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Full Length Research Paper

Equity of care: A comparison of National Health Insurance Scheme enrolees and fee-paying patients at a private health facility in Ibadan, Nigeria

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This study compared the cost and process of care for patients enrolled in the National Health Insurance Scheme (NHIS) to those who made out-of-pocket payments for health care. A cross-sectional analytical study design was used. Data were obtained from case files of patients. The study was conducted at a privately owned general hospital in the city of Ibadan, Southwest Nigeria. A total of 200 NHIS enrollees and 200 fee-paying patients seen between January and March 2010 were recruited using a systematic sampling technique. Differences in the cost and process of care was determined by comparing cost, diagnostic process, and treatment of common ailments. Associations were explored with the chi square test, mean were compared with t-test. Level of significance was set at 5%. Only 15% of the NHIS enrollees had a diagnostic test done compared with 28.5% of the fee-paying group (P < 0.05). Overall, the mean cost of care was $14.2±5.12 (₦2,135±772) for the NHIS enrollees and $18.6±6.1 (₦2,796±914) for their fee-paying counterparts (P<0.001). This study, indicates that some disparity exists in the cost and processes of care for these two categories of patients. It is important to ensure quality in the services received by the NHIS enrolees.

Key words: Cost, care, health, out-of-pocket, insurance, fee.

INTRODUCTION

The National Health Insurance Scheme (NHIS) was introduced in Nigeria in 2005 due to the increasing concern about the ability of the poor to afford basic health services in Nigeria (NHIS, 2006). It is the opinion of the Nigerian government that the NHIS will probably solve the problem of inequality in the provision of healthcare services and helps to improve the accessibility to health-care like some developed countries (Rice and Smith, 2001).

The Nigerian NHIS was structured to cover all groups in the society. However, the NHIS only covers federal government employees and the coverage level is less than 5% of the general population (NHIS, 2011). The federal government employee, their spouse and four biological children are enrolled into the scheme. Enrollement with a primary care provider is mandatory to enjoy the priviledge of receiving care without making payment or at least make a 10% payement of the cost of care (NHIS, 2006). The most prevalent form of health care financing in Nigeria remains out of pocket expenditure (Soyibo, 2009).

The effects of health Insurance on the quality of health care are unclear (Ekman, 2004). It is not certain whether or not equal level of care is received by NHIS enrollees and those making out-of pocket payment for health care. Also, the qualities of care received by NHIS enrollees in Nigeria have been queried (Ibiwoye and Adeleke, 2008; Acha, 2010).

The health services provided to NHIS enrolles is yet to be evaluated in comparison with the services provided to patients making out-of-pocket expenditure for health

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Table 1. Socio-demographic characteristics of patients by category.

Variable	NHIS enrolee n (%)	Fee paying clients n (%)	Chi-Square	P-Value
Age (years)				
1-18	57(28.5)	37(18.5)		
19-60	142(71.0)	156(78.0)	9.414	**0.009**
>60	1(0.5)	7(3.5)		
Sex				
Male	109(54.5)	92(46.0)	2.890	0.089
Female	91(45.5)	108(54.0)		
Marital status				
Married	129(64.5)	90(45.0)	15.345	**<0.001**
Single	71(35.5)	110(55.0)		
Occupation				
Civil servant	140(70.0)	21(10.5)		
Trader/business	0(0.0)	77(38.5)	196.047	**<0.001**
Student/pupils	60(30.0)	72(36.0)		
Technician	0(0.0)	30(15.0)		

care. To the best of our knowledge, no study has been done in Nigeria to compare these two categories of patients. This study therefore aimed to determine equity in the care of NHIS enrolees and fee paying patients at a private health facility in Ibadan using patiemts records of care. Findings from this research will be useful to know if any inequality exist in the cost and processes of care of NHIS enrollee and patient making out of pocket payment. This will assist NHIS program managers and policy makers in designing better level of care.

METHODS

The study design is cross-sectional. This study also has some analytical component. Data were obtained from case files of patients who came for out patient care. The study was conducted at a privately owned general hospital in the city of Ibadan, Southwest Nigeria. The hospital was selected using simple random sampling method among other privately owned health facilities in Ibadan, Nigeria. The hospital is registered as an NHIS health service provider. High volume of both NHIS patients and other patient making out-of-pocket payment are seen in the hospital.

A total of 200 NHIS enrollees were seen as out patient between January and March 2010 in the hospital. However, among the fee-paying patients, 1,200 patients were managed on out-patient basis. A total survey of all the NHIS patients was done, while, the fee paying patients were recruited using a systematic random sampling method to select 200 out of 1,200 patients. Hence, equal number of patients were studied in both NHIS and fee-paying patient categories. In all, 400 patients were studied. Patient admitted were excluded from the study.

The socio-demographic characteristics of patients, the common ailments which they sought medical attention for were extracted from the patient's case notes. The cost of consultation, investigations, drugs and other consumables used for each patient was documented by the hospital's account officer for both categories of patients. The cost of care and process of care (using diagnostic and treatment procedures only) for uncomplicated cases of specified illnesses were the outcome measures for the study. A dollar was equivalent to ₦150 when the study was done.

Data was collected using a proforma, cleaned, entered and analyzed using SPSS version 15. Chi- square test was used to explore association between variables of interest. Differences were also determined in the average cost of treatment of NHIS enrolees and fee paying patients.Mean cost of care between patients in the two categories was compared using t-test. Level of significance was set at 5%. Permission to carry out the study was obtained from the medical director of the hospital after careful explanation of the purpose, content and implication of the research.

RESULTS

Table 1 shows the socio-demographic characteristics of the patients by category. Significant differences were observed in the age, marital status and occupation ($p<0.05$). The NHIS enrolees were younger than the fee paying clients. More NHIS enrolees were in the dependent age category of 1 to 18, 57(28.5%) against fee paying patients 37(18.5%). Other socio-demographic variables are as shown in Table 1.

Table 2 compares the mean cost of care for the common ailments, treatment of malaria cost \$18.85 (₦2,827.38) among the fee paying patient compared with \$15.4 (₦2,309.44) among NHIS enrolees (P=<0.001). The mean cost of care of respiratory tract infection also differ

Table 2. Comparison of common ailments and mean cost of care per patients category.

Diagnosis/treatment category	Category of patients	n	Mean± SD (₦)	Standard deviation	T-test	P-value
Malaria	NHIS Fee for service	90 84	2309.44 2827.38	641.929 745.808	4.919	**<0.001**
Respiratory tract infection	NHIS Fee for service	23 16	1852.17 2962.50	593.809 501.830	6.109	**<0.001**
Hypertension	NHIS Fee for service	19 12	2342.11 2850.00	818.071 775.183	1.717	0.097
Trauma/injury	NHIS Fee for service	6 18	1483.33 3261.11	40.825 1203.983	3.563	**0.002**
Skin infection	NHIS Fee for service	18 7	2261.11 1842.86	1207.885 377.964	0.889	0.383
Peptic ulcer disease	NHIS Fee for service	6 11	2100.00 2736.36	1127.830 1576.878	-0.869	0.399
Muscular pain	NHIS Fee for service	18 24	1600.00 2212.50	289.015 796.903	-3.103	**0.004**
Anxiety disorder	NHIS Fee for service	2 6	1550.00 2200.00	494.975 0.000	-3.940	**0.008**
Arthritis/osteoarthritis	NHIS Fee for service	8 2	1800.00 4600.00	320.713 141.421	-11.645	**<0.001**

Table 3. Comparison of overall mean cost of care.

Category of patient	n	Mean cost (₦)	Standard deviation	T-test	P-value
NHIS enrolee	200	2134.75	772.29	7.813	**<0.001**
Fee for service	200	₦2795.95	914.31		

differ significantly $12.35 (₦1,852.17) for NHIS enrolee and $19.75 (₦2,962.50) for fee paying patient (P<0.001). Trauma/injury patients among the NHIS enrolee spent $9.9 (₦1,483.33) while fee paying patients spent $21.75(₦3,261.11) (P=0.002). Average cost of care of patients treated for skin infection was higher among the NHIS enrolee. However, the differences were not statistically significant.

Table 3 shows the comparison of overall mean cost of care of all the patients in the two categories. The mean cost of care of the NHIS enrolee was $14.23 (₦ 2134.75±72.29) while that of fee paying patients was $18.6 (₦2795.95±914.31) (P<0.001).

Table 4 shows the comparison of types of drugs prescribed by patient`s category. Most of the NHIS enrolees had generic drugs 140(70.0%) while only 50(25.0%) of the fee paying group had generic drugs. Branded and generic drugs were dispensed to most of the fee paying group 128 (64.0%) with only 30(15.0%) to the NHIS enrolee (P<0.001). The pattern of request for investigation is as shown in Table 4. Only 30(15.0%) of the NHIS enrolee were asked to go for any form of test while a larger proportion of the fee paying patients 57(28.5%) had some forms of investigation (P=0.001).

Follow up visit was requested for a larger proportion of the fee paying patients 82(41.0%) while less proportion of

Table 4. Comparison of patient management processes by patients category.

Parameter	NHIS enrolee n (%)	Fee paying clients n (%)	Chi-Square	P-Value
Brands of drugs prescribed				
Branded	30(15.0)	22(11.0)		
Generic	140(70.0)	50(25.0)	11.93	**0.003**
Branded and generic	30(15.0)	28(64.0)		
Investigation requested				
Yes	30(15.0)	57(28.5)	10.708	**0.001**
No	170(85.0)	143(71.5)		
Follow up visit				
Yes	51(25.5)	82(41.0)	12.267	**<0.001**
No	149(74.5)	118(59.0)		

NHIS enrolees were given appointment for follow up 51(25.5%) (P<0.001).

DISCUSSION

A health system is equitable if medical care is distributed based on patients' need as judged by health professsionals (Van Doorslaer et al., 1993). The level of care a patient receives should be determined by the level of need. Equity in the level of health care is therefore, important not only in the structure and the process of care, but also in the outcomes of care (Donabedian, 1992). The NHIS aims to improve access to quality healthcare for all Nigerians at an affordable cost through a prepayment system by all beneficiaries (NHIS, 2006). The quality of care received by the enrollee of the scheme therefore needs to be comparable or even better to their counterpart who made out of pocket payment for health care.

This study shows that the mean cost of care for the NHIS enrolees were lower than the cost of care incurred by fee paying patients treated for the same condition. A higher proportion of NHIS enrollees was given generic drugs. Likewise, more patients making out-of-pocket payment were asked to carry out investigation. The benefits derivable to participants and their dependants include the use of prescribed generic drugs and diagnostic tests (NHIS, 2006). The use of generic drugs and fewer requests for investigation contributed to the low cost of care among the NHIS enrolee.

Although the lower cost of care incurred by NHIS patient might be an objective of the scheme (Monye, 2006), concerns arise about the higher numbers of investigations and follow up appointments prescribed for fee paying patients when compared with the NHIS enrolees. In patient been treated for the same disease condition, wide disparity is not expected in the cost of care, if the same processes was utilised and treatment done with similar drugs.

These practices seem to imply that fee paying patients are getting more attention than NHIS patients. The quality of care is also being compromised for NHIS patients when compared to fee paying patients.

Conclusions

This study indicates that disparities exist in the processes and cost of care of NHIS enrolee and fee paying patients. Fee paying patients are also getting more attention than NHIS enrolee. Before the commencement of the scale-up of the NHIS, it is important to ensure quality in the services received by the enrolees. There is therefore need to develop standard tool for collecting quality of service data; such tool should include outcome of care, adherence to best practices, organisational measures and enrolees satisfaction with the care received.

LIMITATIONS

The outcome of care of the patients whose records were used was not known. It would have been a better indicator for measuring quality of service received. Another limitation is that NHIS offer equal benefit to all its enrolee receiving primary care, while benefit of fee paying patients may be determined by the amount of money they can offer for services rendered. Though, it was not known if the patients were healthier in one group versus the second. Significant difference was however, not expected. Also, only a very small share of the

population of Nigeria (5%) is covered by the National Health Insurance Scheme whose efficiency is studied and hence, to form a representative sample of that group is certainly not as easy as to form a corresponding sample from those paying out of the pocket.

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