UCH Ethics Committee assigned number UI/EC/20/0479. A written consent was obtained from each of the respondents after the questionnaires have been introduced and consent given. Non-willing participants were allowed to opt out with no impact on their care.

Results

There were 261 respondents who were mostly between 30 and 34 years old (36.8 %), and the mean age was 31.6 (SD = 4.9). Most of the women were married (99.2 %) and from the Christian background (78.2 %). There were 225(86.2 %) Yoruba women while 93.5 % had tertiary education. Skilled workers or professionals accounted for 72.4 % of respondents while 93.5 % lived in urban areas and are mostly (86.6 %) middle class socioeconomic status. For most (54.4 %) of the respondents, the distance of their houses to the hospital was not too far (Table 1).

Table 4
Assessment of degree satisfaction with the antenatal care services.

DETERMINANTS OF SATISFACTION (n = 261)	LEVEL OF SATISFACTION				
	Excellent (n/%)	Good (n/%)	Fair (n/%)	Poor (n/%)	Very Poor (n/%)
Physical Environment of the ANC	73(28.0)	55 (21.1)	83 (31.8)	35 (13.4)	15(5.7)
Cleanliness of the Clinic	61(23.4)	70 (26.8)	67 (25.7)	35 (13.4)	28 (10.7)
Availability of human resources, medicines and supplies at the Clinic	83(31.8)	83 (31.8)	56 (21.5)	24 (9.2)	15(5.7)
Interpersonal Behavior	70(26.8)	84 (32.2)	65 (24.9)	26 (10.0)	16(6.1)
Privacy at the Clinic	94(36.0)	78 (29.9)	46 (17.6)	32 (12.3)	11(4.2)
Promptness to access Care at the Clinic	88(33.7)	75 (28.7)	60 (23.0)	19 (7.3)	19(7.3)
Cognitive Care received at the ANC	98(37.5)	79 (30.3)	57 (21.8)	13 (5.0)	14(5.4)
Perceived Provider Competence	128(49.0)	76 (29.1)	32 (12.3)	14 (5.4)	11(4.2)
Emotional Support	84(32.2)	81 (31.0)	66 (25.3)	17 (6.5)	13(5.0)
Care for the health of the mother and fetus.	131(50.2)	86 (33.0)	19 (7.3)	12 (4.6)	13(5.0)
Access to care	93(35.6)	97 (37.2)	34 (13.0)	25 (9.6)	12(4.6)
Cost of services	71(27.2)	93 (35.6)	41 (15.7)	32 (12.3)	24(9.2)
OVERALL SATISFACTION WITH ANC	92(35.2)	100 (38.3)	43 (16.5)	11 (4.2)	15(5.7)

Table 2 shows that the pregnancy was planned in majority 211(80.8 %) of the women while 159(60.9 %) of them pay out of pocket for antenatal care services. Most of the women had 4–7 antenatal contacts with only about one third (33 %) had at least eight (8) antenatal contacts.

The assessment of satisfaction varies depending on the determinant of satisfaction that was being evaluated though more than 75 % of respondents demonstrated satisfaction with all the determinants reviewed with an overall satisfaction of 90 % (Tables 3 and 4).

The physical environment was described to be excellent and good by 28.0 % and 21.1 % of respondents respectively while cleanliness was described to be excellent and good by 23.4 % and 26.8 % of respondents respectively. Equal number of the women (31.8 %) rated Availability of human resources, medicines and supplies at the ANC to be excellent and good. The interpersonal behavior of the health workers that attended to the women was described to be excellent and good by 26.8 % and 32.2 % of the women respectively. The privacy enjoyed was described to be excellent by 36 % of the women and said to be good by 29.9 % of the women. Promptness to access Care at the antenatal clinic was rated to be excellent and good by 33.7 % and 28.7 % of the women respectively. In terms of educating the pregnant women and providing necessary information, 37.5 % and 30.3 % of the women felt the services were excellent and good respectively (Table 4).

Less than half of the women (49 %) felt the service providers were excellently competent in taking care of them and half of them (50.2 %) felt the service providers excellently cared for them and their babies while only 32.2 % of the women felt they had excellent emotional support. The access and cost of care were described excellent by 35.6 % and 27.2 % of the women respectively. Overall, 35.2 % of the women

Table 5
Satisfaction with specific services among postpartum women.

CHARACTERISTICS	FREQUENCY	PERCENTAGE (%)
Relevance of Health Education for ANC		
Yes	252	96.6
No	3	1.1
Not Really	6	2.3
Usefulness of Health Education during Delivery Process		
Yes	243	93.1
No	3	1.1
Not Really	15	5.7
Average waiting Period		
Just Ok	155	59.4
Too Long	106	40.6
Total Time Spent during Antenatal Visit		
Adequate	196	75.1
Too Long	65	24.9
Attitude of Health Workers		
Excellent	82	31.4
Good	120	46.0
Average	59	22.6
Rating of Cost of Services		
Very Expensive	37	14.2
Expensive	89	34.1
Moderate	135	51.7

were excellently satisfied with the care they received while 38.3 %, 16.5 %, 4.2 % and 5.7 % of the women described the care to be good, fair, poor and very poor respectively (Table 4).

Table 5 shows that most of the women (252, 96.6 %) felt the health education sessions they had were relevant for them and 93.1 % of them said the educations sessions were useful in their delivery process. About 59.4 % of the women felt the average waiting time to see the Doctor was just ok while 40.6 % of them felt it was too long. Most of the women (96, 90.6 %) who felt the time spent was too long were actually satisfied with the overall care received though not statistically significant ($p = 0.814$). The total time spent at each antenatal visit was described to be adequate by most of them (75.1%) while others (24.9 %) felt it was too long. Most of the women 55(84.6 %) who felt the time spent was long were satisfied with the overall care received though not statistically significant ($p = 0.092$). A little below half (46 %) felt the attitude of the health workers was good while only 31.4 % described their attitude as excellent and a little above half (51.7 %) of the women felt that the cost of services was moderate (Table 5). Most of the women 124(91.9 %) who felt the cost of services were moderate were satisfied with the overall care received and this was statistically significant ($p = 0.001$).

Table 6 shows that women who have had one to three parous experiences were more excellently satisfied compared to those who had more than 3 parous experience (94.5 % vs 5.5 %) and this was statistically significant ($p = 0.002$). Women who were either semi-skilled or professionals and those who live in urban areas felt more excellently satisfied than others with significant statistical relationship ($p = 0.007$ and $p = 0.037$ respectively). (Table 6). The number of antenatal visits was statistically associated with the fetal outcome ($p = 0.001$) as all the women who had perinatal mortality had less than 4 antenatal contacts.

Table 7shows that women who had more than 4 antenatal contacts were more excellently satisfied compared to those who had less than 4 antenatal contacts (91.3 % vs 8.7 %) and this was statistically significant ($p = 0.000$). The women who attended at least 3 health education sessions were more excellently satisfied compared to those who attended fewer sessions (75.0 % vs 25.0 %) and this was statistically significant (p

Table 6
Cross tabulation of sociodemographic characteristics with the overall rating of degree of satisfaction with the antenatal care services.

Sociodemographic Characteristics	Excellent n = 92 (%)	Good n = 100 (%)	Fair n = 43 (%)	Poor n = 11 (%)	Very poor n = 15 (%)	Total n = 261 (%)	Chi2 value	P-value
Age Group								
20 – 24	8(8.7)	7(7.0)	3(7.0)	0(0.0)	0(0.0)	18(6.9)	23.38	0.25
25–29	33(35.9)	35(35.0)	12(27.9)	0(0.0)	0(0.0)	80(30.7)		
30 – 34	29(31.5)	37(37.0)	13(30.2)	6(54.5)	11(73.3)	96(36.8)		
≥ 35	22(23.9)	21(21.0)	15(34.9)	5(45.5)	4(26.7)	67(25.7)		
Marital Status								
Married	92(100.0)	98(98.0)	43(100.0)	11(100.0)	15(100.0)	259(99.2)	3.24	0.518
Single	0(0.0)	2(2.0)	0(0.0)	0(0.0)	0(0.0)	2(0.8)		
Parity								
1	38(41.3)	39(39.0)	8(18.6)	0(0.0)	0(0.0)	85(32.6)	36.77	0.002
2	20(21.7)	29(29.0)	13(30.2)	5(45.5)	5(33.3)	72(27.6)		
3	29(31.5)	21(21.0)	20(46.5)	6(54.5)	10(66.7)	86(33.0)		
4	2(2.2)	5(5.0)	0(0.0)	0(0.0)	0(0.0)	7(2.7)		
≥5	3(3.3)	6(6.0)	2(4.7)	0(0.0)	0(0.0)	11(4.2)		
Level of Education								
Primary	0(0.0)	0(0.0)	2(4.7)	0(0.0)	0(0.0)	2(0.8)	16.8	0.031
Secondary	5(5.4)	3(3.0)	5(11.6)	0(0.0)	2(13.3)	15(5.7)		
Tertiary	87(94.6)	97(97.0)	36(83.7)	11(100.0)	13(86.7)	244(93.5)		
Occupation								
Unemployed	8(8.7)	8(8.0)	12(27.9)	0(0.0)	0(0.0)	28(10.7)	27.10	0.007
Unskilled	3(3.3)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	3(1.1)		
Semi-skilled	14(15.2)	17(17.0)	8(18.6)	0(0.0)	2(13.3)	41(15.7)		
Skilled/Professional	67(72.8)	75(75.0)	23(53.5)	11(100.0)	13(86.7)	189(72.4)		
Place of Residence								
Rural	11(12.0)	2(2.0)	4(9.3)	0(0.0)	0(0.0)	17(6.5)	10.18	0.037
Urban	81(88.0)	98(98.0)	43(90.7)	11(100.0)	15(100.0)	244(93.5)		
Socioeconomic Class								
High	4(4.3)	15(15.0)	3(7.0)	2(18.2)	0(0.0)	24(9.2)	21.99	0.005
Middle	86(93.5)	82(82.0)	34(79.1)	9(81.8)	15(100.0)	226(86.6)		
Low	2(2.2)	3(3.0)	6(14.0)	0(0.0)	0(0.0)	11(4.2)		
Distance from ANC								
Far	24(26.1)	9(9.0)	8(18.6)	5(45.5)	2(13.3)	48(18.4)	25.29	0.001
Moderate	49(53.3)	63(63.0)	23(53.5)	0(0.0)	7(46.7)	142(54.4)		
Close	19(20.7)	28(28.0)	12(27.9)	6(54.5)	6(40.0)	71(27.2)		
Mode of Healthcare Financing								
Out of pocket	51(55.4)	61(61.0)	32(74.4)	8(72.7)	7(46.7)	159(60.9)	6.37	0.173
Health Insurance	41(44.6)	39(39.0)	11(25.6)	3(27.3)	8(53.3)	102(39.1)		

Table 7
Cross tabulation of overall rating of degree of satisfaction with determinants of patients' satisfaction with antenatal services.

Determinants	Excellent n = 92 (%)	Good n = 100 (%)	Fair n = 43 (%)	Poor n = 11 (%)	Very poor n = 15 (%)	Total n = 261 (%)	Chi2 value	P-value
Planned Pregnancy								
Yes	81(88.0)	78(78.0)	31(72.1)	8(72.7)	13(86.7)	211(80.8)	6.52	0.163
No	11(12.0)	22(22.0)	12(27.9)	3(27.3)	2(13.3)	50(19.2)		
Number of Antenatal Contacts								
<4 contacts	8(8.7)	27(27.0)	2(4.7)	3(27.3)	5(33.3)	45(17.2)	31.43	0.000
4 – 7 contacts	39(42.4)	52(52.0)	26(60.5)	6(54.5)	7(46.7)	130(49.8)		
≥8 contacts	45(48.9)	21(21.0)	15(34.9)	2(18.2)	3(20.0)	86(33.0)		
Health Education Sessions Attendance								
Yes	92(100.0)	95(95.0)	43(100.0)	11(100.0)	15(100.0)	256(98.1)	8.20	0.084
No	0(0.0)	5(5.0)	0(0.0)	0(0.0)	0(0.0)	5(1.9)		
Number of Health Education Sessions Attended								
<3	23(25.0)	30(30.0)	6(14.0)	3(27.3)	0(0.0)	62(23.8)	22.49	0.004
3 – 5	20(21.7)	31(31.0)	20(46.5)	2(18.2)	10(66.7)	83(31.8)		
> 5	49(53.3)	39(39.0)	17(39.5)	6(54.5)	5(33.3)	116(44.4)		
Time taken to see Doctor								
<3hr	8(8.7)	14(14.0)	2(4.7)	0(0.0)	5(33.3)	29(11.1)	12.08	0.017
> 3hr	84(91.3)	86(86.0)	43(95.3)	11(100.0)	10(66.7)	232(88.9)		
Assessment of total Time Spent at ANC								
Adequate	86(93.5)	58(58.0)	36(83.7)	5(45.5)	11(73.3)	196(75.1)	39.15	0.000
Too Long	6(6.5)	42(42.0)	7(16.3)	6(54.5)	4(26.7)	65(24.9)		
Attitude of Health Workers								
Excellent	42(45.7)	22(220)	11(25.6)	2(18.2)	5(33.3)	82(31.4)	55.36	0.000
Good	44(47.8)	51(51.0)	15(34.9)	0(0.0)	10(66.7)	120(46.0)		
Average	6(6.5)	27(27.0)	17(39.5)	9(81.8)	0(0.0)	59(22.6)		
Cost of Services								
Very Expensive	5(5.4)	15(15.0)	7(16.3)	5(45.0)	5(33.3)	37(14.2)	43.80	0.000
Expensive	33(35.9)	24(24.0)	27(62.8)	3(27.3)	2(13.3)	89(34.1)		
Moderate	54(58.7)	61(61.0)	9(20.9)	3(27.3)	8(53.3)	135(51.7)		
Mode of Delivery								
Spontaneous Vaginal Delivery	50(54.3)	51(51.0)	15(34.9)	3(27.3)	9(60.0)	128(49.0)	7.44	0.114
Caesarean Section	42(45.7)	49(49.0)	28(65.1)	8(72.7)	6(40.0)	133(51.0)		
Fetal Outcome								
Alive	92(100.0)	97(97.0)	43(100.0)	11(100.0)	15(100.0)	258(98.9)	4.88	0.299
Dead	0(0.0)	3(3.0)	0(0.0)	0(0.0)	0(0.0)	3(1.1)		
Register at this facility again								
Yes	89(96.7)	88(88.0)	30(69.8)	8(72.7)	15(100.0)	230(81.1)	24.88	0.000
No	3(3.3)	12(12.0)	13(30.2)	3(27.3)	0(0.0)	31(11.9)		
Recommend Facility to someone else								
Yes	89(96.7)	91(91.0)	37(86.0)	11(100.0)	15(100.0)	243(93.1)	7.84	0.097
No	3(3.3)	9(9.0)	6(14.0)	0(0.0)	0(0.0)	18(6.9)		

= 0.004). A fewer number of the women who felt the total time spent in the clinic was too long rated the overall care as excellent as compared to those who felt the time was adequate (6.5 % vs 93.5 %) and this was statistically significant (p = 0.000). The women who felt the attitudes of the health workers were either excellent or good rated the overall services as excellent more than the women who felt the attitudes were average (93.5 % vs 6.5 %), (p = 0.000). More of the women who felt the cost of services was moderate demonstrated excellent satisfaction with the overall care received as compared to the women who felt the services were either expensive or very expensive (58.7 % vs 41.3 %), (p = 0.000)..

Most women (88.1 %) revealed that they would register in the same health facility in subsequent pregnancies as 93.1 % would recommend the clinic to someone else.

Discussion

This study evaluated the perception of patients and their level of satisfaction with antenatal care. Previous research has documented that the experience of care plays significant role in a woman's motivation to attend ANC as efforts to provide respectful care and reduce disrespect and abuse in health care settings can greatly enhance ANC uptake and attendance [18]. Most of the women were satisfied with the quality of antenatal care they received and were willing to use the same facility in subsequent pregnancies. They would also recommend the facility to friends. This is similar to findings by Nwaeze et al. where most respondents were satisfied with the services given at the clinic. About four-fifths of their respondents rated the services as good [19]. Also, Onyeajam et al. also reported that 90 % of 1336 mothers interviewed were satisfied with ANC [20]. As to specific components in this study, more than 75 % of the women were satisfied with the specific services. This is similar to finding by Chemir et al. in 2014 where most of the respondents (80.7 %) were satisfied with interpersonal aspects and the organization of health care aspect [21]. In this study, about one-third of the women were excellently satisfied, while just a little above one-third had good satisfaction the overall antenatal care services and less than one-quarter described their satisfaction as fair. This is similar to the finding of Ranabhat et al. in 2019 who reported that 24.7 % of respondents had high level of satisfaction more than one quarter of them (27.10 %) had moderate level of satisfaction with the antenatal care services [22]. However, approximately half of their study subjects (48.20 %) had low level of satisfaction with the overall antenatal care services. This finding was at variance with the finding in our study where only 16.5 % had fair level of satisfaction. Ranabhat et al. only selected 85 pregnant women for their study and this may explain this variance with our study where larger number of women were recruited and the study was done among women who had delivered.

As to specific components, almost half of the women demonstrated excellent satisfaction with the competence of the service providers and the care received while less than half showed excellent satisfaction with other services. As found in this study, satisfaction ratings by women are high across most studies – this could be because of lack of awareness and exposure in largely low literacy contexts of developing countries [23]. Women were more satisfied with maternal health services when they

perceived the technical quality of care to be 'good' or the provider to be technically competent [23]. Almost half of the women in this study were excellently satisfied with the competence of the care providers and only less than one tenth described the competence of the care providers as poor.

In this study, number of antenatal contacts, number of health education sessions attended, total time spent, attitude of health workers, cost of services and desire to register again at the facility appeared to be important determinants for satisfaction on antenatal care. Rahman et al. however reported that Ethnicity, level of education, and out of pocket expenses appeared to be important factors for satisfaction on antenatal care [24]. Nwabueze et al. demonstrated that total time spent, nurses' attitude, doctors' attitude, desire to register again at the facility and deciding to recommend the facility to someone else were significant and this was very similar to the finding in this study [19].

The distance between participants' home and the clinic was associated with satisfaction with care. Traveling far to the nearest clinic has been shown to reduce the level of satisfaction found in a previous study in Vietnam by Tran KT et al. [25]. There have been mixed findings regarding the level of education affecting satisfaction among women in antenatal care services. As found in this study, tertiary and higher education were associated with high satisfaction levels as found in Ethiopia by Yohannes et al. [26].

Though not statistically significant in this study, Cleanliness, good housekeeping services and maintenance of hygiene were reported as a determinant of satisfaction in studies in Thailand. Good housekeeping service emerged as a significant predictor of satisfaction with nursing care in a facility-based study by Jallow et al. in 2012. [27]. Significant associations between cost and maternal satisfaction and the utilization of care in both home and institutional births as found in this study were also found in other studies in Nigeria [28,29].

The attitude of Health Workers demonstrated significant determinant of satisfaction in this study. This finding was also seen in Thailand; it was noted that being treated with dignity, respect and courtesy was a key determinant of maternal satisfaction [30]. Therapeutic communication (listening, politeness, prompt pain relief, kindness, approachability and smiling demeanor), caring behavior (attentive to needs, making clients feel accepted and coaxing clients) and interpersonal skills of staff (staff confidence and competence) were significant themes that were identified as influencing client's satisfaction with care in Ghana and Gambia [27,31]. Across the world, women seek dignity and respect while undergoing maternity care. Provider behavior and attitudes are therefore major determinants of utilization of skilled maternity care [23].

Maternal characteristics also affected women's perceived satisfaction with care. The parity of the women in this study appeared to be a determinant of satisfaction. Studies in Nigeria and Sri Lanka found that multiparous women were more satisfied with care as compared to primiparous women [23]. Maternal satisfaction in Kenya was also significantly determined by whether the pregnancy was intended or not [32] which was contrary to the finding in this study.

One of the most striking findings in this study was the number of antenatal contacts as a determinant of satisfaction. This is sparsely reported as a determinant of satisfaction. More of the women who had 8 or more contacts demonstrated higher level of satisfaction with the care and the number of antenatal visits was statistically associated with the fetal outcome as all the women who had perinatal mortality had less than 4 antenatal contacts.

Conclusion

Overall, new mothers were satisfied with the antenatal care services provided in the antenatal clinics in UCH, Ibadan. As determinants of satisfaction identified in this study, it becomes important to scale up the awareness on the need for women to register early to ensure they have adequate number of antenatal contacts and also participate in the health education sessions. Improvement in the sanitation of the toilet facility and the waiting time are concerns of a number of these women. The practice of "no-fee charges" for antenatal care services may significantly improve attendance of antenatal clinic and at the long run help to improve our maternal health indices.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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