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Original Article

The effects of free drugs on utilization of health services in a rural community in North-western Nigerian

Gobir A.A*, Sambo M.N, Idris S.H

Department of Community Medicine, Ahmadu Bello University, Zaria, Nigeria.

*Corresponding author: aagobir@yahoo.co.uk

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ABSTRACT

Background: Lack of essential drugs is a major problem facing Primary Health Care (PHC) facilities in Nigeria. In an attempt to respond to this problem, the Millennium Development Goal (MDG) office in Abuja, Nigeria, distributed Essential Drugs and supplies to some PHC centers for free distribution to patients. **Aim:** This study aims to assess the effects of free drugs on utilization of health services and the types of drugs that were most dispensed during the free treatment exercise at Yakawada Comprehensive Health Centre (YCHC), Kaduna, Nigeria. **Methods:** A retrospective descriptive study conducted at YCHC. Free drugs were donated to the centre by MDG Office in Abuja. These were freely distributed to patients over a three month period, May to July 2010. Patient health records for the three months were obtained and compared with those obtained during the same period of the previous year of 2009. **Results:** A 59.8% increased utilization of the health centre during the three months period was recorded against the previous year. antimalarials, analgesics, antihelminthics and haematinics were the most dispensed drugs. Demands for some of the supplied essential drugs and supplies were very low due to low prevalence of the diseases or conditions they were meant for. **Conclusion:** Provision of free medications increased utilization of the centre's health services during which some categories of drugs were most dispensed. It is recommended that the most dispensed drugs in each L.G.A should be included among a 'free drug list' for the respective L.G.A.

Key words: Free drugs, provision, utilization, health services, rural, Nigeria

INTRODUCTION

Nigeria is the most populous nation in Africa with an estimated population of 168.8 million people.[1] Majority of Nigerians (70%) live in rural areas where their main source of health care is primary health care (PHC).[2,3] The PHC is provided at health centers and health posts and is managed by the Local Government Authority.[4] PHC provides various health services like immunization, health education, family planning and

treatment of communicable diseases and common illnesses among others. These services are provided by nurses, midwives, community health workers and doctors, where available.[3]

PHC has faced and is still facing several challenges which have resulted in its failure to provide health care for the rural poor.[3-5] Such challenges include lack of skilled staff, equipments and poor budgetary allocation.[3-5] Another problem is the lack of drugs in health facilities. In many PHC centers in the country, essential drugs remain out of stock, even where drug revolving fund schemes are being practiced.[4] In an attempt to respond to the problem of lack of essential drugs in the PHC facilities, the MDG office in Abuja, Nigeria, distributed large quantity of essential drugs and supplies to various PHC centers for free distribution to patients. The idea of free treatment in rural PHC centres is a good initiative because financial constraint is a major barrier to utilization of health care services in poor rural communities. The financial cost of seeking formal health care is often the major barrier to assessing health care in poor countries.[6]

In order to improve financial access to health care in Nigeria, the federal and state governments have introduced many policies and programmes which include inter alia; the National Health Insurance Scheme (NHIS), Deferral and Exemption Schemes, Free maternal and child care, and more recently free drug donation by the MDG office.[7-9]

Under the MDG free drugs interventions, drugs are distributed to the health centres for onward distribution to the needy patients. One of the health centres that benefited from this MDG free drugs programme was the Yakawada Comprehensive Health Centre, a rural health facility in Giwa Local Government Area of Kaduna State. Some of the drugs received by this health centre include antibiotics, antimalarials, antihelmintics, analgesics, intravenous fluids, surgicals among others.

This study was conducted with a view to determining the effect of the free-drugs on the utilization of health care by the clients, and to assess the types of drugs that were most utilized during the free treatment programme.

METHODOLOGY

Yakawada is a village in Giwa Local Government area of Kaduna State. It has an estimated population of 25,000 inhabitants. Peasant farming is the predominant occupation among its Hausa residents. The main health facility in the village is Yakawada Comprehensive Health Centre (YCHC), which was established more than 25 years ago, offering both preventive and curative services. It has three units: the General Outpatient Department (GOPD), Antenatal Clinic (ANC) and a Child Welfare Clinic (CWC). These units provide out-patient services, with no in-patient facilities. The centre has a total twenty seven staff, comprising medical doctors, nurses, laboratory technicians, administrative staff, attendants and security personnel.[10-11] It is managed by the Department of Community Medicine of Ahmadu Bello University Teaching Hospital, Zaria. However, it receives free vaccines from Giwa Local Government Authority. The centre operates a drug revolving fund. The nearest referral centre to the centre is Giwa General Hospital, in Giwa town.

The study is essentially a review of records on service utilization both pre- and post donation of free drugs by MDG office. The drugs were given to clients from the catchment community of the centre over a period of three months May to July 2010. The drugs were for both adults and children. Out- patient health records for General Out-Patient Department (GOPD), Antenatal care (ANC) clinic and Child Welfare Clinic (CWC) for the months of May to July 2010 were obtained.[10] These were then compared with those obtained during the same period in the previous year 2009.[12] Approval was obtained from the Department of Community Medicine, Ahmadu Bello University Teaching Hospital, Zaria.

Statistical analysis

The survey data were analyzed using SPSS software (version 17.0). Test of significance was done using Paired t-Test. A paired t-test measures whether means from a within-subjects test group vary over 2 test

conditions. The paired t-test is commonly used to compare a sample group's scores before and after an intervention[13]. In this case, the "subjects" are the GOPD, ANC Clinic and CWC Clinic and their patient values (scores) were compared before and after the free drug intervention.

RESULTS

The result shows that during the three month period of free medication, significant patient attendance was recorded in the centre. Increase utilization of hospital services at the GOPD, ANC clinic and CWC was recorded for the months of May, June, July of the year 2010 compared to same period of year 2009.

A total of 628 patients were seen at the GOPD, over the said three month period in year 2009. This increased by 8% in 2010 (t = -4.6282, p= 0.0000, df = 106). On a similar note attendance at the antenatal clinic increased by 23.6% in 2010 (from 1137 to 1841, t = - 2.1673, *p* =0.0001, df = 421), while at the child welfare clinic, it increased by 28.2% (from 874 to 1559, t = - 2.8638, *p*= 0.0146, df =463). A 59.8% increase in utilization of the health centre during the three months period was recorded against the previous year (table 1).

Table1: A three month patient attendance at the General Outpatient Department, Antenatal Clinic and Child Welfare Clinic of Yakawada Comprehensive Health Centre for year 2009 and 2010

Clinic/Month	No. of patients In year 2009	No. of patients In year 2010	Percent Increase (%)	*t*
GOPD				
May	220 (35.1%)	211 (28.6%)		
June	198 (31.5%)	256 (34.7%)		
July	210 (33.4%)	271 (36.7%)		
Sub-Total	**628**	**738**	8	-4.6282
ANC Clinic				
May	389 (34.2%)	614 (33.4%)		
June	396 (34.8%)	573 (31.1%)		
July	352 (31.0%)	654 (35.5%)		
Sub-Total	**1137**	**1841**	23.6	- 2.1673
Child Welfare Clinic				
May	300 (34.2%)	503 (32.3%)		
June	278 (31.8%)	543 (34.8%)		
July	296 (34.0%)	513 (32.9%)		
Sub-Total	**874**	**1559**	28.2	- 2.8638
Grand Total	**2639**	**4138**	**59.8**	

GOPD= General Out-Patient Department: t = -4.6282, *p*= 0.0000, df = 106.
ANC= Antenatal Care Clinic : t = - 2.1673, *p* =0.0001, df = 421
CWC = Child Welfare Clinic : t = - 2.8638, *p*= 0.0146, df =463

Table 2: Proportion of donated drugs that were dispensed during free treatment programme

Drug description	Strength	Pack size	proportion used(%)
Choloramphenicol eye drop	0.5%	bottle	1
Co-trimoxazote Syrup	240mg/ml	50ml	10
Co-trimoxazole tablets	80mg400mg	100	6
Magnesium Trisilicate tablets	250mg/120mg	1000	2
Buscopan tablets	10mg	10 x10	3
Procaine Pennicillin injection	3M I.U	10 x10 vial	2
Pyrimethamine/Sulfadoxine	500/25mg	3	91
Ferrous Sulphate Tablets	200mg	1000	81
Paracetamol tablets	500mg	12x8	98
Metronidazole tablets	200mg	10x10	34
Amoxycyline capsules	250mg	10x10	46
Artesunate-Amodiaquine (paediatric)	50mg/153mg	12	96
Artesunate-Amodiaquine (adult)	100mg/270mg	12	84
Folic acid tablets	5mg	100	87

Table 3: Proportion of donated medical supplies that were utilized during the free treatment programme

Drug description	Strength	Pack size	Proportion used(%)
Iodine Solution	2.50%	25mls	1
Plaster	Roll	10	2
Mucus Extractor		1	
Normal Saline	0.9% w/v	500mls	1
Syringes (Disposable)	2ml	100	10
Syringes (Disposable)	5ml	100	13
I.V giving set	Normal size	1	2
Foley's Catheter	size 16	1	2
Gentian Violet	1%	600mls	1

Table 2 shows the proportion of supplied drugs that were dispensed during the three months free treatment program. The most dispensed drugs were paediatric antimalarials (96%), adult antimalarials (84%), analgesics (98%), haematinics/ antenatal drugs (>76%), and antihelmintics (83%). Drugs that were least dispensed include magnesium trisilicate (1%), hyoscine N. butyl bromide (0%), cotrimoxazole tablets (6%), and chloramphenicol eye drop (1%).

Table 3 shows the proportion of supplied medical supplies that were utilized during the free treatment programme. The table shows that proportion of the utilized medical supplies was less than 15%.

DISCUSSION

The increase in attendance at the various clinics (GOPD, ANC, CWC) during the three months of free medication in year 2010 compared to those of year 2009 is similar to the finding of Ansah *et al.* in Ghana, where introduction of free Primary Health Care services influenced health care utilization of households with a resultant increase in use of formal health care and a decrease in use of non-formal care.[14]

The duration of free health care appears to be directly related to the rate of utilization of health care services. That is, the longer the duration of free health care, the greater the rate of utilization. This point is demonstrated in Table 1, where attendance at the GOPD increased significantly with time, from 211 in May to 256 in June, and finally to 271 in July. This fact was also demonstrated to some extent at the ANC and CWC (table 1) and in Kenya where it was noted that attendance at Government health centres increased by 41% after 7 months of suspension of fee for

service in a government hospital.[15] The suspension further caused a notable movement of patients from the private sector to government health facilities.[15]

The vulnerable group of pregnant women and children utilized the free care more than other groups as evidenced by a high total attendance figure of 1841 for ANC and 1559 for the CWC compared to the relatively low figure of 738 for GOPD (table 1). This is similar to finding by Abdu *et al.* in Sudan in which exemption from user fees increased health services utilization (in a highly endemic malaria area) by a high risk group of pregnant women and children under 5 years.[16] It also improved treatment seeking behaviour and promoted early diagnosis. There was an increase in uptake of preventive services especially among pregnant women attending ANC clinic.

A 59.8% increased utilization of the centre was recorded against the previous year. This is quite significant and it is even higher than the 57% increased utilization of PHC centres recorded in Nepal after the introduction of free health care.[17]

The result lends credence to the fact that user fees are a barrier to utilization of health services by the poor. This is similar to findings of other studies.[18-21] Evidence from a broad range of developing countries including most parts of sub-saharan Africa indicates that user fees have rarely generated large amounts of revenue, are unlikely to have improved (and might even have worsened) allocative efficiency, and have too often disproportionately affected poor people.[22] In a country like Nigeria with a high rate of poverty, user fees cannot be implemented effectively.[19]

A large proportion of the supplied antimalarials were dispensed during the programme. The possible explanation for this is that malaria is an endemic disease in the country. A possible explanation for the high proportion of supplied analgesics that were dispensed is that farming is the predominant occupation in the community, and back pain is common among farmers.[23-24]

Anaemia is a common problem among children and pregnant in Nigeria and may explain the high proportion of supplied haematinics that were dispensed during the free treatment exercise.[25-26]

Helminthic infestations are also common in Nigeria and this might explain the high proportion of supplied anti-helminthics that were dispensed.[26] Anti-peptic ulcer drugs, chloramphenicol eye drops, and buscopan tablets were least utilized. The possible explanation for this is that PUD and eye infections are not common diseases in the community.

All the medical supplies that were supplied were poorly utilized despite the fact that they were free. The possible explanation for this is that injuries were not common occurrence in the rural community and so supplies like gentian violet, plaster and iodine tincture were not utilized. The possible explanation for low usage of mucus extractor is that in some rural northern Nigerian communities, home child birth is more proffered to delivery in health facilities.[27]

In conclusion, the results indicated that demand for some of the supplied essential drugs was very low due to low prevalence of the diseases or conditions they were meant for. Provision of free medications increased utilization of the centre's health services. The most dispensed drugs were antimalarials, analgesics, haematinics/antenatal drugs, and anti-helmintics. The results indicated that demands for some of the supplied essential drugs and supplies were very low due to low prevalence of the diseases or conditions they were meant for. It is recommended that within essential drugs and supplies, the most utilized ones for the treatment of some prevailing diseases and disorders in each L.G.A should be included among a 'free drug list' for the respective L.G.A.

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