Original Article

COMPARATIVE ANALYSIS OF PRISON HEALTHCARE SATISFACTION: INMATES' PERSPECTIVES IN AN AFRICAN SETTING

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Abstract: Background: Assessing patient satisfaction enables healthcare providers to evaluate how well their services meet the needs of their clients. While patient satisfaction surveys have been conducted in various healthcare settings in Nigeria, limited research has focused on prison healthcare services, which motivated this study.

Methods: A cross-sectional study was conducted in three prisons—Enugu, Oji River, and Ibite-Olo—in Enugu State, Nigeria. All prisoners who had used or were currently using prison healthcare services were included. Ethical approval was obtained from the University of Nigeria Ethical Review Committee.

Results: Overall, prisoners reported dissatisfaction with all evaluated healthcare services. The greatest dissatisfaction was observed in areas such as the physical appearance of facilities and quality of equipment (mean = 2.40 ± 1.33) and the timely availability of laboratory results (mean = 2.46 ± 1.36). Comparative analysis across the three prisons revealed significant differences in satisfaction levels ($p < .001$). Low satisfaction persisted even when sociodemographic variables were used as predictors.

Conclusion: Prisoners' satisfaction with healthcare services in the studied facilities was generally low, with notable differences between prisons. These findings highlight the need for targeted interventions to improve the quality and accessibility of healthcare services in Nigerian prisons.

Keywords: Prison Healthcare, Patient Satisfaction, Inmates, Cross-Sectional Study, Nigeria

Introduction

Assessment of patient satisfaction allows general practitioners and institutions to investigate the extent to which their service meets the needs of their client group (Grogan et al., 2000; Avis et al, 1995). Questionnaires that assess specific aspects of service provision will enable the practitioner to identify aspects of the service where patients are less satisfied (Grogan et al, 2000; Harris et al,
1999). It is therefore, in the general practitioner's interest, to know the extent of patient satisfaction with service provision (Grogan et al., 2000; Woodward et al, 2000). Patient satisfaction surveys have been conducted in a number of different settings (Bjørngaard et al, 2009; Crow et al, 2002). However, patient satisfactions with prison

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healthcare services are scarcely investigated (Bjørngaard et al, 2009; Barling et al, 2005). And this informed this project. Health workers delivering services in correctional settings face a number of unique challenges. High morbidity rates are often encountered in prison populations, with a particularly high prevalence of transmissible diseases and mental disorders (Bjørngaard et al, 2009; Watson et al, 2004). There is a built-in assumption that expressed dissatisfaction is reflecting deficiencies with the services. However, this assumption has been poorly investigated (Bjørngaard et al, 2009). According to results credited to (Bjørngaard et al, 2009), there was a tendency towards low overall satisfaction with the inmate health services, with a little above forty percent of the population being very or quite dissatisfied' on the global question. The total satisfaction scale had a mean score of about forty percent (Bjørngaard et al, 2009). A survey of special group (women) satisfaction with healthcare services while incarcerated described multiple barriers to accessing health services that resulted in negative consequences and dissatisfaction to their health: treatment interruption; health disempowerment; poor mental and physical health; and recidivism into addiction and crime upon release (Ahmed et al, 2016)

Recent assessment of African Health systems, Nigeria inclusive indicates a gloomy picture of weakness in performance (Melvin, 2013; African Regional Health Report, 2006). Achieving both qualitative and quantitative health among special groups like inmates may be far from realisation going by the slow attitude of prison administrators and the government in particular in addressing the health needs of prisoners (Melvin, 2013). Hospital experience by in-patient respondents showed positive average satisfaction score for cleanliness of the ward and bathroom, for quietness at night; but low satisfaction score for feeling being valued and appreciated as patients (Lawal et, 2018).

The search of the literature has revealed very little information on prison healthcare services in Nigeria and more so, lesser information on satisfaction with healthcare services provided to patient prison inmates. Therefore, this project was organised to assess prison patient in-mates' satisfaction with healthcare services and making recommendation (s) on the way forward.

Materials and Methods

Study area

The study was conducted in Enugu state, South-east Nigeria. The State has a population of about 3.3 million people (2006 census) of whom 95% are Igbo and about 59% of the population lives in the rural areas (SMOH, Enugu State, 2011). Administratively, the State is divided into 17 Local Government Areas (LGAs) and 3 senatorial zones (Ezuma, 2012). Urban dwellers are mostly civil servants, traders, transporters or artisans. (Okoli, et al 2011)). A small proportion of the population is engaged in manufacturing activities although the state has a well-developed commercial and financial centre (Onwujekwe et al, 2010).

Data collection procedure

Included in the study were all the prisoners who at one time or the other had used or presently using prison healthcare services as patients during the time of this study.

Ethics, consent and permissions

Ethical approval for the research was applied for and gotten from a local ethical clearance committee (University of Nigeria ethical and review committee). The study was conducted in three prisons at—Enugu, Oji River and Ibite-Olo all in Enugu State of Nigeria. All the partaking prisoners/patients consented to the study verbally.

Questionnaire administration, reliability and validity

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Using an originally validated questionnaire (Reed et al, 1997) measuring patients' satisfaction with healthcare services, data was collected from the respondents on their perceptions of prison health care services. The instrument was as a result of extensive literature review bearing in mind construct and content validity including re-test reliability. Additional validation of the questionnaire was provided by faculty specialist members.

Method of Analysis

The analysis of the data was done both with descriptive and inferential statistics. For descriptive statistics: frequency, percentage, mean and standard deviation were employed to summarize the data. For inferential statistics; Chi-Square Test of Association and Fishers Exact Test were employed to test hypotheses while the odds ratio and relative risk were used for predictions. Statistical conclusions were made at 5% level of significance. A binary logistic regression was also performed on the data to predict the logit of being satisfied with health services in the prison. The dependent variable (satisfaction level) used for both the inferential statistics and the logistic regression were generated by computing each participant's overall satisfaction score from the satisfaction items. This overall score was categorized into a dichotomous variable (unsatisfied and satisfied). Those classified as satisfied were those with total satisfaction score above the overall midpoint (score of 30; which is the midpoint for 10 items on a 5 point scale) while others were classified as unsatisfied. For the logistic regression, prison was excluded as predictor as no variability existed in Ibite-Olo prison; hence only the demographic variables served as the predictors. These statistical analyses were performed using the Statistical Package for Social Sciences (SPSS) version 20.

Results

Table 1: Socio-demographic Data of the Prison Patients

		Individual Prisons			All Prisons
		Enugu	Ibite-Olo	Oji River	
Age	< 20 years	6(6.5)	3(14.3)	2(5.4)	11(7.3)
	21-30 years	44(47.8)	14(66.7)	17(45.9)	75(50.0)
	31-40 years	23(25.0)	4(19.0)	14(37.8)	41(27.3)
	41-50 years	11(12.0)	0(0.0)	2(5.4)	13(8.7)
	51+ years	8(8.7)	0(0.0)	2(5.4)	10(6.7)
Total		92(100.0)	21(100.0)	37(100.0)	150(100.0)
Sex	Male Female	77(84.6)	21(100.0)	36(100.0)	134(90.5)
		14(15.4)	0(0.0)	0(0.0)	14(9.5)
Total		91(100.0)	21(100.0)	36(100.0)	148(100.0)
Length of	< 6 mths jail 7 mths - 2 yrs	27(29.3)	3(15.8)	10(27.0)	40(27.0)
		33(35.9)	10(52.6)	8(21.6)	51(34.5)

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service	3-7 yrs	23(25.0)	5(26.3)	19(51.4)	47(31.8)
	8+ yrs	9(9.8)	1(5.3)	0(0.0)	10(6.8)
Total		92(100.0)	19(100.0)	37(100.0)	148(100.0)
Highest educational qualification	No school	0(0.0)	4(19.0)	0(0.0)	4(2.7)
	Primary	4(4.5)	5(23.8)	4(10.8)	13(8.9)
	Secondary	47(53.4)	11(52.4)	14(37.8)	72(49.3)
	Tertiary	37(42.0)	1(4.8)	19(51.4)	57(39.0)
Total		88(100.0)	21(100.0)	37(100.0)	146(100.0)
Occupation	Student	33(36.7)	2(10.5)	12(33.3)	47(32.4)
	Govt. employee	13(14.4)	2(10.5)	2(5.6)	17(11.7)
	Trading	18(20.0)	4(21.1)	9(25.0)	31(21.4)
	Self employed	22(24.4)	5(26.3)	9(25.0)	36(24.8)
	Unemployed	2(2.2)	6(31.6)	3(8.3)	11(7.6)
	Others	2(2.2)	0(0.0)	1(2.8)	3(2.1)
Total		90(100.0)	19(100.0)	36(100.0)	145(100.0)

Table 1 displays the demographic data of the prison patients. Majority of the patients were between 21-30 years: Enugu prison (47.8%), Ibite-Olo prison (66.7%), Oji River prison (45.9%) and all the prisons put together (50.0%). Males were predominant in Enugu prison (84.6%) and all prisons put together (90.5%) while Ibite-Olo prison (100.0%) and Oji River prison (100.0%) were only males. In length of jail service, Enugu prison (35.9%) and Ibite-Olo prison (52.6%), and all the prisons put together (34.5%) had more patients that have served 7 months – 2 years while Oji River prison had more of those that have served 3-7 years (51.4%). Patients with secondary education were predominant in Enugu prison (53.4%), Ibite-Olo prison (52.4%) and all the prisons put together (49.3%) while those with tertiary education were predominant in Oji River (51.4%). In Enugu prison (36.7%), Oji River prison (33.3%) and all the prisons put together (32.4%), students were most while in Ibite-Olo prison, the unemployed were most (31.6%).

Table 2: Assessment of Patients' Satisfaction with Health Services in the Prison

Prison	Enugu	Ibite-Olo	Oji River	All prisons
Adequate explanation in preparation for specific test/exam	2.95±1.33	1.19±0.51	3.40±1.38*	2.80±1.44
Waiting time before being seen in the clinic	3.14±1.22*	2.00±1.41	3.15±1.20*	2.98±1.30
Courtesy of the doctor/nurse	2.91±1.29	1.50±1.10	3.41±1.16*	2.82±1.37
Explanation of what to expect during the				

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exam	3.07±1.24*	1.81±1.60	3.00±1.22	2.85±1.37
How questions were answered by the staff	2.92±1.34	2.17±1.82	3.56±1.29*	2.98±1.46
Explanation of what to expect after the exam	3.05±1.24*	1.52±1.25	3.74±1.08*	2.98±1.39
The level of attention provided by the doctor/nurse	2.73±1.29	1.05±0.22	3.26±1.38*	2.60±1.40
The physical appearance of the facilities and the quality of the equipments	2.54±1.27	1.05±0.22	2.97±1.29	2.40±1.33
Timely availability of laboratory result	2.81±1.31	1.00±0.00	2.63±1.33	2.46±1.36
Overall care received	2.64±1.27	1.29±0.56	2.74±1.43	

*** implies health services in which the patients were satisfied**

Table 2 displays the patients' satisfaction assessment of health services in the prison. In Enugu prison, the patients were satisfied only with the waiting time before being seen in the clinic (3.14±1.22), explanation of what to expect during the examination (3.07±1.24) and explanation of what to expect after the examination (3.05±1.24). In Ibite-Olo prison, the patients were not satisfied with any of the listed services. Greatest dissatisfaction was on services like timely availability of laboratory result (1.00±0.00), level of attention provided by the doctor/nurse (1.05±0.22) and the physical appearance of the facilities and the quality of the equipments (1.05±0.22). In Oji River prison, the patients were satisfied with services such as in the overall care received (3.83±1.27), explanation of what to expect after the examination (3.74±1.08), how questions were answered by the staff (3.56±1.29), courtesy of the doctor/nurse (3.41±1.16), adequate explanation in preparation for specific test/examination (3.40±1.38), level of attention provided by the doctor/nurse (3.26±1.38) and waiting time before being seen in the clinic (3.15±1.20).

In general, for all prisons put together, the patients were dissatisfied with all the listed services. Greater dissatisfaction was on services such as: the physical appearance of the facilities and the quality of the equipment (2.40±1.33) and timely availability of laboratory result (2.46±1.36).

Table 3: Overall Satisfaction and Between Prison Comparison on Satisfaction of Health Services in the Prison

	Satisfaction Level		Total	Chi-Square	df	p-value
	Unsatisfied	Satisfied				
Enugu	49(57.6)	36(42.4)	85(100.0)	19.214	2	< .001
Ibite-Olo	21(100.0)	0(0.0)	21(100.0)			
Oji River	15(41.7)	21(58.3)	36(100.0)			
All prisons	85(59.9)	57(40.1)	142(100.0)			

Table 3 displays the overall satisfaction of the health services in the prison and also the comparison made between prisons on satisfaction of the health services. The satisfaction level for the prisons was thus: 58.3% of Oji-River prison patients were satisfied, 42.4% of Enugu prison patients were also satisfied while none (0.0%) of Ibite-Olo prison patient was satisfied. In general, 40.1% of the patients were satisfied.

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The between prisons satisfaction comparison revealed that the satisfaction level differed significantly amongst the prisons, $p < .001$. Satisfaction of the health services was associated more to Oji-River prison and Enugu prison. The likelihood of being unsatisfied was 1.7 and 2.4 times higher in Ibite-Olo prison than Enugu prison [95% C.I of 1.45-2.08] and Oji prison [95% C.I of 1.63-3.53] respectively. Enugu prison and Oji prison had the same likelihood of being unsatisfied.

Table 4: Between Age Group Comparison on Satisfaction of Health Services in the Prison

		Satisfaction Level		Total	p-value
Enugu Prison		Unsatisfied	Satisfied		
Age	< 20 years	3(50.0)	3(50.0)	6(100.0)	.281
	21-30 years	22(56.4)	17(43.6)	39(100.0)	
	31-40 years	15(75.0)	5(25.0)	20(100.0)	
	41-50 years	3(33.3)	6(66.7)	9(100.0)	
	51+ years	4(50.0)	4(50.0)	8(100.0)	
Ibite-Olo Prison					
Age	< 20 years	3(100.0)	0(0.0)	3(100.0)	
	21-30 years	14(100.0)	0(0.0)	14(100.0)	
	31-40 years	4(100.0)	0(0.0)	4(100.0)	
Oji River Prison					
Age	< 20 years	1(50.0)	1(50.0)	2(100.0)	.148
	21-30 years	6(35.3)	11(64.7)	17(100.0)	
	31-40 years	4(30.8)	9(69.2)	13(100.0)	
	41-50 years	2(100.0)	0(0.0)	2(100.0)	
	51+ years	2(100.0)	0(0.0)	2(100.0)	
All prisons					
Age	< 20 years	7(63.6)	4(36.4)	11(100.0)	.898
	21-30 years	42(60.0)	28(40.0)	70(100.0)	
	31-40 years	23(62.2)	14(37.8)	37(100.0)	
	41-50 years	5(45.5)	6(54.5)	11(100.0)	
	51+ years	6(60.0)	4(40.0)	10(100.0)	

Fishers Exact Test was computed due to Chi-Square Test assumption violation

Table 4 displays the comparisons between age groups on satisfaction of prison health services for the different prisons and all prisons put together. In Ibite-Olo prison, none of the patients was satisfied; hence no statistic was computed. In Enugu prison ($p = .281$), Oji River prison ($p = .148$), and for all the prisons put together ($p = .898$), the comparison revealed no significant satisfaction difference between the groups. This implies that the patients' satisfaction of health services in the prison was the same for the different age groups.

Table 5: Between Sex Group Comparison on Satisfaction of Health Services in the Prison

Enugu prison	Satisfaction Level		Total	Chi-Square	df	p-value
	Unsatisfied	Satisfied				

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Male		42(61.8)	26(38.2)	68(100.0)	5.194	1	.023
Sex		4(28.6)	10(71.4)	14(100.0)			
Female							
Ibite-Olo Prison							
Sex	Male	21(100.0)	0(0.0)	21(100.0)			
	Female	0(0.0)	0(0.0)	0(0.0)			
Oji River Prison							
Sex	Male	14(40.0)	21(60.0)	35(100.0)			
	Female	0(0.0)	0(0.0)	0(0.0)			
All prisons							
Male		77(62.1)	47(37.9)	124(100.0)	5.832	1	.016
Sex		4(28.6)	10(71.4)	14(100.0)			
Female							

Table 5 displays the comparisons between sex groups on satisfaction of prison health services for the different prisons and all the prisons put together. In Ibite-Olo and Oji River, there were no female patient participant; hence no statistic was computed in both. However, both for Enugu prison (p = .023) and for all the prisons put together (p = .016), there was significant satisfaction difference between the sex groups. In Enugu prison, the females (71.4%) were more satisfied than the males (38.2%); they had odds 4.0 times higher the odds of males in being satisfied with the health services [95% C.I. of 1.15-14.22]. For all the prisons put together, females (71.4%) were also more satisfied than the males (37.9%). Their odds were 4.1 times higher the odds of the males [95% C.I. of 1.22-13.80].

Table 6: Between Length of Jail Service Group Comparison on Satisfaction of Health Services in the Prison

Enugu Prison	Satisfaction Level		Total	Chi-Square	Df	p-value
	Unsatisfied	Satisfied				
Length of jail < 6 mths	12(54.5)	10(45.5)	22(100.0)			.941*
service 7 mths - 2 yrs	18(58.1)	13(41.9)	31(100.0)			
3-7 yrs	13(61.9)	8(38.1)	21(100.0)			
8+ yrs	4(50.0)	4(50.0)	8(100.0)			
Ibite-Olo Prison						
Length of jail < 6 mths	3(100.0)	0(0.0)	3(100.0)			
service 7 mths - 2 yrs	10(100.0)	0(0.0)	10(100.0)			
3-7 yrs	5(100.0)	0(0.0)	5(100.0)			
8+ yrs	1(100.0)	0(0.0)	1(100.0)			
Oji River Prison						
Length of jail < 6 mths	4(40.0)	6(60.0)	10(100.0)			1.000*
service 7 mths - 2 yrs	3(37.5)	5(62.5)	8(100.0)			
3-7 yrs	8(44.4)	10(55.6)	18(100.0)			
All prisons						

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Length of service	< 6 mths jail	19(54.3)	16(45.7)	35(100.0)	.734	3 .865
	7 mths - 2 yrs	31(63.3)	18(36.7)	49(100.0)		
	3-7 yrs	26(59.1)	18(40.9)	44(100.0)		
	8+ yrs	5(55.6)	4(44.4)	9(100.0)		

*** implies Fishers Exact Test was computed due to Chi-Square Test assumption violation**

Table 6 displays the comparisons of satisfaction of prison health services among patients grouped by their length of jail service for the different prisons and for all the prisons put together. In IbiteOlo prison, none of the patients was satisfied; hence no statistic was computed. In Enugu prison (p = .941), Oji River prison (p = 1.000), and for all the prisons put together (p = .865), there was no significant satisfaction difference between the groups. This implies that patients grouped by their different length of jail service had the same satisfaction on the health services in the prison.

Table 7: Between Educational Level Comparison on Satisfaction of Health Services in the Prison

		Satisfaction Level		Total	p-value
Enugu prison		Unsatisfied	Satisfied		
Educational level	Primary	2(50.0)	2(50.0)	4(100.0)	1.000
	Secondary	24(57.1)	18(42.9)	42(100.0)	
	Tertiary	19(55.9)	15(44.1)	34(100.0)	
Ibite-Olo prison					
Educational level	No school	4(100.0)	0(0.0)	4(100.0)	
	Primary	5(100.0)	0(0.0)	5(100.0)	
	Secondary	11(100.0)	0(0.0)	11(100.0)	
	Tertiary	1(100.0)	0(0.0)	1(100.0)	
Oji River prison					
Educational level	Primary	2(50.0)	2(50.0)	4(100.0)	.250
	Secondary	8(57.1)	6(42.9)	14(100.0)	
	Tertiary	5(27.8)	13(72.2)	18(100.0)	
All prisons					
Educational level	No school	4(100.0)	0(0.0)	4(100.0)	.077
	Primary	9(69.2)	4(30.8)	13(100.0)	
	Secondary	43(64.2)	24(35.8)	67(100.0)	
	Tertiary	25(47.2)	28(52.8)	53(100.0)	

Fishers Exact Test was computed due to Chi-Square Test assumption violation

Table 7 displays the comparisons between educational levels on satisfaction of prison health services for the different prisons and all the prisons put together. In Ibite-Olo prison, none of the patients was satisfied; hence no statistic was computed. In Enugu prison (p = 1.000), Oji River prison (p = .250), and for all the prisons put together (p = .077), there was no significant satisfaction difference between the groups. This implies that the patients though grouped by their different educational levels had the same satisfaction on the prison health services.

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Table 8: Between Occupational Group Comparison on Satisfaction of Health Services in the Prison

Enugu Prison Satisfaction Level	Unsatisfied	Satisfied	Total	Chi-Square	df	p-value
Occupation Student	13(43.3)	17(56.7)	30(100.0)	4.342	4	.362
Govt. employee	7(58.3)	5(41.7)	12(100.0)			
Trading	9(56.2)	7(43.8)	16(100.0)			
Self employed	12(66.7)	6(33.3)	18(100.0)			
Unemployed	2(100.0)	0(0.0)	2(100.0)			
Ibite-Olo Prison						
Occupation Student	2(100.0)	0(0.0)	2(100.0)	-	-	-
Govt. employee	2(100.0)	0(0.0)	2(100.0)			
Trading	4(100.0)	0(0.0)	4(100.0)			
Self employed	5(100.0)	0(0.0)	5(100.0)			
Unemployed	6(100.0)	0(0.0)	6(100.0)			
Oji Prison						
Occupation Student	6(50.0)	6(50.0)	12(100.0)	-	-	.057*
Govt. employee	0(0.0)	2(100.0)	2(100.0)			
Trading	5(55.6)	4(44.4)	9(100.0)			
Self employed	1(11.1)	8(88.9)	9(100.0)			
Unemployed	2(100.0)	0(0.0)	2(100.0)			
All prisons						
Occupation Student	21(47.7)	23(52.3)	44(100.0)	9.406	4	.052
Govt. employee	9(56.2)	7(43.8)	16(100.0)			
Trading	18(62.1)	11(37.9)	29(100.0)			
Self employed	18(56.2)	14(43.8)	32(100.0)			
Unemployed	10(100.0)	0(0.0)	10(100.0)			

*** implies Fishers Exact Test was computed due to Chi-Square Test assumption violation**

Table 8 displays the comparisons between occupational groups on satisfaction of prison health services for the different prisons and all the prisons put together. In Ibite-Olo prison, none of the patients was satisfied; hence no statistic was computed. In Enugu prison (p = .362), Oji River prison (p = .057) and for all the prison put together (p = .052), there was no significant satisfaction difference between the groups. This implies that satisfaction on prison health services was the same for the different occupational groups.

Table 9a: Logistic Regression Classification Table, Model Summary and Omnibus Test of Model Coefficients on Patients' Satisfaction with Prison Health Services

Classification Table (cut value = .500)	Health Services Satisfaction Unsatisfied	Satisfied	% Correct	Statistic
Health Services Unsatisfied	54	17	76.1	

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Satisfaction	Satisfied	22	33	60.0
	Overall percent			69.0

Model Summary

-2 Log likelihood	145.944
Cox & Snell R^2	.191
Nagelkerke R^2	.256

Omnibus Test of Model Coefficients

Chi-Square			26.692
Df	14	p-value	.021

Table 9b: Logistic Regression Model Coefficients on Patients' Satisfaction with Prison Health Services

	B	S.E.	Wald	df	p-value	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Constant	1.312	1.077	1.485	1	.223	3.715		
Age			1.330	4	.856			
≤ 20 years	-.356	1.461	.059	1	.807	.700	.040	12.263
21-30 years	-.177	1.177	.023	1	.881	.838	.083	8.422
31-40 years	-.546	1.076	.257	1	.612	.579	.070	4.777
41-50 years	.253	1.221	.043	1	.836	1.288	.118	14.093
Sex (Female)	1.516	.730	4.310	1	.038*	4.555	1.088	19.064
Length of jail service			2.874	3	.411			
≤ 6 months	-.336	1.090	.095	1	.758	.715	.084	6.054
7 months-2 yrs	-1.132	1.074	1.112	1	.292	.322	.039	2.643
3-7 years	-.545	1.003	.295	1	.587	.580	.081	4.144
Educational Level			3.994	2	.136			
≤ Primary	-1.125	.826	1.855	1	.173	.325	.064	1.639
Secondary	-.981	.507	3.739	1	.053	.375	.139	1.013
Occupation			.221	4	.994			
Government employee	-.296	.717	.170	1	.680	.744	.182	3.034
Trader	-.066	.637	.011	1	.918	.937	.269	3.266
Self employed	.020	.564	.001	1	.971	1.020	.338	3.084
Unemployed	-20.818	12506.9	.000	1	.999	.000	.000	.

Predictors: Age, Sex, Length of jail service, Educational level & Occupation

Reference category: Age (51+ years), Gender (male), Length of jail service (8+ years), Educational level (tertiary) & Occupation (student)

The logistic regression model [logit (of being satisfied with health services in the prison) = 1.312 – 0.356*(≤ 20 years) – 0.177*(21-30 years) – 0.546*(31-40 years) + 0.253(41-50 years) +

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1.516*gender – 0.336*(≤ 6 months) – 1.132*(7 months–2 years) – 0.545*(3-7 years) – 1.125*(≤ primary education) – 0.981*(secondary education) – 0.296*government employee – 0.066*(trader) + 0.020*(self-employed) – 20.818*(unemployed)] explained 25.6% (Nagelkerke R^2) of the variation in the satisfaction status of the prison patients (that is, whether a patient was satisfied or unsatisfied). The model correctly predicted 76.1% of the patients to be unsatisfied; correctly predicted 60.0% of the patients to be satisfied and in general, correctly predicted the satisfaction status of 69.0% of the patients. The omnibus test of the model coefficients using the Chi-Square revealed that the model coefficients were significant, p = .021.

The Wald statistic further indicated that only the model coefficient of sex was significant, p = .038.

Holding other predictors constant, in predicting a patient who will be satisfied with the health services in the prison, female patients had odds approximately 4.6 times the odds of male patients [95% C.I. of 1.09-19.06].

For the coefficients of age (p = .856), length of jail service (p = .411), educational level (p = .136) and occupation (p = .994), the Wald statistic revealed no significance. This implies that holding other variables constant, the patients grouped by their different age groups had the same odds in being satisfied with the health services; likewise when grouped by length of jail service, educational level and occupation.

Discussion

Majority of the patients was between 21-30 years: Males were predominant in Enugu prison and all prisons put together. Ibite-Olo and Oji River prisons were only males. In length of jail service, most patients have served 7 months – 2 years while Oji River prison had more of those that have served 3-7 years. Patients with secondary education were predominant in Enugu prison, Ibite-Olo prison and all the prisons put together while those with tertiary education were predominant in Oji River. In Enugu prison, Oji River prison and all the prisons put together, students were most while in Ibite-Olo prison, the unemployed were the most. There were variances concerning patients' satisfaction assessment of health services in the prisons. In Enugu prison, the patients were satisfied only with the waiting time before being seen in the clinic, explanation of what to expect during the exam and explanation of what to expect after the exam. In Ibite-Olo prison, the patients were not satisfied with any of the listed services. Greatest dissatisfaction was on services like timely availability of laboratory result, level of attention provided by the doctor/nurse and the physical appearance of the facilities and the quality of the equipment. In Oji River prison, the patients were satisfied with services such as in the overall care received, explanation of what to expect after the exam, how questions were answered by the staff, courtesy of the doctor/nurse, adequate explanation in preparation for specific test/exam, level of attention provided by the doctor/nurse and waiting time before being seen in the clinic. In general, for all the prisons put together, the patients were dissatisfied with all the listed services. Greater dissatisfaction was on services such as: the physical appearance of the facilities and the quality of the equipment and timely availability of laboratory result. This results show that even though there were some listed satisfaction with some services in Enugu and Oji-River prisons, Ibite-Olo prison inmates expressed no satisfaction with the healthcare services provided as was the general consensus of all the prisons put together.

This result expresses the general state of disarray of the Nigerian healthcare system where majority of the citizenry have lost faith in the capacity of the system to come to their rescue. Nigeria invests as little as 4-5 percentage of her gross domestic product (GDP) providing for healthcare services and this is way below World Health Organisation (WHO) recommendation. There should be a true re-think about reforming the healthcare

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system to maximize its productivity as to providing answers to myriads of healthcare problems in Nigeria. This result is supported by (Melvin, 2013; African Regional Health Report, 2006) where it was stated that recent assessment of African Health systems Nigeria inclusive indicates a gloomy picture of weakness in performance. Achieving both qualitative and quantitative health among special groups like inmates may be far from realisation going by the slow attitude of prison administrators and the government in particular in addressing the health needs of prisoners.

There were also some variances on the overall satisfaction of health services in the prisons and also on the comparisons made amongst the prisons on satisfaction of the health services. The satisfaction level for the prisons showed that Oji-River prison patients were most satisfied followed by Enugu prison and the least was Ibite-Olo prison where none of the patients showed any satisfaction with the healthcare services provided. In general, about forty percent of the patients were satisfied. The between prisons satisfaction comparison revealed that the satisfaction level differed significantly between the prisons. Satisfaction with health services was associated more to Oji-River prison and Enugu prison. The likelihood of being unsatisfied was 1.7 and 2.4 times higher in Ibite-Olo prison than in Enugu prison and Oji prison respectively. Enugu prison and Oji prison had the same likelihood of being unsatisfied. This result just like the one presented above expresses same level of disarray and dissatisfaction with the overall healthcare services provision in the prisons especially in Ibite-Olo and the Nigerian healthcare system as a whole. In-spite of the fact that Oji-River recorded some level of satisfaction with healthcare services, the overall satisfaction level amongst the prisons was below expected baseline suggesting some level of healthcare reform for the system to improve performance. This result is also supported by (Melvin, 2013; African Regional Health Report, 2006) which presented gloomy pictures for African healthcare system and suggested a change of attitude by the government and prison authorities in particular in addressing the health needs of prisoners possibly through reforms of the health system.

The comparisons between age groups on satisfaction with prison healthcare services for the different prisons and all prisons put together showed that in Ibite-Olo prison, none of the patients was satisfied; hence no statistic was computed. In Enugu prison, Oji River prison, and for all the prisons put together, the comparison revealed no significant satisfaction difference between the groups. This implies that the patients' satisfaction of health services in the prison was the same for the different age groups. This result equally represents the general condition of healthcare services in the country and points to the fact that something urgent needs to happen to bring about changes to revamp the performance of the healthcare system. Even at that, healthcare services in the prison in Nigeria are particularly worse off because though services are provided free of charge, patients do not have choice of provider making impossible to receive the best care possible. The general conditions of our healthcare system need reforms especially for those in restrained condition like the prison.

The comparisons between sex groups on satisfaction with prison health services for the different prisons and all the prisons put together shows that in Ibite-Olo and Oji River, there were no female patient participants; hence no statistic was computed in both. However, both for Enugu prison and for all the prisons put together, there was significant satisfaction difference between the sex groups. In Enugu prison, the females were more satisfied than the males; they had odds 4.0 times higher the odds of males in being satisfied with the health services. For all the prisons put together, females were also more satisfied than the males. Their odds were 4.1 times higher the odds of the males. My take on these results is that they do indicate the attitudinal differences between males and

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females when it comes to healthcare consumption. The females are particular, time taking and detailed about their healthcare unlike the males who are less particular and absent minded most of the time in paying attention to healthcare consumption. In so doing, the females are able to get the best of their healthcare providers in prescribing solutions to their problems.

The comparisons of satisfaction of prison health services among patients grouped by their length of jail service for the different prisons and for all the prisons put together shows that in Ibite-Olo prison, none of the patients was satisfied; hence no statistic was computed. In Enugu prison, Oji River prison, and for all the prisons put together, there was no significant satisfaction difference amongst the groups. This implies that patients grouped by their different length of jail service had the same satisfaction level with the health services in the prison. This result explains the situation of continued dysfunctional nature of prison healthcare services. The provision healthcare in the prison has not taken on any meaningful improvement over time and has remained basically the same over a long period and as such impacted no meaningful improvement on the patient inmates. Reforming the system of healthcare in the prisons I believe should have some answers to the deplorable healthcare conditions in the prisons

The comparisons between patients' educational levels on satisfaction with prison health services for the different prisons and all the prisons put together indicated that in Ibite-Olo prison, none of the patients was satisfied; hence no statistic was computed. In Enugu prison, Oji River prison, and for all the prisons put together, there was no significant satisfaction difference between the groups. This implies that the patients though grouped by their different educational levels had the same satisfaction on the prison health services. This result also shows the deplorable healthcare conditions in the prisons that even the least and most educated classes in the prisons had no differential impression when it comes to healthcare provision. This result also calls for reforms for improvement.

The comparisons between occupational groups on satisfaction of prison health services for the different prisons and all the prisons put together had it that in Ibite-Olo prison, none of the patients was satisfied; hence no statistic was computed. In Enugu prison, Oji River prison and for all the prison put together, there was no significant satisfaction difference between the groups. This implies that satisfaction on prison health services was the same for the different occupational groups. This result also goes to show the deplorable conditions of healthcare services in the prisons to the extent that all the occupations had no significant impression difference about the service provision. The way forward points to health system reform taking into cognizance all the problems earlier earmarked.

The logistic regression model [logit (of being satisfied with healthcare services in the prison) correctly predicted 76.1% of the patients to be unsatisfied; correctly predicted 60.0% of the patients to be satisfied and in general, correctly predicted the satisfaction status of 69.0% of the patients. The omnibus test of the model coefficients using the Chi-Square revealed that the model coefficients were significant. The Wald statistic further indicated that only the model coefficient of sex was significant. Holding other predictors constant, in predicting a patient who will be satisfied with the health services in the prison, female patients had odds approximately 4.6 times the odds of male patients. For the coefficients of age, length of jail service, educational level and occupation, the Wald statistic revealed no significance. This implies that holding other variables constant, the patients grouped by their different age groups had the same odds in being satisfied with the health services; likewise when grouped

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by length of jail service, educational level and occupation. These results from the (logistic regression, Chi-Square and Wald statistic) are in support and do affirm the individual results presented from Tables 1 through 9.

Conclusion

Satisfaction with healthcare services in the prison was rated low. Even though there were recorded variances concerning patients' satisfaction assessment of healthcare services in all the prisons, the overall result point to low satisfaction with healthcare services. Even when using age, education, occupation and length of jail service as predictors of satisfaction, yet there was no significant difference amongst the groups as satisfaction was rated low.

Disclosure of conflict of interest

Authors disclose no conflict of interest

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References

African Regional Health Report. (2006). *African regional health report*. World Health Organization. http://whqlibdoc.who.int/afro/2006/9290231033_rev_eng.pdf

Ahmed, R., Angel, C., Martel, R., Pyne, D., & Keenan, L. (2016). Access to healthcare services during incarceration among female inmates. *International Journal of Prisoner Health, 12*(4), 204–215.

Avis, M., Bond, M., & Arthur, A. (1995). Satisfying solutions? A review of some unresolved issues in the measurement of patient satisfaction. *Journal of Advanced Nursing, 22*(2), 316–322.

Barling, J., Halpin, R., & Levy, M. (2005). Capturing perceptions: Prisoners assess their health services—Australia, 2001 and 2004. *International Journal of Prisoner Health, 1*(2), 183–198.

Bjørngaard, J. H., Rustad, A. B., & Kjelsberg, E. (2009). The prisoner as patient: A health services satisfaction survey. *BMC Health Services Research, 9*(176), 1–8. https://doi.org/10.1186/1472-6963-9-176

Crow, R., Gage, H., Hampson, S., Hart, J., Kimber, A., Storey, L., & Thomas, H. (2002). The measurement of satisfaction with healthcare: Implications for practice from a systematic review of the literature. *Health Technology Assessment, 6*(32), 1–244.

Enugu State. (2004). *Enugu State: Poverty reduction strategy/state economic empowerment development strategy (PRS/SEEDS) 2004–2009*. Ministry of Human Development and Poverty Reduction.

Ezuma, N. (2012). *Joint annual review and midterm review of State Strategic Health Development Plan: Enugu State report*. Enugu State Ministry of Health.

Grogan, S., Conner, M. N., Willits, D., & Porter, I. (2000). Validation of a questionnaire measuring patient satisfaction with general practitioner services. *Quality in Health Care, 9*(4), 210–215.

©2025 *Noland Journals*

Harris, L. E., Swindle, R. W., Mungai, S. M., et al. (1999). Measuring patient satisfaction for quality improvement. *Medical Care, 37*(12), 1207–1213.

Lawal, B. J., Agbla, S. C., Bola-Lawal, Q. N., Afolabi, M. O., & Ihaji, E. (2018). Patients' satisfaction with care from Nigerian Federal Capital Territory's public secondary hospitals: A cross-sectional study. *Journal of Patient Experience, 5*(1), 1–8. https://doi.org/10.1177/2374373518763095

Melvin, O. A. (2013). Prison health in Nigeria: A sociological discourse. *African Journal of Political Science and International Relations, 7*(2), 38–41.

Okoli, C. I., & Cleary, S. M. (2011). Socioeconomic status and barriers to the use of free antiretroviral treatment for HIV/AIDS in Enugu State, south-eastern Nigeria. *African Journal of AIDS Research, 10*(2), 149–155. https://doi.org/10.2989/16085906.2011.593385

Onwujekwe, O., Onoka, C., Uguru, N., Tasie, N., Uzochukwu, B., Eze, S., Kirigia, J., & Petu, A. (2010). Preferences for benefit packages for community-based health insurance: An exploratory study in Nigeria. *BMC Health Services Research, 10*(162), 1–9. https://doi.org/10.1186/1472-6963-10-162

Reed, J., & Lyne, M. (1997). The quality of health care in prison: Results of a year's programme of semi-structured inspections. *BMJ, 315*(7120), 1420–1424. https://doi.org/10.1136/bmj.315.7120.1420

SMOH Enugu State. (2011). *State Ministry of Health annual report*. Enugu State Government.

Watson, R., Stimpson, A., & Hostick, T. (2004). Prison health care: A review of the literature. *International Journal of Nursing Studies, 41*(2), 119–128. https://doi.org/10.1016/S0020-7489(03)00128-7

Woodward, C., Ostbye, T., Craighead, J., et al. (2000). Patient satisfaction as an indicator of quality care in independent health facilities: Developing and assessing a tool to enhance public accountability. *American Journal of Medical Quality, 15*(3), 94–105. https://doi.org/10.1177/106286060001500304

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