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Research Letter

Attitude of nurses and pharmacists on adverse drug reactions reporting in selected hospitals in Sokoto, Northwest Nigeria

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ABSTRACT

Objective: Objective of this study was to assess the attitude of nurses and pharmacists towards adverse drug reactions (ADRs) reporting.

Methods: The questionnaire was designed based on extended "Inman seven deadly sins." Two hundred and seventy-two respondents were selected by stratified sampling technique. The questionnaires were delivered to the respondents at their places of practice. The data generated were analyzed by Sigma XL Software Inc.

Findings: There was no statistically significant relationship between demographic profiles and reporting attitude except for qualification. On extended "Inman seven deadly sins" awareness of reporting protocol and nearby center for ADRs reporting were low 27.3 and 7.5%, respectively. However, respondents' score on components of attitude of ADRs reporting is generally encouraging. On comparative basis, no statistical significance exists between pharmacists and nurses.

Conclusion: The study showed that attitude of respondents towards ADRs reporting is good. However, there is a need for targeted health education intervention among these cadres of health-care professionals, especially on aspects of awareness of reporting protocol and reporting center.

Keywords: Adverse drug reactions; attitude; health-care professionals; Sokoto

INTRODUCTION

The World Health Organization defines adverse drug reaction (ADR) as "A response to a drug which is noxious and unintended, and which occurs at doses normally used in man for prophylaxis, diagnosis, therapy of disease, or for the modification of physiological function."[1]

ADR is one of the leading causes of iatrogenic diseases worldwide.[2] The cost due to ADRs was put to 4 billion dollars annually and accounted for up to 5% of hospital admissions, 28% of emergency department visits, and 5% of hospital deaths.[3] The reported prevalence of ADRs varies widely from one country to another.[4] In Nigeria, more males are prone to ADRs than females in pediatric settings, with a reported range of 54–64.7% for males and 34.3–46% for females.[5] Under-reporting of ADRs is a serious challenge in addressing the menace posed by ADRs globally. Inman identified seven reasons why health-care professionals do not report ADRs and are popularly called "Inman seven deadly sins."[6]

In Nigeria, active pharmacovigilance activity came into being in 2004 with establishment of National Pharmacovigilance Centre under the auspices of National Agency for the Food Drug Administration and Control. The study was aimed at assessing the

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attitudes of health-care providers toward spontaneous ADRs reporting within the study area.

METHODS

The study was descriptive, cross-sectional in design. The health-care services were provided by one teaching and four secondary levels hospitals with a host of primary health-care centers. The respondents comprised of all full and part time Nurses and Pharmacists in the public health facilities. The minimum sample size estimated was 272. The respondents were selected by stratified sampling techniques. Data collection was by self-administered validated questionnaire. A pilot survey to assess test–retest reliability was carried out in a government-run tertiary hospital. Permission to see the respondents was obtained from the respective heads of nursing and pharmacy units in the hospitals. A research assistant was recruited and trained from each of the health institution where the study was conducted. During data cleaning, out of the 272 questionnaires administered, 13 (4.8%) were not retrieved, whereas 10 (3.7%) were not filled completely. They were sorted out and excluded from analysis. Two hundred and forty-nine questionnaires were analyzed.

Sigmal XL version 7, (Prigg Meadow, Ashburton, Devon TQ13 7DF, UK) was used for estimation of proportions and comparison between the professional cadres. Binary logistic regression was subsequently used to model relationship between demographic and professional profiles versus overall scores of components of attitude. The statistical significance was considered at 95% confidence interval and α at 0.05.

RESULTS

Two hundred and forty-nine questionnaires were fully filled and returned representing a response rate of 91.5%. One hundred and fifty-one (60.6%) of respondents were males with male:female ratio of 1.5:1. The mean year of practice among the respondents was 10.7 ± 0.5 years. No statistically significant relationship was found between marital status, age, and gender on one hand and attitude on ADRs reporting on the other.

DISCUSSION

This study observed no statistically significant relationship between demographic characteristics and attitude toward voluntary ADRs reporting. However, respondents with additional qualifications tend to have higher scores on components of attitude evaluated [Table 1]. This may not be surprising and further strengthen the need to improve our curricular on pharmacoepidemiology at basic training. Active participation of nurses in the survey was heart-warming considering the fact that they were most of the time in the wards with patients and likely to detect acute ADRs early.

Inadequate awareness of reporting protocol observed in this study [Table 2] was worrisome and served as impediment even if the respondents were enthusiastic at voluntary reporting. This may not be peculiar as other studies also supported the finding.[7] This challenge can be addressed appropriately by targeted educational intervention as previously documented.[8]

The misconception for fear of litigation may dampen the morale of health professionals in reporting ADR. It was however reassuring that a good number of respondents interviewed felt that ADR reporting was a professional obligation. This may suggest that given suitable training and enlightenment the current low reporting rate of 6–10%[9] worldwide can be brought to the barest minimum.

This study has demonstrated the respondents' awareness of ADR reporting procedures and

Table 1: Influence of professional characteristics on adverse drug reactions reporting parameter estimates

Professional characteristic	SE	*P*	OR	Low 95% CI	High 95% CI
Qualification	0.321	<0.001	0.286	0.152	0.536
Years of experience	0.349	0.217	0.391	0.679	2.679

CI=Confidence interval, SE=Standard error, OR=Odds ratio

Table 2: Distribution of respondents in various components of attitude toward adverse drug reactions reporting

Component	Yes, *n* (%)	OR	95% CI
Perception on necessity of ADR monitoring committee in hospitals	232 (93.2)	13.65	8.380-22.23
Opinion on need to improve PHP teaching in medical schools	236 (94.8)	18.15	10.46-31.51
Awareness of ADR reporting protocol among respondents	68 (27.3)	0.376	0.285-0.496
Opinion on financial reward for reporting ADR	83 (33.3)	0.500	0.385-0.650
Perception that ADR reporting improves patients' safety	224 (89.9)	8.960	5.944-13.51
Supporting direct ADR reporting by patients/clients	93 (37.4)	0.596	0.462-0.770
Opinion that ADR reporting is a professional obligation	185 (74.3)	2.891	2.176-3.839
Concern on legal implication on ADR reporting	181 (72.7)	2.662	2.016-3.514
Awareness of any nearby reporting center	23 (7.5)	0.082	0.054-0.1244

CI=Confidence interval, ADR=Adverse drug reaction, PHP=Pharmacoepidemiology, OR=Odds ratio

reporting center were generally low, but the other aspects of the overall attitude were encouraging across board.

AUTHORS' CONTRIBUTION

Dr. M.T. Umar: Concept, design of the study, acquisition of data and drafting the manuscript. Prof. S.O. Bello: Concept and interpretation of data. Dr. A. Chika: Analysis and drafting. Prof. M.O. Oche: Critical review and analysis of data.

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Conflicts of interest
There are no conflicts of interest.

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