

Access and Utilization of Healthcare Services at the University of Jos Health Centre Jos, Plateau State, Nigeria

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Abstract

Background: The provision of quality health care services by educational institutions is critical in achieving their primary purpose of producing critical minds. However, published information about the provision and utilization of services at the University of Jos Health Centre since its inception is lacking. This study assessed access and patterns of utilization of services and interventions at the University of Jos Health Centre. The findings should inform better organization and delivery of health care services in the institution.

Methods: The study adopted a retrospective cross-sectional design, collecting data of all clients from the medical register of the University of Jos Health Centre from January 2018 to December 2019. Information related to some demographic characteristics, position in the university and diagnosis were extracted and analysed using Epi Info software version 3.5.4.

Results: A total of 9,270 clients attended the Health Centre during the period reviewed: males made up 4885 (52.7%) of users, while female utilization was 4385 (47.3%). The average age of patients attending the Health Centre was 29.7 ± 15.2 years, with a range of 1-75 years. Students constituted the major group (63%) of patients seen at the Health Centre, followed by staff, staff dependents and non-university users. Malaria was the commonest condition seen, followed by respiratory tract infections, peptic ulcer diseases, hypertension and diabetes mellitus.

Conclusion: Communicable and non-communicable diseases are the main causes of service utilization, though the former is dominant. Therefore, integrated health care planning and delivery is recommended, with greater emphasis on cost-effective preventive and promotive interventions.

Key words: Access, Patterns of Utilization, Health care services, University of Jos

Introduction

Access to safe and effective health care is central to morbidity and mortality reduction and improving productivity of individuals, communities and societies.¹

Therefore, organizations, institutions and governments the world over strive to provide health services for their people through delivery systems such as in-house clinics, primary health care centres or

clinics, secondary and tertiary level facilities. Despite these efforts, insufficient access to services has remained a major barrier to the utilization of public health care systems in much of low and middle income countries, attributable to inherent health systems weaknesses and inappropriately aligned health care policies.^{2,3}

Access in health care is understood differently across disciplinary fields, amplified by frequent transformations in the social, demographic, geographic and technological landscape of health care delivery, which often necessitates shifts in focus from one dimension of access to another.^{2,4} Thus, access has variously been defined as the ability to reach a health facility, afford entrance to services, and overcome production and consumption related barriers to obtaining health care; or the utilization and satisfaction with health care services.^{5,6} Recently, Levesque and colleagues have thought of access as the opportunity to identify health care needs, reach and obtain, or use health services and to have the need for services satisfied.⁷

Health services utilization reflects a continuum that embeds measures such as the quantity of health care services used, the volume of services delivered, or the number of clients served. Utilization can also be expressed in terms of percentage occupancy or attendance at a health facility.⁸ Health service uptake is a term that is often used interchangeably with health services utilization and reflects how much of a service is used.^{9,10} Another related, but distinct idea is health service coverage, which measures the actual proportion of people who receive a specific service or intervention out of a defined eligible population. Utilization of health services is influenced by a number of factors, which include the need for care, awareness of the need for care, desire to obtain care, and accessibility of care, but

health status and the need for health care services are the most important determinants.¹¹ These factors can further be categorised as consumer related or health system based influences. End-user determinants include location of households, willingness and the ability to pay for services, indirect cost of seeking care, beliefs, attitudes and perceptions about the health system. Other consumer levers include prevalent socio-cultural norms and religious beliefs.^{11,12} Health system predictors of service uptake relate to service location, health worker attitudes, management and staff skills and efficiency. Also in this class are availability of drugs and other consumables, direct cost of services, billing and payment systems, timeliness and convenience of services.^{11,13} Notwithstanding functional terms, they may mutually reinforce each other. For example, where consumers are poorly informed about payment options, imposition of informal payments by health workers may result.

High levels of health care service utilization has been closely linked to improved health outcomes and enhanced productivity, especially intellectual, emotional and physical development.^{14,15} Therefore, the provision of quality health care services in educational institutions is crucially important in achieving their primary purpose of producing critical minds. Where these essential health services are available and accessible, monitoring of patterns of utilization on a regular basis is important for design and process improvement in order to attain optimal consumer satisfaction and sustained uptake of services and interventions.¹⁶ Despite the central role of knowledge generation through monitoring and evaluation of health care delivery systems, there is a lack of studies on utilization of health care services at several Nigerian universities, including the

University of Jos since its inception in 1976. This study examined the patterns of utilization of health services at the University of Jos Health Centre, with the intent that insights gained would be helpful in improving planning, organization and delivery of health care services by the health services management of the institution.

Methods

The study adopted a retrospective cross-sectional design, undertaken at the University of Jos Health Centre. The clinic was established in 1976, primarily to serve as a comprehensive health care facility to provide secondary level care, mainly for staff and students of the institution. It is a 17 bed facility, staffed by 7 general duty doctors, 4 family medicine specialists and a part time ophthalmic consultant working with 36 nurses. The Centre provides general out-patient department services (GOPD), antenatal care (but takes no deliveries), maternal and child health services (MCH) like immunization and disease control services. It also offers emergency services, undertakes minor day surgeries and short period admissions. A functional pharmacy and laboratory units complement the health and medical units of the Centre, which is also a National Health Insurance Scheme (NHIS) accredited primary care provider. Students, university staff and their dependents and NHIS enrollees access services at this Centre free at the point of use. Currently, there are 36,239 students and 4,763 staff members of the University as potential users.

The study collected data on all clients on the medical register of the Centre from January, 2018 to December, 2019. Information related to demographic characteristics such as age and sex, and user status (whether student, staff, staff dependent or non-university user) were

extracted onto a proforma form. Further, user faculty and the nature of diagnosis made were also extracted. Age related data was categorized using a ten year class width to ease data handling. Extracted data was entered into Microsoft Excel 2007, cleaned and imported into Epi Info software version 3.5.4 for analysis. The main outcome measures analyzed were age and sex distributions of clinic users, proportion of clinic attendance by user status and by faculties and the distribution of types of diseases seen at the clinic. Simple descriptive statistics such as frequencies, percentages and proportions were used to present and interpret the study findings.

Ethical clearance for the study was granted by the Research Ethics Committee of the Jos University Teaching Hospital (JUTH). Information obtained from case files were kept confidential.

Results

A total of 9,270 clients visited the health facility during the period reviewed, giving a daily average attendance of 13 clients. Males made up 4885(52.7%) of users, while females were 4385(47.3%). The mean age of patients attending the Health Centre was 29.7 ± 15.2 years, with a range of 1-75 years. The highest users of services were consumers in the 21-30 year old class (46.8%), followed by the 11-20 year band (18.1%) and the least users were patients aged between 71-80 years (0.2%), Table 1. Further findings showed that students constituted the major group (63%) of patients seen at the Health Centre, while staff, staff dependents and non-university users accounted for 25%, 10% and 2% respectively. Figure 1.

Our data also revealed that among students, users from the Faculties of Natural Sciences, Arts and Education were the three topmost users of health services, while students in the Faculties of

Agriculture, Veterinary Science and Engineering utilized services the least, as depicted in Table 2. With respect to staff utilization, again clients from the Faculty of Natural Sciences visited the Health Centre the most, followed by staff of the Faculties of Education and Social Sciences in second and third places, respectively. Faculties with the least number of staff users of the Health Centre were Agriculture, Pharmaceutical Sciences and administrative staff. Table 3.

Malaria was by far the most common condition diagnosed at the Centre, accounting for 33% of cases seen. Other frequently presenting conditions were respiratory tract infections (15.1%), peptic ulcer disease (14.1%), hypertensive disorders (13.1%) and diabetes mellitus (12.5%), and together constituted the top five ailments seen. Communicable diseases accounted for 56.2% of cases, while non-communicable diseases made up about 43.8% (Table 4).

Table 1: Age and sex distribution of service users

Age groups (years)	Frequency	Percentage
1-10	380	4.1
11-20	1678	18.1
21-30	4338	46.8
31-40	936	10.1
41-50	788	8.5
51-60	816	8.8
61-70	315	3.4
71-80	19	0.2
Sex		
Male	4885	52.7
Female	4385	47.3
Total	9270	100

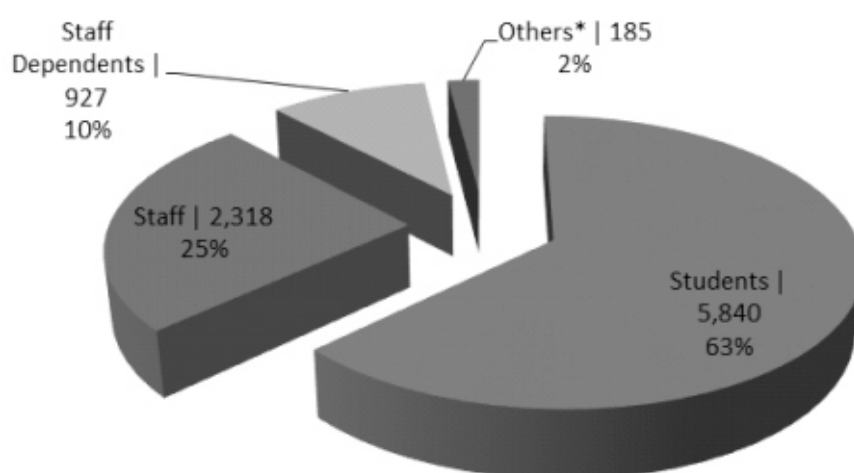


Figure 1: Categories of Health Centre users

Table 2: Distribution of students' utilization of Health Centre by faculties

Faculty	Frequency	Percentage (%)
Agricultural Sciences	139	1.5
Veterinary Sciences	158	1.7
Engineering	250	2.7
Pharmaceutical Sciences	297	3.2
Law	603	6.5
Management Sciences	723	7.8
Environmental Sciences	723	7.8
Coll. Health Sciences	853	9.2
Social Sciences	983	10.6
Education	1205	13.0
Arts	1288	13.9
Natural Sciences	2050	22.1
Total	9270	100

Table 3: Distribution of staff utilization of Health Centre by faculties

Faculty	Frequency	Percentage (%)
Agriculture	111	1.2
Pharmaceutical Sciences	315	3.4
Bursary	371	4.0
Environmental Sciences	491	5.3
Security	547	5.9
Engineering	575	6.2
Management Sciences	677	7.3
Arts	695	7.5
Law	779	8.4
Coll. Health Sciences	834	9.0
Social Sciences	918	9.9
Education	1205	13.0
Natural Sciences	1752	18.9
Total	9270	100

Table 4: Pattern of diseases treated at the Health Centre

Diagnosis	Nos. of Cases (n)	Percentage (%)
Malarial Fever	3059	33.0
Respiratory Tract Infections	1400	15.1
Peptic Ulcer disease	1307	14.1
Hypertensive disorders	1214	13.1
Diabetes	1159	12.5
Genitourinary infections	528	5.7
Typhoid fever	223	2.4
Others*	214	4.1
Total	9270	100

*Others represent wide and diverse entities such as musculoskeletal pains, dermatological conditions, gastroenteritis, trauma and injuries, and ophthalmic conditions, allergic disorders, chicken pox, uterine fibroids, psychosomatic disorders, keloids, asthma and antenatal care and pregnancy related disorders.

Discussion

There was a slight preponderance of male users compared to females, which conforms to the slightly greater number of males in Nigeria relative to females, as also found in the utilization pattern from south western part of the country.^{17,18} The highest users of services at the Health Centre were consumers in the category of 11-30 year olds. This is similar to the findings reported at the University of Ghana Staff clinic, where the highest rate of usage was demonstrated among the 15-44 year olds.¹⁹ This finding is consistent with the fact that the university being primarily a learning centre, is made up of mostly students in this age band, who make up 88.4% of the University of Jos population. This pattern was also reflected in the actual utilization of services during the period reviewed, as students constituted 63% of attendees at the Clinic, as similarly reported elsewhere.²⁰ Whilst the clinic is open to its immediate communities, their utilization of services was a mere 2%. The finding might have resulted from the socio-cultural and religious beliefs and practices of these communities, who are predominantly Muslims, and the limitation it places on free movement of women in particular.

Disaggregation of students' utilization revealed that the top three users are students from the Faculties of Natural Sciences, Arts and Education, while students from Faculties of Agricultural Sciences, Veterinary Sciences and Engineering Sciences were least users of

the facility. This finding may reflect the fact that the latter faculties only commenced operating a few years ago, and also have relatively small student populations relative to the long established faculties. Staff utilization also showed that the Faculties of Natural Sciences, Education and Social Sciences were the three most frequent service users, while Agricultural Sciences, Pharmaceutical Sciences and Environmental Sciences staff members used the Health Centre the least. Again, the high using faculties are long established ones.

The three most common disease conditions seen at the clinic were malaria, respiratory infections and peptic ulcer disease and aligns with the findings at universities in Ghana, Kano and Ekiti States of Nigeria.^{19,21,22} These patterns may derive from the fact that Jos is located in malaria endemic region,^{23,24} the cold weather of Jos predisposes residents to upper respiratory infections commonly and the academic stress may lead to the development of stress ulcers and dyspeptic symptoms amongst the mostly young students,^{25,26} who are the largest users of the Health Centre. The combination of malaria fever, respiratory infections, peptic ulcer diseases, hypertension and diabetes as the five most common ailments reported, aptly reflects the emerging double-burden of communicable and non-communicable diseases in developing countries.^{27,28,29}

The nominal nature of the data constrained the extent of statistical analysis undertaken and the secondary nature of data collected limited its robustness and the validity of the conclusions drawn from the study.

Conclusion

Students constitute the highest users of services at the University Health Centre. Whilst communicable diseases represented by malaria and respiratory tract infections were the dominant reasons

for health services utilization, non-communicable ailments such as peptic ulcer disease, hypertension and diabetes are also an important source of morbidity and service utilization. Therefore, appropriate health care planning and delivery approach should remain integrative, rooted in preventive and promotive cost-effective interventions, given that healthy life choices are at the base of health and well-being. The study further recommends research into user perceptions of health services delivery to better understand their needs and barriers to access and service utilization.

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