

## The frequency of drug history documentation in an institutionalized tertiary care setting in Nigeria.

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**Abstract Purpose** The study set out to investigate the frequency of institutionalized patients' drug history documentation in a tertiary care setting in Nigeria and identify opportunities for intervention to improve documentation. **Method** A cross-sectional retrospective study was carried on June 1<sup>st</sup> to August 31<sup>st</sup> 2002 at a 900-bed tertiary care facility located in South Western Nigeria. Stratified random samples of 450 case notes of institutionalized patients who were admitted, discharged or who died at the study site was evaluated for comprehensiveness of drug history documentation with the aid of two pre-piloted data collection forms. **Result** Drug history documentation was done mainly by attending physicians in all 450 case notes studied (100%). Past use of prescription, over-the-counter and herbal drugs were documented in 33.3%, 12.9% and 6.9% of patients respectively. The dose, frequency and duration of use were documented in 6.4% and 8.4% while past side effects experienced were documented in only 1.6%. Allergy to drug(s), food and chemical(s) were documented in 1.4%, 1.8% and 0.8% respectively. Documentation of use of alcohol, cigarette and illicit drugs were done in 36.6%, 23.2% and 4.2% of patients. Patient adherence with drugs used in the past and source(s) of purchase of these drugs were documented in only 10.2% and 6.6% of patients respectively. **Conclusion** The documentation of institutionalized patients' drug history in Nigeria is currently not as detailed as it should be. A planned intervention is on going to identify factors responsible for the observed inadequacy and assess the impact of pharmacists' involvement on the quality of drug history documentation.

### INTRODUCTION

A detailed history of patients' drug use remains an essential component of a successful pharmacotherapeutic plan. Information obtained from detailed drug histories is the foundation of a carefully planned, patient-specific and optimized drug therapy. It provides an opportunity of understanding patients' knowledge of the role of drug therapy in the management of their disease(s), patients' drug adherence tendencies, the effectiveness of previous and current drug therapy, side effects / adverse drug reactions experienced, history of allergies and possible use of alcohol, cigarette and illicit drugs (1). The identification of drug-use related problems and drug-induced diseases as significant causes of hospital admission, increased length of stay and/or death underscores the diagnostic and therapeutic value of a complete and accurate drug history in optimizing patient care (2-8). The probable negative modifying effects, which may be life threatening, of previous drugs used on patients' current drug therapy and the usefulness of an accurate and complete drug history in conducting case-control studies, a key method used in post-marketing drug surveillance, also reinforce the importance of having patients' drug histories completely documented. (9-12).

Furthermore, a detailed drug history will uncover patients' source of drug purchase. This is especially important in Nigeria and other developing countries where the drug distribution system is unorganized and poorly regulated and both prescription and over-the-counter drugs are indiscriminately obtained without prescriptions and / or appropriate counseling by clinicians (13, 14). Hence, patients are exposed to counterfeit drugs sold in many illegal drug outlets with undocumented negative consequences on health outcomes (15, 16).

Literature search revealed dearth of published study in this area in Nigeria and indeed Africa. The objective of this study is therefore to investigate the frequency and

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adequacy of patients' drug history documentation in a tertiary care setting in Nigeria and identify opportunities for intervention to improve the quality of documentation.

## METHODS

The investigation was carried out between June 1<sup>st</sup> to August 31<sup>st</sup> 2003 at the University College Hospital, Ibadan. This is a 900-bed teaching hospital with medical residents located in Ibadan, South Western Nigeria and affiliated with the premier university in Nigeria, the University of Ibadan. It has 52 service and clinical departments, runs 75 consultative Outpatient clinics per week in 45 specialty and sub-specialty disciplines and has 125 medical Consultants and 49 pharmacists. Formal approval was obtained from the Hospital's Medical Advisory Committee before study commenced. Confidentiality in data handling was assured. A stratified random sample of 450 case notes of patients, who were admitted, discharged or who died at the Medical wards of the Hospital was made. This comprises of 50 randomly selected case notes in each of the nine medical units (Cardiology, Nephrology, Neurology, Respiratory, Dermatology, Endocrinology, Gastroenterology, Hematology, and Psychiatry). Data were extracted from the case notes with two pre-piloted data collection forms. The first form collected data such as patients' hospital number, age, gender, and diagnosis. The second form was a drug history evaluation instrument, which contained selected criteria that were assessed for clarity and comprehensiveness during pre-piloting to assure completeness of drug history data capture. Revised drafts were then pilot-tested on 45 randomly selected case notes at another tertiary care hospital in southwestern Nigeria. Modifications were based on results of the pilot test. The drug history documentation evaluation criteria were as follow:

- Documentation of past drug(s) used viz.: Prescription and Over-the-counter including dose, dosing frequency and duration of use.
- Side effects/ adverse effects documented.
- History of allergies to drug(s), food and chemical(s).
- History of social drug use: Alcohol, cigarette and illicit drug(s).
- Documentation of patient adherence tendencies with drugs used in the past.
- Documentation of sources of drug used in the past.

Furthermore, physicians' documentation of negative or "none" patients' responses for any of the drug history components was regarded as documentation while lack of documentation of patients' responses (positive or negative) was regarded as none documentation. Data analysis was carried out with descriptive statistics.

## RESULTS

450 case notes, representing 450 patients who were admitted, discharged or who died at the study site was reviewed. 55% were male while 44.8% were females, with mean ages 37.7 and 37.13 years respectively. The documentation of patients' drug history was handled by physicians in all 450 case notes studied (100%). The frequency of documentation of drug history is as shown in Table 1.

**Table 1: Frequency of drug history documentation among institutionalized patients in a tertiary care setting in Nigeria.**

Drug History Components	Documented (N=450)	
	n	%
Prescription Drugs	150	33.3
Over-the-counter Drugs	58	12.9
Local Herbs	31	6.9
Dose	29	6.4
Dosage frequency	29	6.4
Duration	38	8.4
Side effects	7	1.6
<u>Allergy</u>		
Drug(s)	6	1.4
Food	8	1.8
Chemical(s)	4	0.8
<u>Social habits</u>		
Alcohol	165	36.6
Cigarette	104	23.2
Illicit drug(s)	19	4.2
Adherence history	46	10.2
Source(s) of drug supply	30	6.6

Past use of prescription-only, over-the-counter and herbal drugs were documented in 33%, 12.9% and 6.9% respectively. The dose, dose frequency and duration of use were documented in only 6.4%, 6.4% and 8.4% of patients, while side effects experienced, prior to admission, was documented in only 1.6%. Allergies to drug(s), food and chemical(s) were documented in 1.4%, 1.8% and 0.8% respectively. Furthermore, documentation of history of social drug use (alcohol, cigarette and illicit drug(s)) were done in 36.6%, 23.2% and 4.2% respectively; while patients' adherence history was documented in 10.2% of study sample. Source(s) of supply of all drugs patients had used in the past was documented in only 6.6% of patients.

## DISCUSSION

This pilot exploratory study was conducted to have an overview of the frequency of documentation of drug history in a tertiary care setting in Nigeria. The institutionalized patients' setting was chosen because of the extensive documentation that takes place during interview by the admitting physician. This interview is usually to obtain all necessary information, which is used to guide diagnostic and patient management tasks. Stratified random sampling of case notes was done to ensure representativeness over the nine medical units and minimized skewness.

Our study showed that the documentation of institutionalized patients' drug history in Nigeria is not as detailed as it should be. This is consistent with finding of Truitt et al, 1982 (17), Lynne M.M & Myrella T.R, 1988 (18) and Dobrzanski et al, 2002 (19). The low level of documentation of patients' past use of prescription-only (33.3%) and over-the-counter drugs (22.9%) is incompatible with the unorganized and poorly regulated drug distribution situation in Nigeria; where both prescription-only and over-the-counter drugs are freely obtained without prescription (13-16). Our findings suggests that adequate attention is probably not being given to documenting this information which may not only be of diagnostic value but also useful in therapeutic management. The use of such information in identifying past use of inappropriate drugs for patient medical condition, diagnosing drug-induced diseases and preventing drug-drug interactions between previous and prospective drug prescriptions are well-documented (2-8, 20).

The documentation of past use of herbal drugs was done in only 6.9% of patients. However, studies have shown that herbal drug use is widespread among Nigerians (21, 22). This information could therefore be useful in detecting unusual reactions in patients due to possible herbal-orthodox drugs interaction and diagnosis of end organ damage due to use of herbal remedies (23). The documentation of the extent of co-administration of herbal with orthodox drugs will also provide a database for future research in this area.

The inadequacy of documentation of dose (6.4%), dose frequency (6.4%) and duration (8.4%) of past drugs used is a missed opportunity to uncover cases of overdosing, underdosing, wrong dosage frequency and duration of past drugs used as possible causes of therapeutic failure and/or underlying pathology; information which would have been useful in counseling patients on avoiding these pharmacotherapeutic pitfalls of the past.

The low level of documentation of side effects (1.6%) and allergies to drug (1.4%), food (1.8%) and chemicals (0.8%) experienced by patients also suggest inadequate monitoring and assessment of patients for possible adherence and/or life-threatening drug-related problems. Studies have shown that side effects are a major cause of poor adherence (24-26). This could lead to worsening of patients' disease/death and loss of faith in the capabilities of health care providers' and/or the health system. The detection of allergies to drugs, food or chemicals could also be a critical factor for survival or death of the patients; as allergies, especially to drugs, is a well-documented cause of morbidity and mortality [2, 4].

The relatively moderate documentation of alcohol use (36.6%) and cigarette smoking (23.2%) as shown by our study is probably related to the diagnostic value of this information in management of such conditions as cardiovascular, metabolic, respiratory and liver diseases. Positive history of chronic use of these agents is documented risk factors for these diseases (27). The apparent low level of documentation of possible use of illicit drugs (4.2%) is possibly related to the stigma associated with the use of illicit drugs in Nigeria and, indeed, other countries. This might have accounted for the observed level of documentation.

Adherence history was documented in only 10.2% of study sample. Adherence to medication regime is a critical factor for the achievement of positive patient outcome. This is, however, a product of intimate interaction with patients by the health care providers to educate and empower patients; such that the benefits of adhering and the risks inherent in non-adherence to drug regimen become apparent. The inadequate documentation of this information is therefore a missed opportunity to identify patients who will need this care-enhancing counseling.

The documentation of sources of previous drugs used was done in only 6.6% of patients despite the pervasiveness of illegal drug outlets in Nigeria, where counterfeit drugs abounds; a factor which ought to have sensitized clinicians to uncover sources of drugs used in the past by patients. It is also becoming apparent in Nigeria that the probable use of counterfeit drugs is a key factor responsible for the increasing failure of pharmacotherapy and/or death in wide range of diseases such as hypertension and related cardiovascular diseases and other endemic diseases (28, 29). Further study is however required to establish the degree of causality. The identification of sources of previous drugs used will help in identifying patients who need counseling on dangers inherent in buying drugs from illegal sources and in determining possible use of counterfeit drugs by patients as causes of failure of past drug therapy, unusual patients' response and/or "mysterious" death despite "adequacy" of drug therapy.

Finally, the probable factor(s) responsible for the insufficient documentation of patients' drug history by physicians is not readily apparent. Perhaps it is a consequence of combination of work pressure due to the large number of patients being attended to, insufficient manpower and perception of drug history documentation as an additional burden on physicians' work schedule. This is a focus of an on going study. There is however, a compelling need to improve the frequency and depth of drug history documentation in Nigeria. Several studies, mostly in developed countries have shown that the involvement of pharmacists with requisite clinical training and interviewing skills result in significant improvement in accuracy and comprehensiveness of drug history documentation (17, 30, 31, 32, 33, 34, 35, 36, 37 and 38). A prospective study, which is an important part of the corresponding author's doc-

toral project, is on going to confirm or refute the findings of these studies in a developing country such as Nigeria.

### STUDY LIMITATION

It was not possible to ascertain the extent to which lack of documentation of any of the drug history components is indicative of non-enquiry by physicians for such information from patients during clerking. It is possible that some patients' responses to physicians' enquiry, which were negative, or "no" responses were not considered necessary for recording. However it was observed that physicians documented all patients' responses ("yes" or "no") for other patient information, such as history of present illness, past medical history and family history extracted, during clerking.

In conclusion, the documentation of institutionalized patients' drug history in a tertiary care setting in Nigeria is not as detailed as it should be. A planned intervention is on going to identify factors responsible for the observed inadequacy and assess the impact of pharmacists' involvement on the quality of drug history documentation in Nigeria.

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