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RESEARCH

Utilisation of staff clinic facility in a Northwest Nigeria hospital: emerging challenges for the National Health Insurance Scheme

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Background: The health status of workers and their families affects workplace productivity. The National Health Insurance Scheme (NHIS) objective of improving healthcare accessibility to Nigerians has increased service utilisation but may pose new challenges to existing facilities. This study was undertaken to describe the pattern of clinic utilisation, disease entities of subjects, use of the excused-duty certificate and identify points of delay.
Methods: A prospective cross-sectional study of 352 subjects randomly selected over 6 weeks among patients attending the Aminu Kano Teaching Hospital Staff clinic.
Results: Most subjects (307, 87.2%) had insurance and were predominantly (227, 64.5%) dependants. Most subjects (190, 55%) had used the clinic once to three times in the preceding 12 weeks and were predominantly (85, 24.2%) hospital attendants. Infectious disease (204, 58%) was the commonest reason for the clinical encounter. Their mean waiting and consultation times were 77.3 (SD ± 43) and 9.6 (SD ± 4.5) minutes respectively. Only 52 (14.8%) subjects were seen within 30 minutes of clinic arrival. Only a few subjects (3, 0.9%) had received an excuse-duty certificate in the preceding 12 weeks, mainly for malaria.
Conclusion: High clinic utilisation and acute infectious disease burden are major challenges for the clinic, while prolonged clinic waiting time was suffered by clinic users. Prolonged waiting time may affect workplace availability and productivity. Proactive improvements in the causal factors for prolonged clinic waiting time may be required.

Keywords: clinic utilisation, health insurance scheme, Nigeria, staff, waiting time

Introduction

Health-care-seeking behaviour is a fundamental indicator of willingness to preserve life and this has a far-reaching impact on personal, workplace, community and national development.[1] The direct and indirect cost implication of ill workers and that of their families may include but not be limited to user, medical, laboratory and drug charges, lost man-hours, reduced earning and reduced productivity.[1] The cost often may be financially catastrophic, especially to low-income earners. Hence, employers must ensure the availability to their employees of equitable and affordable care. Health service utilisation is affected by factors such as geography (proximity to health care providers), perceived quality of care and severity of illness, as well as fees charged.[2] In the light of the increasing advocacy for prepayment healthcare financing options globally, the Nigerian government launched the National Health Insurance Scheme (NHIS) in 2005. The formal sector (federal government staff) became the first beneficiaries.[3] Consequently, most staff clinics of Nigerian federal government establishments were accredited. In low- and middle-income countries health insurance is known to have a positive impact on access and utilisation of health care services. This is due to the effect of insurance theory, which lowers the price of health care. This leaves enrollees with better health if they utilise curative and preventive services when needed and in a timely manner.[4,5] In Nigeria, staff enrolment into the insurance scheme has increased and a study in Ilorin, north central Nigeria showed a 144% increase in the utilisation of a staff clinic after the commencement of NHIS.[6] Similar studies in West Africa indicate increased utilisation of health services following commencement of a health insurance scheme.[7–9] The moral hazard or the overuse of medical care has been cited as a potential negative impact of health insurance.[10] However, health insurance has been reported as a non-homogeneous good as it varies in type and impact; its impact varies across countries and even across settings within the same country, hence the difficulty of impact generalisation.[11] The NHIS, being a new social health insurance in Nigeria, is expected to pose new challenges for the national body (also known as the NHIS), the health maintenance organisations (HMOs), the healthcare providers and the enrollees. Research in this domain is scarce in the north-west region of Nigeria where Aminu Kano Teaching Hospital (AKTH), one of the hospitals with a high clientele load of over 30 000 enrollees is located.

The objective of this study was to describe the socio-demographic characteristics of subjects attending the AKTH staff clinic, the pattern of their disease entities, and to identify points of service delay, and utilisation of the excused-duty certificate which experience has shown is unnecessarily demanded by some clinic users. It was also to aid identification of any emerging challenges to care delivery in the era of increasing staff enrolment with the NHIS.

Materials and methods

A descriptive cross-sectional study was conducted at the staff clinic of AKTH between September 12 and October 24 2012. The 500-bed urban tertiary hospital has a staff clinic that serves over 2 700 employees and their families. The clinic is run by family medicine senior registrars and principal medical officers with oversight from three consultant family physicians. It utilises the services of two doctors and two clinic assistants in two consulting rooms. It operates from 8:00 am to 9:00 pm on weekdays and 8:00 am to 2:00 pm during weekends and public holidays. Staff use the accident and emergency department during non-clinic hours. Anecdotal evidence showed a weekly turnover of an average of 250

patients seen for undifferentiated medical conditions. Deserving patients are referred to the specialist clinics. The clinic is exclusively served by NHIS pharmacy and accounts units. The health records unit (HRU) serves the hospital's over 30 000 NHIS enrollees (all staff and dependants inclusive) and was the first point of call in the clinic's service protocol. The health records, waiting area, consulting room, pharmacy, accounts and laboratory service windows were marked with legible signage. Patients were seen on a 'first come first served' basis. All staff, their families and students of the hospital-run institutions seeking care at the clinic were included in the study. Ethical approval was obtained from AKTH Research Ethics Committee. A systematic random sampling method was used to select every fourth patient (sampling interval: 367/1500 = 1:4; first subject selected by balloting) after written informed consent had been obtained. The time interval between arrival at the HRU and the commencement of consultation (waiting time) and time interval between entering into and exiting from the consulting room (consultation time) were recorded by trained research assistants using a stop-clock. A pretested questionnaire was administered by research assistants in English or Hausa in the waiting area. The questionnaire assessed subjects' socio-demographic and disease characteristics, frequency of visits and reported or documented excused-duty certificate utilisation, and reason for excused-duty use in the preceding 12 weeks. Data were entered and analysed using Epi Info Version 7.1.1.14 (2012) (CDC, Atlanta, GA, USA). They were then summarised using frequency tables, means and standard deviations.

Results

Socio-demographic characteristics of subjects

Of the 367 subjects selected, 15 had incomplete data; therefore data for the remaining 352 participants (representing a 95.9% response rate) were used for analysis. Females constituted 58.8% of subjects while males comprised 41.2%. The male:female ratio was 1:1.4. Their mean age was 26.9 (SD ± 14.7) ranging from 0.2 to 62 years. The 31–40-year age group had the highest frequency of attendance (Table 1). In total, 224 subjects were married (63.6%), 127 were single (36.1%) and 1 was widowed (0.3%). Most subjects were from nuclear monogamous families (77.3%) of over six people (representing the total head count of all members of a monogamous or polygamous family). Three hundred and seven subjects had health insurance (87.2%). There were 277dependants, constituting 64.5% of subjects while 125 (35.5%) were principals. The senior staff cadre constituted 46.6% of subjects. The junior staffs (53.4%) were mostly from the nursing service department (37.5%) and were predominantly hospital attendants (Table 2).

Table 1: Socio-demographic characteristics of study subjects

Characteristics	Frequency	Percentage
Age group		
0–10	67	19.0
11–20	49	13.9
21–30	81	23.0
31–40	92	26.2
41–50	44	12.5
51–60	18	5.1
> 60	1	0.3
Family type		
Monogamous	272	77.3
Polygamous	64	18.2
Unmarried principal	16	4.5
Family size		
1	16	4.6
2–4	105	29.9
5–6	103	29.3
> 6	127	36.2
Type of registration		
NHIS	307	87.2
Staff folder	30	8.5
Both	15	4.3

Frequency of hospital visits and excused-duty utilisation

Most subjects attended the Monday clinic while the Wednesday clinic was the least attended (Table 3). Most subjects (60.5%) had utilised the clinic in the preceding 12 weeks and most (56.8%) had used it once to three times in the preceding 12 weeks. Only 0.9% of subjects had received an excused-duty certificate in the preceding 12 weeks for malaria (0.6%) and migraine headache (0.3%).

Subjects' disease characteristics

The commonest reason for clinic encounter was acute illness. Subjects' diseases were predominantly infectious with malaria been the commonest diagnosis (Table 4), while allergic diseases were the least common diseases. Acute diarrhoeal disease was classified as non-infectious because thorough aetiological follow-up was not done and most responded to oral rehydration without antibiotics.

There was also a corresponding preponderance of anti-malarial and

Table 2: Characteristics of the clinic users

Characteristics	Frequency	Percentage
Principals' department		
Account/Audit	31	8.8
Administration	36	10.2
Clinical	25	7.1
Health records	29	8.2
Nursing	132	37.5
Pharmacy	8	2.3
SHIM	6	1.7
Others*	85	24.2
Job designation		
Accountants/cashiers/auditors	30	8.5
Administration officers/clerks	35	9.9
Doctors	2	0.6
Hospital attendants	85	24.2
Nurses	44	12.5
Others**	76	21.6
Pharmacists	6	1.7
Records officers/clerks	29	8.2
Students	6	1.7
Technicians	39	11.1

Notes: SHIM = School of Health Information Management; Others*= catering (6, 1.7),environmental (9, 2.6%), laundry (13, 3.7%), Public relation (2, 0.6%), social welfare (1, 0.3%), security (1, 0.3%), stores (9, 2.6%) and works (44, 12.5%). Others** = engineer (9, 2.6%), environment officers (9, 2.6%), store officers (9, 2.6%), clinical assistants (6, 1.7%), catering officers (6, 1.7%), laundry officers (6, 1.7%), drivers (6, 1.7%) plumbers (5, 1.4%), masons (5, 1.4%), laboratory (4, 1.1%) and imaging (1, 0.3%) scientists, architects (2, 0.6%), information assistants (2, 0.6%), audiologist (1, 0.3%), carpenter (1, 0.3%), dental therapist (1, 0.3%), security officer (1, 0.3%), tailor (1,0.3%), and welder (1, 0.3%).

Table 3: Characteristics of subjects' hospital visits

Number of visits	Frequency	Percentage
Day of hospital visit		
Monday	101	28.7
Tuesday	66	18.7
Wednesday	50	14.2
Thursday	72	20.5
Friday	63	17.9
No. of clinic visits in last 12 weeks		
0	139	39.5
1–3	190	55.0
4–6	23	6.5

anti-microbial utilisation for the treatment of afflicted subjects.

Timing of services

The mean waiting time was 77.4 (SD ± 43) minutes, ranging from 2 to 250 minutes. Only 52 subjects (14.8%) started consultation within 30 minutes of arrival. Similarly, only 18 subjects (5.1%) were absent when they were first called to see the doctor. The mean consultation time was 9.6 (SD ± 4.5) minutes, ranging from 3 to 31 minutes. Most subjects (75.3%) were seen by their doctors within 10 minutes of entering the consulting room and nearly all (99.7%) were seen within 30 minutes of entering the consulting room (Table 5).

Table 4: Illness characteristics of subjects

Characteristics	Frequency	Percentage
Nature of illness		
Acute	269	76.4
Chronic	83	23.6
Diagnosis at presentation		
Non-infectious diseases		
Hypertension	31	8.8
Acute diarrhoeal disease	22	6.3
Pregnancy-related disorders	21	6.0
Dyspepsia	13	3.7
Arthropathies	12	3.4
Allergic diseases	10	2.8
Infectious diseases		
Malaria	126	35.8
ARI	65	18.4
Others	52	14.8

Table 5: The different waiting times

Time (minutes)	Frequency	Percentage
Waiting time		
≤ 30	52	14.8
31–60	85	24.2
61–120	169	48.0
> 120	46	13.0
Consultation time		
1–10	265	75.3
11–20	81	23.0
21–30	5	1.4
31–40	1	0.3

Discussion

The number of NHIS-registered subjects was approximately 87%, similar to the 83% of NHIS-registered respondents in a survey assessing the awareness of NHIS among health-care consumers in Ibadan, Oyo State, Nigeria.[2] This is, however, in contrast to the 24% found in another survey in Jos metropolis, Plateau state but this could be due to the lower proportion of government employees in the study.[12] The NHIS is still limited mainly to government employees in the country. The 31- to 40-year-old age group had the highest frequency of clinic attendance and was slightly different from the 41–50-year age group found in a retrospective study of the effect of NHIS on utilisation of health services at the university of Ilorin teaching hospital staff clinic, north-central Nigeria.[6] However, both age groups were among the working or productive age population. The clinic attendees in our study were predominantly females, similar to the Ilorin study. Some 63% of subjects in our study were dependants in variance with the 48% found in Ilorin.[6] This was, however, similar to the result from a study of the pattern of health service utilisation at a Ghanaian medical school clinic with free point-of-service care to students, staff and their dependants, where dependants (41%) were the highest attendees.[13] The relatively high level of awareness and proportion of scheme registrants in our study may explain our study result. The Ilorin study was conducted only two years after the commencement of the scheme in Nigeria when awareness and uptake were still low. Additionally, about 36% of our subjects had a family size of at least six members, which may have contributed to the proportion of our study dependants. Among our study subjects 63% were married, which is slightly lower than the results from the Ibadan survey[2] where 87% of respondents were married. This has the potential of predicting the health-care consumption pattern at the clinic. The 36% of subjects with family size ≥ 6 people found in our study was in variance with 63% (family size ≥ 5 people) found in Ibadan, though the cut-offs were slightly dissimilar.[2] The NHIS basic registration includes only six people, namely the principal (i.e. the hospital staff) and five dependants (a spouse, and four children). Extra dependants require additional registration to enjoy the services. Unregistered dependants have the potential to increase family out-of-pocket expenditure, thus negating the objective of the scheme. Further staff enlightenment on the scheme's population and benefit coverage may be necessary to optimise service utilisation and reduce the number of unregistered dependants.

Most of our study subjects (28%) attended the Monday clinic in contrast with the Tuesday clinic found in Ilorin.[6] Subjects' preference for Monday, amongst other personal reasons, could be due to the perceived sub-acute nature of weekend illnesses and the need to save transportation cost by reporting during the next working day when all laboratory services will also be available. The junior staff cadre (predominantly the hospital attendants) had the highest frequency (53%) of clinic attendance. This could be due to the established relationship between low socioeconomic status and disease and the consequent need for health care. In all, 55% of the subjects had utilised clinic services once to three times in the preceding 12 weeks reflecting their health-seeking behaviour and the strain on the clinic resources (health workers and equipment). Anecdotal evidence shows that most staff traditionally accompanied their dependants to the clinic. This has the potential to affect the availability of staff at their duty post when they or their dependants are sick. Further study on the level of

efficiency of the hospital attendants who are the predominant clinic users will be necessary.

The top three diagnoses made at the clinic were malaria (35.8%), acute respiratory infections (18.4%) and hypertension (8.8%). This was similar to study results from Ilorin, Nigeria [6] and Ghana.[13] This concurs with the emerging double-burden effect of communicable and non-communicable diseases in most developing countries.

The use of an excused-duty certificate in our study was limited. Only three subjects (0.9%) had used the excused-duty certificate in the preceding 12 weeks. This may be the result of rational use of the certificate by the clinic physicians. Previous experience at the clinic was that some staff would personally request the certificate, even when it was unnecessary. The recent use of senior and experienced doctors at the clinic could have mitigated the irrational use of the certificate, as they may not be easily influenced.

The Institute of Medicine has recognised prolonged clinic waiting time as a cause of patient dissatisfaction with health services and recommended that at least 90% of patients should be seen within 30 minutes of their scheduled appointment time.[14] Similarly the UK patient charter national standard has recommended 30 minutes as an ideal waiting time.[15,16] In Nigeria, 78% of respondents in a study assessing waiting time in outpatient clinics at a tertiary hospital in Sokoto believed that the waiting time before commencement of consultation should not exceed 30 minutes.[17] The mean waiting time in our study was as high as 77 minutes and ranged from 2 minutes to 4 hours. Though there was no existing patient waiting time standard or appointment system at the clinic, only about 15% of subjects waited for 30 minutes or less before commencing consultation. Similarly, patient satisfaction was not measured by our study but it is well established that prolonged waiting time causes dissatisfaction among health-care consumers.[14,18,19] Dissatisfaction is probably related to the opportunity cost of such delays and the associated frustration. The dismal performance of the clinic in the area of patient waiting time has the potential to affect the continued patronage of the clinic by users since NHIS enrollees have the liberty of choosing another primary care provider if dissatisfied with the services. However, the choice of another provider is associated with limited provider options since index clinic preference may have been based on proximity to place of residence and/or perceived service quality. Additionally, swapping provider may be delayed by administrative bottlenecks at the level of the national health insurance scheme and the health maintenance organisations. These factors negate the objectives of the scheme, which seeks to improve access to quality health care services by enrollees.[3]

The mean consultation time for our study subjects was 9.5 minutes, in contrast with the 14 minutes found by Adamu and Oche in Sokoto, Nigeria.[19] Our study result was, however, congruent with the Servicom Charter of the hospital, which recommends an average of 10 minutes in the outpatient clinic. About 75% and 99% of subjects were seen by their doctors within 10 and 30 minutes, respectively, of entering the consulting room. This was similar to results reported by Umar *et al*. where 96% of respondents spent less than 30 minutes with their doctor in Sokoto.[17]

Some studies have attributed prolonged waiting time to imbalance in patient–healthcare worker ratio in many developing countries where few doctors attend to an overwhelming number of patients.[17,20] Hospital records showed an annual staff clinic attendance of 3 498 and 14 879 in 2004 and 2011 respectively, reflecting a seven-year increase of over 300% since the insurance scheme commenced in 2005. This trend is likely to continue, considering the increasing awareness of the scheme and government efforts towards universal coverage. The consequence would be a worsening of the existing patient–health worker ratio if there is no intervention.

The registration time is another potential cause of delay, considering that two or three record staff were expected to attend to over 250 enrollees daily (50 from the staff clinic and over 200 among the other NHIS patients). Unfortunately the registration time was not assessed by our study. This could have informed the construction of a new NHIS complex in the hospital with improved space and facilities. It will remain to be seen how the management will deal with staff strength in view of the embargo on employment by the federal government at this time.

Conclusion

High utilisation, acute infectious disease burden and prolonged waiting time were challenges besetting the clinic and clinic users. With the anticipated increase in the number of NHIS-registered clinic enrollees as more staff and their families are registered or as government expands population coverage of the scheme, a proper appraisal of the causes of prolonged waiting time is necessary. The separation of the staff clinic from the general NHIS clinic along with its supporting staff, use of an appointment system and electronic health records may offer improvements in the waiting time.

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