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## Procurement of Prescription Only Medicine (POM); Sources, Pattern and Appropriateness

Sunday Olajide Awofisayo, Nse Okon Eyen and Uwah Aniefiok Jimmy

**Sunday Olajide Awofisayo,  
and Uwah Aniefiok Jimmy**  
*Department of Clinical Pharmacy and  
Biopharmacy, Faculty of pharmacy,  
University of Uyo, Nigeria.*

**Nse Okon Eyen**  
*Laboratory Science Technology  
Department, Akwa Ibom State  
Polytechnic, Nigeria*

### ABSTRACT

The study aims at assessing the extent of the adoption of the proper medical order of procurement for use of prescription only medicines (POM) by duly implemented health care program originated by a physician or other healthcare practitioner from community pharmacy outfits in urban centers in Nigeria. Buyers at the points of purchase located at the three senatorial districts of Akwa Ibom state were intercepted and their buying status ascertained. The prescriptions presented were analyzed for the origin, type and nature of the paper, content, correctness and other required attribute of a proper prescription followed by administration of a structured questionnaire to probe into the origin of the prescription and purpose of need of the drugs. Buyers without prescriptions were interrogated to know the source of their knowledge of the requested drugs. A total of 568 prescriptions were considered. The prescriptions were defective in identification with respect to prescriber's name, signature and addresses of prescriber in the percentage frequency 73, 31 and 27. The bearer's names were omitted in 34% of the prescriptions. Prescriptions with ambiguity, illegibility, wrong spellings were 16%, 15% and 12% respectively. Non prescription buyers were 48.2% of total buyers. Analgesic and anti-infective were purchased in the order 37% and 23% respectively and were significantly higher in males than females ( $P < 0.05$ ). The indiscriminate request and order for POMs in urban centres may call for scrutiny before sales and appropriate legislation need be in place to check the disorder of inappropriate use of this class of medications.

**Key words:** Prescription Only Medicines, inappropriate request, prescriptions, legislation.

### INTRODUCTION

Prescription only medicines are medicines that by law are meant to be made available to users through a prescription. A prescription is a health care program implemented by a physician or other medical practitioner in the form of instructions that govern the plan of care for an individual patient (Bond & Bradley, 1996). The term prescription is used to mean an order to take certain medications which indicates that the prescriber takes responsibilities for the clinical care of the patient (Anonymous, 1994). However as medications have increasingly become pre-packaged manufactured products and medical practice more complex, the scope of prescription has been broadened to optimize the safety and efficacy of drug use. The legal implications of drugs include ensuring proper handling of medicines for the safety of the users. The safety and effectiveness of prescription drugs in the US is regulated by the Federal Prescription Drug Marketing Acts of 1987 while the Food and Drug Administration is charged with the implementation of this law (Thomas & Noyce, 1996). As a general rule over the counter (OTC) drugs are used to treat conditions not necessarily requiring care from a health care professional and have been proven to meet higher safety standards for self medication by patients.

**For Correspondence:**  
**Sunday Olajide Awofisayo**  
*Department of Clinical Pharmacy and  
Biopharmacy, Faculty of pharmacy,  
University of Uyo, Nigeria.  
Tel: +234 8037947338*

According to the Medicine Act 1968, in the UK, drugs are classified into three categories (McNamee, 1994). Prescription only medicines sold by a pharmacist if prescribed by a doctor, pharmacy medicines which may be sold by a pharmacist without prescription and general sales list medicines which may be sold in any shop without a prescription. The possession of POM without a prescription in UK is a serious offence (Anonymous, 1994).

The availability of POM by purchase for self medication could result in a number of advantages to varying degrees. Patients would have a greater choice of access to health-care both in the way it is delivered and at a time and place convenient to them. Most GP's may gain from having fewer consultations for minor illnesses and in turn have more time for more cost-effective interventions (WHO, 1985). The disadvantages however include possible adverse consequences of self medication which include misdiagnosis and misuse of drugs including increased risk of adverse reaction and drug interactions particularly in the elderly, pregnant women and children (WHO, 1997). For some antibacterial with indications for short term use in specific minor infections, the regulation has been changed from POM to OTC in the United States after careful risk-benefit assessment. Antibacterial like chloramphenicol, the flouroquinolone or aminoglycoside possess some toxicity risks when taken by self-medication for systemic use and the OTC status of these drugs when employed as topical agents in skin infections or conjunctivitis should not translate to their free usage (WHO, 2004 & 2006). This present work seeks to assess the pattern of procurement of POM in the study area.

## METHOD

The study area was divided into three senatorial districts namely Ikot Ekpene, Uyo and Eket. Three registered drug outlets were randomly selected in each of the districts.

Prescriptions presented at the points of purchases were analyzed for credibility by observing for presence of features such as prescribers' and patient's identification protocols, legibility, ambiguity, presentation and presence of POM. The class of the POM and the frequency of occurrence were noted. Buyers of POM by verbal request were recruited into a cross sectional survey with the administration of a structured questionnaire. The items in the first part focused on demographic questions such as age, sex, education and monthly income. The second part was designed to assess the participants' knowledge and lay belief on POM. Judgment on the excessiveness of wrong procurement was based on the ratio of non written purchase to written for classes of drugs requested and 3.0 was regarded as alarming.

The study was conducted between July to September 2010 (3 months). The inclusion criteria were nativity, residency in that study area and aged 20-80 years. The exclusion criterion was request for OTC drugs.

## Statistics

The data was collected by the principal researcher and two trained assistants while the analysis done using SPSS version 17.0

(SPSS, Inc, College Station, Texas). Frequencies, percentages and descriptive statistics were computed for the variables.

## RESULTS

535 and 505 out of 972 and 613 buyers with and without prescriptions approached respectively, agreed to participate in the study. Questionnaires were administered to buyers with prescription 13 were not returned and 7 could not be used out of those returned for a final sample of 515. The mean age and sex distribution are detailed in Table 1. When age was examined by educational level, the means were significantly different ( $P < 0.05$ ) with the educated being younger in the three districts.

**Table 1:** Demographics of prescription and non prescription buyers in the study area.

Parameters	Ikot N(167) <sup>a</sup>	Ekpene N(130) <sup>b</sup>	Uyo N(170) <sup>a</sup>	N(178) <sup>b</sup>	Eket N(168) <sup>a</sup>	N (171) <sup>b</sup>
Mean age	32±5.6	27± 6.4	43±5.8	31± 3.9	39±5.8	34± 7.9
<b>Sex status</b>						
Male	94 (56.3)			97(54.5)	79	87(50.9)
Female	73 (43.7)	51(39.2)	101(59.4)	81(45.5)	(47.0)	84(49.1)
<b>Marital status</b>		79(60.8)	69 (40.6)		89	
Married	48 (28.7)			92(51.7)	(53.0)	101(59.1)
Single	119(71.3)			86(48.3)		70(40.9)
<b>Educational level</b>		59(45.4)	63 (37.1)		72	
Informal	47 (28.0)	71(54.6)	107(62.9)		(42.9)	
Primary	36 (21.6)			49(27.5)	96	62(36.3)
		54(41.5)	69 (40.6)	37(20.8)	(57.1)	51(29.8)
		29(22.3)	34 (20.0)		57	
					(33.9)	
					37	
					(22.0)	
Secondary	67 (40.1)	45(34.6)	37 (21.8)	73(41.0)	25(14.9)	47(27.5)
<b>Tertiary</b>						
Employment status	17 (10.2)	2(1.5)	30 (17.6)	19(10.7)	49	11(6.4)
Self	55(32.9)	37(28.5)	62(36.5)	41(22.9)	(29.2)	
					63(37.5)	49(28.7)
Private	46 (27.5)	22(16.9)	35 (20.6)	54(30.2)	43	57(33.3)
					(25.6)	
Public	66 (39.5)	71(54.6)	73 (42.9)	84(46.9)	72	65(38.01)
					(42.9)	
<b>Monthly income</b>						
<N10,000	47(28.1)	31(23.8)	31(18.2)	57(31.8)	62(36.9)	39(22.8)
>N10,000	32 (19.2)	17(16.2)	65(38.2)	49(27.4)	39	56(32.7)
but					(23.2)	
<N40,000	54 (32.3)	32(24.6)	38(22.4)	60(33.5)		49(28.7)
>N40,000	34(20.4)	50(38.5)	36(21.2)	13(7.3)	36	27(15.8)
but					(21.4)	
<N100,000					31(18.5)	
>N100,000						

<sup>a</sup> and <sup>b</sup> represents prescription and non prescription buyers respectively.

## DISCUSSION

The educational background of the respondents in the study area is closely associated with the behavioral pattern observed as less than 15% of the respondents acquired tertiary education. Tertiary education is believed to be able to reform the mind to accept the medical order that POM portrays (Table 1) (INRUD, 1997). Exposure of POM through media/advert and possibly medical detailing excerpts to the public may be responsible for the widespread knowledge of drug to the buyers or "prescribers".

**Table 2:** The record of defects observed on presented prescriptions at the study outlets with n=3 in each senatorial district.

Features on prescription	Frequency of Ikot Ekpene n (3)	occurrence in Uyo n (3)	the districts Eket n (3)	Total
No prescriber's name	12.3 ± 5.8 <sup>a</sup>	25.1 ± 4.2 <sup>a</sup>	36.4 ± 4.2 <sup>a</sup>	73 <sup>b</sup>
No prescriber's sign	16.3 ± 8.1	12.3 ± 5.5	13.1 ± 5.2	41
No date	9.2 ± 6.7	12.3 ± 3.4	15.1 ± 2.1	36
No address	16.7 ± 4.7	9.1 ± 4.4	12.2 ± 1.4	37
No patient's name	10.3 ± 8.2	13.4 ± 5.2	11.4 ± 3.2	34
Illegible	5.2 ± 3.8	4.1 ± 2.2	6.3 ± 2.2	15
Ambiguities	3.3 ± 1.2	6.2 ± 2.2	9.1 ± 4.3	18
Wrong spellings	14.3 ± 2.1	23.1 ± 2.1	15.3 ± 3.1	52
Defaced / Inappropriate paper	17.5 ± 2.4	18.3 ± 3.2	24.0 ± 2.2	59
Total				

<sup>a</sup>The expressed values are mean occurrence of features ± SD for the three outlets in each district and multiple features present on a prescription.

<sup>b</sup>Summation of mean values expressed to the nearest whole number.

**Table 3:** Self confession of introducer to POM by prescription buyers.

Person who introduced buyers to the drug other than a doctor	Frequency of Ikot Ekpene n(3)	occurrence in Uyo n (3)	the districts Eket n (3)	Total <sup>b</sup>
Neighbour	5.2 ± 2.4 <sup>a</sup>	25.9 ± 5.8 <sup>a</sup>	21.9 ± 4.7 <sup>a</sup>	53
Friend	5.5 ± 2.3	17.1 ± 3.2	35.6 ± 5.9	58
Previous exposure	23.2 ± 4.5	29.2 ± 4.3	23.5 ± 3.9	76
Self	17.4 ± 7.5	22.3 ± 5.4	23.8 ± 5.4	64
Co worker	7.0 ± 2.3	12.3 ± 3.6	11.4 ± 3.6	31
Health worker	37.4 ± 3.7	23.8 ± 6.7	36.4 ± 2.8	98
Media/ adverts	15.4 ± 5.3	17.5 ± 6.8	18.4 ± 4.8	51
Others	32.4 ± 7.9	31.3 ± 6.3	46.4 ± 8.1	110
Total <sup>c</sup>	144	179	218	541

<sup>a</sup>The expressed values are mean occurrence of features ± SD for the three outlets in each district and multiple features present on a prescription.

<sup>b</sup>Summation of mean values expressed to the nearest whole number.

<sup>c</sup>Summation to the nearest whole number of unauthorized source of knowledge of POM/ 'prescribers' in the sub study/study areas

**Table 4:** Analysis of drugs requested with or without prescription.

Classes of drugs	Male purchases <sup>a</sup> Frequency (%) n(642)	Female purchases <sup>a</sup> Frequency (%) n(786)
Analgesics	1.52	1.52
Anti infective	1.63	1.22
Antihypertensive	2.76	2.69
Anticancer	0.17	7.0
Antidiabetics	1.77	0.71
Others	2.2	2.4

<sup>a</sup>Values are expressed as ratio of verbal to written request from buyers in the study area

Advertising and media conveyance of POM is illegal in developed countries but advertisement and sales of this class of drugs is seen in car packs, in motor cars and hawked on the streets - an indication of gross neglect of the prescription order for these classes of drugs (INRUD, 2004). Table 2 shows a characteristic pattern of loose or disordered approach to procurement of drugs as buyers purchase these drugs based on recommendations from neighbours, co-workers and such persons that typifies self-medication (WHO, 1994). It is not the character of managers of drug outlets to turn down POM requests emanating from such unapproved sources (WHO, 2002). Many GPs do not take microbiological specimens before prescribing drugs like antibacterial which still amounts to inappropriate use of POM as

the patients may feel that there is not much issues about their drugs. Adverts and some form of sales motivations have been thought to stimulate the writing of POM e.g. antibacterial to patients and this has led the patients in that direction when some symptoms similar to the earlier observation are experienced by self or a neighbor (WHO).

Analysis of the papers that bear the drugs also gave a clear indication of the regard that the 'prescribers' give to the drugs prescribed. Non-expert practice prescribing is rampant in the study area as most prescriptions bore no identification marks of both the prescriber and the recipients (WHO, 2004). Ambiguities and clear novice spelling mistakes were marks of the prescriptions encountered. This also represents an insufficient familiarity with the drug by the "prescriber" (Laing et al, 2001).

Analgesics were requested by both prescription and non prescription buyers, followed by anti-infective. Analgesics are broadly considered as over-the-counter (OTC) but some are regarded as POM. Values of ratio of non prescription request to prescription request in excess of 3.0 was preset and regarded in this study as alarming as observed with the anticancer drugs (Table 4). Prior exposure to these drugs by anyone is taken for license to 'prescribe' the same to a neighbour who is considered to have a similar sickness or symptom. Antihypertensive are prescribed by health care practitioner and with the intention of follow up on exhausting the initial medication. It is customary that the patients deflect and heads for the drug outfits to fill their supply regardless of the medical check-up that should precede drug taking. The reason for this may be that of cutting cost as hospital charges might be more than the drug outfit fees, if any. The managers of the drug outfits are however expected to have an idea of the laws governing the sales of the various classes of drugs in stock but lack of appropriate enforcement of legislation and drive for economic gains are seldom the reasons for the neglect (Jordan et al, 2001).

## CONCLUSION

Adequate legislation and enforcement is required for sanity to be maintained in the procurement, sale and use of POM. Educating the purchasers at the drug outlets by the dispensing pharmacists on the rationale for legislations and restrictions of certain classes of drugs will produce the paradigm shift to the direction in favour of rational drug use. Due considerations should be given to the validation of user-defined indications in contrast to the medically defined

## LIMITATION

Ascertaining the status of the "prescribers" for the written prescriptions was based on address or prescription which does not give an assurance of a medically qualified and authorized person.

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