

USE OF INJECTABLE ANTI-MALARIALS AMONG PATIENTS IN SELECTED HEALTH FACILITIES IN ILORIN, NIGERIA

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Irrational use of injectable antimalarial is commonplace in developing countries. This descriptive survey was conducted to determine the prevalence of injectable antimalarials use and factors related to this practice in selected health facilities in Ilorin, Nigeria. A total of 356 outpatients were interviewed in the selected health facilities and available clinical records checked. Awareness of both oral and injectable antimalarials was fairly high among the respondents. Injectable antimalarial was the most preferred form by the patients. Request for injectable antimalarial was significantly more among educated patients and those attending private clinics and health centers. Among respondents, 90.3% had ever used injectable antimalarial. Use of injectable antimalarial irrespective of clinical indications was common practice. Rational practices in the prescription of antimalarial and promotion of oral therapy need to be widely encouraged among health workers in developing countries. This will reduce the hazards associated with unnecessary injections and also reduce cost.

Key words: Injectable antimalarial, use, health facilities.

INTRODUCTION

Malaria is an endemic disease in Nigeria like other sub-Sahara African countries. It accounts for highest morbidity and mortality in most health facilities in Africa (1-4). Because of the high burden of malaria, use of antimalarials in homes and health facilities is very frequent. Antimalarial drugs are available in oral, injectable and rectal preparations. Oral and injectable preparations are more frequently used for treating patients.

Rational use of injectable antimalarials is however a concern particularly in developing countries in view of the implications of injections in this part of the world. This study examines the prevalence of use of injectable and oral antimalarials and factors responsible for this practice among patients seen in selected health facilities.

MATERIALS AND METHOD

This is a descriptive cross-sectional survey conducted in selected health facilities in Ilorin, Nigeria. The selected health facilities were the University of Ilorin Teaching Hospital, Children specialist hospital, Okelele health center and Temitope private clinic to represent the various health facilities available in Ilorin.

Proportionate random sampling was used to select 356 outpatients attending the selected health facilities. In the selected health facilities, systematic sampling was used to select respondents until the desired sample size in the facility was obtained. The selected patients were interviewed using semi-structured questionnaires designed to collect patients' demographic information, awareness, preference and use of antimalarials. Clinic records of the patients were examined where available to determine

probable reason for prescription of injectable antimalarial.

The data obtained was entered and analyzed with EPI-INFO version 6.04 computer software to produce frequency distribution and Chi-square analysis. Level of significance used was $p < 0.05$.

RESULT

A total of 356 patients were interviewed. One hundred (28.1%) were from

antimalarials and the awareness was also more with educated patients ($p < 0.05$).

About one-third (34.8%) reported ever requesting the doctor to prescribe injectable antimalarials for them. Request for injectable antimalarial was significantly higher among respondents with at least secondary education ($p < 0.05$). Preference for injectable antimalarial was least among

Table 1: Awareness of antimalarials

Factor	Awareness of antimalarial			Injectable antimalarial		
	Oral antimalarial		Total	Yes	No	Total
Sex	Yes	No	Total	Yes	No	Total
Female	162(83.1)	33(16.9)	195	140(86.5)	50(13.5)	190
Male	77(61.1)	49(38.9)	126	74(58.7)	52(41.3)	126
Total	239	82	321	214	102	316
	$X^2 = 19.36$ $p = 0.00001$			$X^2 = 7.73$ $p = 0.0054$		
Level of Education						
None	37(39.8)	56(60.2)	93	36(38.3)	58(61.7)	94
Primary	39(69.6)	17(30.4)	56	35(62.5)	21(37.5)	56
Secondary	47(85.5)	8(14.5)	55	39(76.5)	12(33.5)	51
Tertiary	128(93.4)	9(6.6)	137	115(86.5)	18(13.5)	133
Total	251	90	341	225	109	334
	$X^2 = 86.9$ $p < 0.0001$			$X^2 = 60.72$ $p < 0.0001$		

General Hospitals, 46 (12.9%) from Private clinics, 51 (14.3%) from Primary Health Centres and 159 (44.9%) from Teaching Hospital. More than half (56.4%) of them had primary education and 27.3% had no formal education. Sixty percent of those interviewed were females and 40% were males. Patients' age ranged from 1-75 years, and mean age was 26 ± 15.71 years.

About three-quarters (74.0%) of those interviewed were aware of oral antimalarials while about two-third (65.7%) of the patients were aware of injectable antimalarials. About half of the respondents preferred the injectable antimalarials, 29.6% preferred oral form, 23.9% were satisfied with either oral or injectable forms. Significantly higher proportion of females than males knew about oral and injectable

respondents seen in General Hospitals (22.0%) and highest among those seen at health centres (68.9%).

Also, preference for injectable antimalarial was higher among those seen in private clinics (60.0%) than those seen at Teaching Hospital (50.3%). However, request for injectable antimalarial was significantly higher ($p < 0.05$) among respondents interviewed at health centers (70.0%) and private clinics (85.6%) than those in Teaching Hospital (31.6%) and General Hospital (8.1%).

Among the respondents, only 5.4% had never had antimalarials prescribed for them and 4.7% had never used antimalarials. Most of the respondents (91.1%) had ever used oral antimalarials and 90.3% had ever been given injectable antimalarials. Sixty percent of those

interviewed currently suffer from malaria. Among them, equal proportion (45.7% each) had injectable and oral antimalarials prescribed and 8.7% did not know the form of antimalarial prescribed.

Table 2: Reason for prescribing injectable antimalarial

Reasons	No (%)
Perceived reason For injection (N=122)	
Acts faster	76 (62.3)
For treatment	32 (26.2)
Can not swallow	2 (1.6)
Vomiting	1 (0.8)
Others	7 (5.7)
Probable indication for Injectable (N=149)	
Vomiting	43 (28.9)
Severe Malaria	15 (10.1)
Itching from tabs	3 (2.0)
Difficulty in swallowing	4 (3.0)
Others	14 (9.4)
No reason	78 (52.3)

Almost two-third of those who gave perceived reasons why injectable antimalarial was prescribed, felt it was because it acts faster (Table 2). From the clinical records, the probable indication for prescribing injection was found in only 71(47.7%) out of 149 respondents. The educated respondents significantly prefer the use of injectable antimalarial than the non-educated or respondents with primary education, while those with no formal education were less likely to have preference for a particular form of antimalarial ($p < 0.05$). At least 80% of respondents across the various health facilities had ever had injectable antimalarial prescribed for them (Table 3).

Table 3: Factors related to type of antimalarials used

Factor	Antimalarial preference, request and use				
	Preferred form of antimalarials			Total	
	Both	Injectable	Oral		
Level of Education					
None	48(52.7)	23(25.3)	20(22.0)	91	$X^2 = 71.3$ $p < 0.0001$
Primary	13(25.5)	21(41.2)	17(33.3)	51	
Secondary	5(9.8)	26(51.0)	20(39.2)	51	
Tertiary	11(8.2)	81(60.4)	42(31.3)	134	
Total	63	151	99	327	
Facility type					
Gen. Hospital	45(49.4)	20(22.0)	26(28.6)	91	$X^2 = 64.3$ $p < 0.0001$
Private Clinic	6(13.3)	27(60.0)	12(26.7)	45	
Health Centre	4(8.9)	31(68.9)	10(22.2)	45	
Teaching Hosp	26(16.5)	79(50.3)	52(33.1)	157	
Total	67	157	100	338	
	Ever requested injectable antimalarials				
Level of education	Yes	No	Total		
None	21(22.6)	72(77.4)	93	$X^2 = 23.72$ $p < 0.0001$	
Primary	10(17.9)	46(82.1)	56		
Secondary	20(36.4)	35(63.6)	55		
Tertiary	66(47.8)	72(52.2)	138		
Total	117	225	342		
Sex					
Female	66(33.5)	131(66.5)	197	$X^2 = 0.11$ $p = 0.743$	
Male	40(31.7)	86(68.3)	126		
Total	106	217	323		
Facility type					
Gen. Hospital	8(8.1)	91(91.9)	99	$X^2 = 77.86$ $p < 0.0001$	
Private Clinic	30(65.2)	16(34.8)	46		
Health Centre	35(70.0)	15(30.0)	50		
Teaching Hosp	50(31.6)	108(78.4)	158		
Total	123	230	353		
	Ever used injectable antimalarials				
Facility type	Yes	No	Total		
Gen. Hospital	80(83.3)	16(16.7)	96	$X^2 = 17.3$ $p = 0.0006$	
Private Clinic	37(80.4)	9(19.6)	46		
Health Centre	46(93.9)	3(6.1)	49		
Teaching Hosp	152(96.2)	6(3.8)	158		
Total	315	34	349		

DISCUSSION

Awareness of oral and injectable antimalarials was fairly high in the study population. This is expected in view of endemic nature of malaria in Nigeria. Given the high risk to malaria attack in this country and the fact that more than 90% of the respondents had ever had oral and injectable antimalarial prescribed for them, awareness of antimalarials should be much higher than found in this study. The fact that some adults do not know about antimalarials may be related to poor communication between patients and health workers concerning their ailments (5).

Over a third of respondents specifically request for injectable antimalarial when they were to receive treatment for malaria and the practice was found to be more prevalent among educated patients and those seen in private clinics and health centers. It appeared that patients attending private clinics and health centers communicate more with health workers there and therefore feel free to request their choice of antimalarial. The educated patients have also been known to communicate more with the health care workers and are also more likely to make request for preferred choice (5).

The most preferred form of antimalarial by the respondents was injectable antimalarial and the main reason for this was the desire for fast action. In this study, among the respondents currently suffering from malaria, equal proportion of the patients were prescribed injectable and oral antimalarial, however very few were found to have clinical indications like severe malaria or vomiting for injectable antimalarial. Over 80% of the patients had

ever been prescribed injectable antimalarial. This suggests that prescribers tend to prescribe the form of antimalarial irrespective of clinical indication and probably to satisfy requests from their patients. Health workers do not rationalize the use of intramuscular injections (6). A study on the rationale for antimalarial prescription among prescribers in this setting is therefore desirable.

Frequent use of injectable antimalarial without clinical indications need to be discouraged in view of hazards related to injections particularly in developing countries (7-9). Intramuscular injection is a common reason for paralysis of the legs in African children. Although the practice of the use of the same needles for many patients has decreased, using the same syringe for many patients, with only rapid washing between, is still commonplace. Little attention to asepsis/antiseptis, lack of safety precautions and abuse of prescriptions also contribute to the transmission of diseases like hepatitis and HIV (6). The cost of using injectable antimalarials is certainly higher than with use of oral antimalarials. Cost consideration is also important in developing countries where affordability of health care by patients is relatively low (10, 11).

Rational practices in the prescription of antimalarials and promotion of oral therapy need to be widely encouraged among health workers in developing countries. This will reduce the hazards associated with unnecessary injections and also reduce cost. Patients understanding on the benefit of oral antimalarials use should also be promoted to reduce perceived benefits of injectable antimalarials and

ultimately reduce demand by patients for injectable antimalarials.

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