



Satisfaction with Waiting Time among Antenatal Women Attending the Antenatal Clinics of South East Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Patient satisfaction is a useful measure to provide a direct indicator of quality in health care. Assessing patient perspectives gives them a voice, which can make public health services more responsive to people's needs and expectation.

Objective: To evaluate and compare the clients' satisfaction with waiting time among pregnant women in public and private health facilities in south east Nigeria.

Study Design: A comparative cross sectional study was carried out.

Methodology: Using pretested interviewer administered questionnaire, information on clients' satisfaction was obtained from 500 women attending antenatal care clinic in south east Nigeria.

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Results: The mean ages of the public-teaching hospital respondents was 29.6 ± 4.0 and is slightly higher compared with that of private-mission hospitals respondents which was 29.5 ± 4.6 . Satisfaction was higher among the public-teaching hospital respondents (67.4%) than the private-mission hospital respondents (46.4%) and this is statistically significant. However, there is need to improve the waiting time in entirety considering only 59.8% of the whole study reported satisfaction. **Conclusion:** There is low satisfaction with waiting time among antenatal mothers utilizing hospital services and dissatisfaction was more in private hospitals when compared to public hospital.

Keywords: Antenatal care; waiting time; satisfaction; public-teaching; private-mission; hospital; Anambra State.

1. INTRODUCTION

Patient satisfaction affects clinical outcomes and patient retention, and considered to arise from timely, efficient and patient-centered delivery of quality health care [1,2]. Some patients derive their satisfaction more on technical competence whereas others, on fulfillment of personal needs, comfort dignity and supportive services. Studies show reversed relationship between waiting time and patient satisfaction and this is a major concern for hospital administrators, policy makers and researchers because it is a measure of organizational efficiency [3,4]. Waiting time and service time are considered to affect consumers satisfaction [4,5]. In Nigeria, patients are aware that they should wait for services at the health facilities; however, there is no known acceptable 'waiting' time. Previous researches showed that patients are less likely to be dissatisfied if their waiting time is between 30 to 45 minutes [6,7]. A study of outpatient waiting time done in 21 hospitals in Malaysia found that the average waiting time to see the doctor was 60 minutes [8].

Due to incessant strike action in government hospitals in Nigeria, most pregnant women especially those with complicated pregnancies have resorted to registering in private hospitals in order to forestall strike action occurring in their pregnancy which may lead to adverse pregnancy outcome. Recently in Anambra state, the government equipped the mission hospitals to provide specialized care as obtainable in the teaching hospitals. So, it is our desire in this research to explore and compare the teaching hospital and these specialized mission hospitals to ascertain the quality of care of these hospitals in terms of waiting time and to judge to what extent the aim of the government can be achieved.

Previous researches compared satisfaction with public and private hospitals of differing size and

functionality [9,10,11], but this study assessed and compared satisfaction with waiting time in public and private hospitals of comparable size, patient load and functionality. This survey could provide means for clients to express their concern with the antenatal services and also evidence-based information to guide management decision in the health facilities.

2. METHODOLOGY

2.1 Study Design

This was a comparative cross-sectional study on satisfaction with waiting time among antenatal women attending the antenatal clinics of south east Nigeria.

2.2 Study Sites

The study sites included two teaching hospitals and two mission hospitals. Mission hospitals are hospitals owned by Christian church organization (Roman Catholic Church, Anglican Church, e.t.c). They are a common health provider in South East Nigeria. The Mission hospitals are departmentalized, with specialist clinics and form referral base for smaller hospitals like the teaching hospitals that are government owned tertiary health care providers.

2.3 Sample Size and Selection

The minimum sample size for this study was based on 5% significance level and a power of 80%.

$$\text{Formula; } n = \frac{[2(z\alpha + z\beta)^2 p(1-p)]^{12}}{d^2}$$

p = arithmetic average of two proportions which is $(P1 + P2) / 2$

p1 = proportion of clients satisfied with antenatal care in a federal public-teaching hospital = 0.943 [13].

p_2 = proportion of clients satisfied with antenatal care in first level health facilities = 0.814 [14].

$P = (0.943 + 0.814) / 2 = 0.87855$

d = arithmetic difference between the two population = $P_2 - P_1$.

Sample size was determined as 98. Using an anticipated non response rate of 10 % [15], the sample size was adjusted to 108 for one proportion and 216 for the study.

In order to increase the power of the study, avoid cluster effect and increase study external validity, the sample size used was 500 pregnant women. The respondents chosen from each facility were determined using a proportionate allocation by size of the facility.

2.4 The Population Patient Surveys

The study population comprised 500 pregnant women attending antenatal clinics of public-teaching and private-mission hospitals in Anambra state.

2.5 Sampling Technique

The sampling technique used was multi-stage sampling [16]. The first stage, simple random sampling was used to select two mission hospitals from the list of mission hospitals that met the criteria for comparability with two purposively selected teaching hospitals. The second stage, systematic sampling technique was used to select participants. Participants were selected using a sampling interval of two at exit point. Participants who denied consent or those on booking visit were excluded.

2.6 Study Instruments

Pre-tested semi-structured interviewer administered questionnaire, key informants interview guide and a focus group discussion guide were used to obtain data. The questionnaire was designed by the United States Departments of Health and Human Services, for patient satisfaction surveys, adapted and modified for this study [17]. The study instruments were translated into Igbo and back translated to English to ensure validity and reliability. The questionnaire was in two sections; first section for socio-demographic variables and second section for satisfaction with waiting time. Pre-testing was done in selected teaching and mission hospitals other than the study sites.

2.7 Data Analysis

Data was analyzed using statistical packages for social sciences (SPSS) version 22. Tests statistics for comparison of proportion was Chi square. Fisher's exact score was used where five percent of the cells were less than five. T-tests were used to compare the mean ages of the respondents. Results were presented in percentages and means.

2.8 Ethical Considerations

Ethical approval was obtained from Ethical Committee of the Nnamdi Azikiwe University Teaching Hospital Ethics Committee (NAUTHEC). Written approval was obtained from the management of the hospitals used and written informed consent from the participants.

2.9 Confidentiality of Data Collected from Respondents

Serial numbers were used to identify respondents and the research assistants that interviewed them. The completed questionnaires and tape recordings were kept in a place accessible only to the researchers. The data was stored in a password protected personal computer of the researcher. The research assistants were also trained not to disclose the information divulged by the respondents during the interview. The participants were assured that their responses will not be reported individually but as part of an overall study and that they would face no consequence for the responses they provided. Details of confidentiality were captured in the written informed consent obtained from participants.

2.10 Study Limitation

- Quantitative assessment of actual waiting time at different service point was not practicable as service time and waiting time could not be finely delineated, and protocol did not include patient time tracking.
- This research used only antenatal mothers because the aim was to assess waiting time between public and private hospitals and clients assessing the same services were used to reduce confounding.

3. RESULTS

All respondents were Christians and so denomination was used and not Religion.

Table 1. Socio-demographic characteristics of respondent in public-teaching and private-mission hospital antenatal clinics in Anambra State

Variables	Public-teaching hospital (n=321) 64.2 (%)	Private-mission hospital (n=179) 35.8(%)	Total (n=500) 100 (%)	Test statistic χ^2	P-value
Age (years)					
15- 24	58(18.1)	62(34.6)	120(24)		
25-34	221(68.8)	85(47.5)	306(61.2)		
Above 35	41(12.8)	32(17.9)	74(14.8)		
Mean age	29.6	29.5		t=0.152	0.879
Standard deviation	4.0	4.6			
Marital status				9.021**	
Never married	6(2.0)	-	6(1.2)		
Currently married	315(98.0)	179(100.0)	494(98.8)		0.132
Educational level:					
Secondary	178(55.5)	60(33%)	3(0.6)	8.223*	0.144
Post secondary education	57(17.8)	38(21.3)	95(19)		
Bachelor	72(22.2)	72(40.0)	144(28.8)		
Postgraduate	14(4.4)	9(5.3)	23(4.6)		
Denomination					
Catholic	178(55.6)	145(81.3)	323(64.6)	11.080**	0.004
Anglican	93(28.9)	29(16.0)	122(24.4)		
Pentecost	50(15.6)	5(2.7)	55(11.0)		
Tribe					
Igbo	307(95.6%)	172(96.3)	179(95.8)	1.698**	0.428
Yoruba	6(1.8)	3(1.7)	9(1.8)		
Hausa	0(-)	2(1.0)	2(0.4)		
Others [Igala, Efik]	8(2.6)	2(1.0)	10(2.0)		
Occupation					
Civil servant	107(33.4)	43(24.0)	150(30.0)	11.891*	0.018
Business owner	106(33.2)	24(13.3)	130(26.0)		
Self employed	29(8.9)	19(10.7)	48(9.6)		
Student	50(15.6)	48(26.7)	98(19.6)		
Unemployed	29 (8.9)	45 (25.3)	74(14.8)		

** = Fishers Exact Test Statistically Significant

* = Chi-square test Statistically Significant

The socio-demographic characteristics of respondents in public-teaching and private-mission hospitals are shown in Table 1. Data was obtained from 500 respondents, consisting of three hundred and twenty one public-teaching hospital clients and one hundred and seventy nine private-mission hospital clients. The mean ages of the public-teaching hospital respondents was 29.6 ± 4.0 and is slightly higher compared with that of private-mission hospitals respondents which was 29.5±4.6. All the respondents from Private-mission hospitals were all currently married compared to the respondents from public-teaching hospitals where 2% of the respondents were never married. All the respondents had formal education, but a higher proportion of the private-mission hospitals respondents, (40%) had Bachelor degree/HND as the highest educational qualification attained

compared with the public-teaching hospitals respondents where Senior Secondary/Grade II Public-teaching Certificate was the highest educational qualification obtained by majority of the respondents (51.1%). However, this is not statistically significant. There is a statistically significant difference in the denomination of the respondents, (P=0.004) as the percentage of respondents were higher in private-mission hospitals (81.3%) compared to public-teaching hospitals (55.5%). Also, the percentage of Pentecostal respondents was higher in public-teaching hospitals (15.6%) than in private-mission hospitals (2.7%). A higher proportion of respondents from both populations were Igbo ethnicity (95.8%) with the rest being Yoruba (1.8%), Hausa (0.4%), Igala or Efik (2.0%). The highest proportion of the respondents from public-teaching hospitals are civil servants

(33.4%) followed by business owners (33.2%), compared to the respondents from private-mission hospitals where the highest proportion of respondents were students (26.7%) followed by unemployed women (25.3%).

Sixty four (12.8%) respondents from public-teaching and private-mission hospitals were strongly satisfied with waiting time in getting registered and obtaining card, while 226(45.2%)

were satisfied and 67(13.4%) were somewhat satisfied. Dissatisfaction with waiting time in getting registered and obtaining card was shown by 131 (26.2%) respondents. There is a statistically significant difference ($\chi^2 = 16.269$, $P= 0.002$) with waiting time in getting registered and obtaining card in both populations. More respondents from private-mission hospitals (41.3%) showed dissatisfaction compared to public-teaching hospital respondents (17.8%).

Table 2. Clients' perception of satisfaction with waiting time in public-teaching and private-mission hospital antenatal clinics in Anambra state

Variables	Public-teaching hospital (n=321) N (%)	Private-mission hospital (n=179) N (%)	Total (n=500) N (%)	Test statistic χ^2	P-value
Waiting time in getting registered and obtaining Card					
Strongly satisfied	50(15.6)	14(8.0)	64(12.8)	16.269	0.002*
Satisfied	178(55.5)	48(26.7)	226(45.2)		
Somewhat satisfied	36(11.1)	31(17.3)	67(13.4)		
Indifferent	0(-)	12(6.7)	12(2.4)		
Dissatisfied	57(17.8)	74(41.3)	131(26.2)		
Waiting time before seeing a doctor					
Strongly satisfied	50(15.6)	19(10.7)	69(13.8)	8.137	0.085
Satisfied	100(31.1)	48(26.7)	148(29.6)		
Somewhat satisfied	64(20.0)	12(6.7)	76(15.2)		
Indifferent	21(6.6)	24(13.3)	45(9.0)		
Dissatisfied	86(26.7)	76(42.6)	162(32.4)		
Waiting time for tests to be done					
Strongly satisfied	50(15.6)	21(12.0)	71(14.2)	8.180	0.086
Satisfied	81(25.1)	64(36.0)	145(29.0)		
Somewhat satisfied	26(8.2)	17(9.3)	43(8.6)		
Indifferent	7(2.2)	24(13.3)	31(6.2)		
Dissatisfied	157(48.9)	53(29.4)	210(42.0)		
Waiting time for test results					
Strongly satisfied	64(20.0)	21(12.0)	85(17.0)	15.973	0.002*
Satisfied	128(40.0)	74(41.3)	202(40.4)		
Somewhat satisfied	43(13.3)	3(1.4)	46(9.2)		
Indifferent	0(-)	31(17.3)	31(6.2)		
Dissatisfied	86(26.7)	50(28.0)	136(27.2)		
Waiting time to collect drugs from the pharmacy					
Strongly satisfied	71(22.2)	9(5.3)	80(16.0)	17.795**	0.001**
Satisfied	93(28.9)	29(16.0)	122(24.4)		
Somewhat satisfied	29(8.9)	9(5.3)	38(7.6)		
Indifferent	0(-)	24(13.3)	24(4.8)		
Dissatisfied	128(40.0)	108(60.1)	236(47.2)		
Waiting time to pay for services or drugs					
Strongly satisfied	47(14.6)	19(10.6)	66(13.2)	43.512	0.000*
Satisfied	152 (47.4)	45(25.0)	197(39.4)		
Somewhat satisfied	35(11.0)	14 (7.8)	49(9.8)		
Indifferent	18(5.6)	26 (14.5)	44(8.8)		
Dissatisfied	69(21.5)	75(41.9)	144(28.8)		

** = Fishers Exact Test Statistically Significant

* = Chi-square test Statistically Significant

Satisfaction with waiting time before seeing a doctor and waiting time for tests to be done was shown by 58.6% and 51.8% of the clients respectively with no significant difference comparing public-teaching and private-mission hospitals. Majority of the women from public-teaching hospitals (66.7%) were satisfied with waiting time before seeing a doctor and 48.9% were satisfied with waiting time for tests to be done while in private-mission hospitals, 44.1% and 57.3% were satisfied respectively.

Public-teaching hospitals respondents expressed more satisfaction with waiting time for test results (73.3%) and waiting time to collect drugs from the pharmacy (60%) compared with private-mission hospitals respondents (54.7% and 26.6%) with a significant difference of $P= 0.002$ and $P = 0.001$ respectively. A total of 66.6% were satisfied with waiting time for test results and 48% were satisfied with waiting time to collect drugs from the pharmacy.

Satisfaction with waiting time to pay for services or drugs from this table was reported by 62.5% of the respondents. There is a statistically significant difference in satisfaction with waiting time to pay for services and drugs ($\chi^2 = 43.512$, $P =0.000$) in public-teaching hospitals (strongly satisfied 14.6%, satisfied 47.4% and somewhat

satisfied 11.0%) and private-mission hospitals (strongly satisfied 10.6%, satisfied 25.0% and somewhat satisfied 7.8%).

Clients' dissatisfaction with long waiting time had no significant relationship with age, educational level, denomination and occupation of respondents.

4. DISCUSSION

Antenatal care remains an essential part of safe motherhood and one of the interventions that can considerably reduce maternal morbidity and mortality when properly conducted and improve maternal and newborn health [18,19]. Patients' satisfaction is directly related with utilization of health services and service satisfaction surveys help us to access the responsiveness of the health system. The aim of this study was to assess the pregnant women satisfaction with waiting time during antenatal clinic. For the purpose of this study, waiting time during antenatal services was split into six different categories: waiting time in getting registered and obtaining card, waiting time before seeing a doctor, waiting time for tests to be done, waiting time to collect test results, waiting time to collect drugs from pharmacy and waiting time to pay for services or drugs.

Table 3. Influence of sociodemographic variables on waiting time for antenatal care services in public-teaching and private-mission hospitals antenatal clinics in Anambra state

Variables	Yes	No	Chi-square	P-value
Age in Categories				
15-24	68	52	9.190	0.163
25-34	20	99		
>35	52	22		
Educational Level				
Primary	3	1	4.441	0.925
Junior Secondary	18	10		
Senior Secondary/				
Grade II	121	66		
OND, NCE, Technical	66	31		
Bachelor/HND	106	54		
PhD, Masters	14	10		
Denomination				
Catholic	224	117	0.988	0.912
Anglican	76	38		
Pentecostal	32	13		
Occupation				
Civil servant	99	46	10.633	0.223
Business owner	75	41		
Self-employed	33	18		
Student	64	40		
Unemployed	60	24		

Our study showed that more respondents from the public-teaching hospitals (67.4%) were satisfied with waiting time compared to 46.4% from the private-mission hospitals. This is similar to the result obtained from a cross-sectional study done in Karachi in 2009 by Jawaid M et al where higher proportion of the respondents from the public hospitals were satisfied with the hospital services than the private hospital respondents (68% versus 46%) [20]. The average waiting time from self report was estimated to be 120 minutes at the mission hospitals and 90 minutes at the teaching hospitals.

More respondents from the public-teaching hospital (82.2%) were satisfied with time spent in getting registered and obtaining card than the private-mission hospital respondents (52%) and this is statistically significant ($P=0.002$). This could be as a result of lack of staffing at the private-mission hospital which is a known contributor to lengthy waiting time in hospitals. From both public-teaching and private-mission hospitals, 71.4% were satisfied while 26.2% showed dissatisfaction. This could be due to long queues caused by the registration center being manned by one staff.

On waiting time before seeing a doctor, 58.6% of our respondents were satisfied. Patients who were satisfied with waiting time for test to be done and to get test results were 51.8% and 66.6% respectively. Waiting time to collect drugs from pharmacy had the highest rate of dissatisfaction as only 48% of the respondents were satisfied with the time they waited to collect drugs from pharmacy. This contradicts with the result obtained in Kano [21] where delay before releasing results of investigation was one of the most frequent complaints (43.8%) for being dissatisfied with waiting time. Majority of patients from private-mission hospital (60%) were dissatisfied than the public-teaching hospital respondents (40%) and this was statistically significant, $P<0.001$. Also, only 62.4% of the study population was satisfied with the time they waited to pay for services or drugs with more dissatisfaction coming from the private-mission hospital respondents (41.9%; $P=0.000$). The perceived long waiting time from this study is related to the realities of developing countries especially in Nigeria, where patients will have to wait longer before seeing a healthcare provider due to imbalance in the doctor-patient ratio as only a few doctors and other health care providers are available to attend to patients [22].

Our study indicated that 40.0% of clients were dissatisfied with time waited to receive antenatal services. This finding is higher compared with the study conducted in Jimma Hospital which showed 37.2% according to Fekadu A et al. [23]. Likewise, the dissatisfaction level with the overall waiting time to receive services in a Nigeria Public Hospital was rated 48% [24], and a study conducted in India showed 35.4% dissatisfaction [25]. Also, from the studies done in Osun state [26] and Ibadan [27] showed that the most common reason for dissatisfaction with quality of care as reported by 66.5% and 48% of the respondents was waiting time. This study also agrees with a study in India where long waiting time was the chief cause of dissatisfaction (97.6%) with service utilized at the outpatient department [28]. This higher level of dissatisfaction rate with overall waiting time could be attributed to the increased number of patients in the health care services, less proportional number of health care providers to clients and lack of awareness of participants to understanding that some health care services requires time to provide quality of care. One can infer from the result above that, as private hospitals grow in size and sophistication, they may be faced with similar challenges as long waiting time or even more challenges, as the big public hospitals like a teaching hospital.

5. CONCLUSION

Satisfaction with waiting time in antenatal clinics in south east Nigeria is low. This comparative study showed more satisfaction with waiting time in public teaching hospitals when compared to private mission hospitals. The major area for dissatisfaction with waiting time during antenatal clinic is on waiting time to collect drugs from pharmacy and on time spent for tests to be done. Inference can be made that as private hospital grow in size and functionality to match the public hospital, that widely held view of higher satisfaction with waiting time in private hospital will be challenged as evident in the findings of this research.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

This was sought and obtained from the Nnamdi Azikiwe University Teaching Hospital ethical review board.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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