



Evaluation of Knowledge, Attitude and Practice About Adverse Drug Reaction Among Nurses in a Tertiary Care Hospital

Shamiya Sadiq, Veenakshi Bhagat, Haris Bukhari, Brij M. Gupta

Abstract

Background: Adverse drug reactions (ADRs) are one of the leading causes responsible for morbidity and mortality, thus adding to the cost of treatment and prolongation of hospital stay. Hence, detection of ADRs is often delayed due to lack of surplus knowledge among health care professionals especially nurses who play a key role in monitoring and reporting of ADRs. **Purpose:** To evaluate knowledge, attitude and practice about ADRs among nurses in a tertiary care hospital. **Material and Methods:** An observational study was conducted among nurses from different specialities of Govt. Medical College to evaluate their knowledge, attitude and practice about ADRs. A self-made questionnaire was randomly distributed among hundred nurses and the response were recorded accordingly. **Results:** It was found that all nurses had a fair knowledge about ADRs. The overall response rate seen in our study was 80%. Most of the nurses reported the ADRs to the treating physicians but not to the adverse drug reaction monitoring centre (ADRMC). Only 27.5% of nurses had reported an ADR inspite of having a strong belief that reporting is important for patient safety (97.5%). Majority of the nurses (93.75%) agreed on maintaining the confidentiality of the reporter. 77.5% of the nurses were not aware of ADR monitoring centre in their respective hospital and (87.5%) had never heard about National Pharmacovigilance Centre. **Conclusion:** It was concluded from our study that despite fair knowledge about ADRs among nurses, there is still a lot of work required in overcoming the barriers for proper monitoring and reporting of ADRs to appropriate authority.

Key Words

Adverse drug reaction, Nurses, Knowledge, Attitude, Practice

Introduction

Adverse drug reaction are negative consequences of drug therapy. The initiative of an international reporting system came in the wake of thalidomide tragedy in early 1960s (1). Nurses are considered to be the potential source of effectively reporting a possible Adverse Drug Reaction (ADR) as they closely monitor the patient thereby, helping in improving the existing practices. Nurses hold a unique position in monitoring the patients drug therapy and any drug related adverse effects since they

are the bedside care givers and the first ones to come in contact with the patient (1). Therefore, it is of utmost importance to involve and encourage them in a positive manner to contribute in ADR reporting.

According to WHO an ADR is defined as a response to a drug which is noxious and unintended and which occurs at doses normally used in man for prophylaxis, diagnosis and therapy of disease or for the modification

Department of Pharmacology, Government Medical College, Jammu, Jammu and Kashmir, India

Correspondence to: Dr. Shamiya Sadiq, Department of Pharmacology, Government Medical College, Jammu (J&K)

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of physiological functions (2). ADR is one of the leading causes of morbidity and mortality by causing prolonged length of hospital stay as most of the hospital-based admissions are due to them thus increasing the health care cost. It is estimated that around 2.9 - 5.6% of all hospital admissions are due to ADRs and about 35% of hospitalized patients experiences an ADR during their stay.

The worldwide incidence of ADRs varies from 0.2% - 41.3% while 28.9% being preventable (3,4). The detection of ADR is often delayed due to lack of knowledge and attitude of various health care professionals leading to a high degree of under reporting. Currently, it seems that reporting an ADR is not a part of routine professional practice. Detection and monitoring of ADR is for patient safety and is done by different methods like voluntary or spontaneous reporting as they are inexpensive and easy to operate (5).

The Pharmacovigilance Programme of India (PvPI) started Adverse Drug Reaction Monitoring Centre (ADRMC) in order to ensure patient safety, monitor other drug related problems and also to bring PV into practice (6). The main objective of PV being to identify the ADR and establish casualty and to take a prompt action (3). In hospital settings, opinions and attitudes of health care professionals especially nurses constitute an important and vital source of spontaneous ADR reporting which is the mainstay of Indian drug safety evaluation in post approval phase (7).

Therefore, the current study was undertaken to evaluate the knowledge, attitude and practice of nurses about ADR and practice of Pharmacovigilance which will definitely help to improve the overall health care system and effectively decreases the occurrence of ADRs.

Material and Methods

The present, observational, questionnaire-based study was conducted in Government Medical College (GMC), Jammu to evaluate the knowledge, attitude and practice regarding ADR among the nurses. The ethical permission was sought from IEC prior to the commencement of study. Nurses were selected randomly from different departments and were informed about the objectives of the study. The questionnaire was taken back the next day giving them sufficient time to fill up the forms.

Inclusion Criteria

Nurses who gave informed consent and duly filled

forms were included in the study.

Exclusion Criteria

Nurses who did not give the informed consent, who gave incompletely filled forms and those who did not return the forms were excluded from the study.

Study Questionnaire

A self-made questionnaire was developed in a vernacular language after detailed review of relevant literature covering basic questions on ADRs. Questionnaire designed comprised of 22 questions. It was administered randomly to 100 nurses and they were asked to mark their response. The responses obtained were recorded, tabulated and data was expressed in percentage.

Results

Out of 100 questionnaires distributed among nurses in the tertiary care hospital we received 80 of them duly filled. Therefore, the response rate was 80 %. Most of the nurses (35%) were in the age group of 31 to 40 yrs. and from the senior staff (70%) (Table 1).

In present study all the participants had knowledge regarding ADRs. Most of the nurses knew when (97.5%) and how (93.75%) to report an ADR. About 82.5% and 97.5% of the participants knew where to report and who can report an ADR respectively. 55% of the nurses did not know which ADR is to be reported and most of them were not aware of the ADRM centre in their hospital (77.5%) (Table 2).

As far as attitude was concerned all of respondents believed that reporting and keeping the records of the ADRs was important and their moral obligations. 93.75% of the nurses had an attitude that it was necessary to maintain the confidentiality of the reporter and 97.5% thought that it would benefit the patient (Table 3).

Table 1: Demographic Parameters (n=80)

Age	Below 30	21 (26.25%)
	31-40	28 (35%)
	41-50	18 (22.5%)
	Above 50	13 (16.25%)
Qualification	Senior staff nurse (GNM)	56 (70%)
	Junior staff nurse (FMPW)	24 (30%)
Departments	General medicine	36 (45%)
	Surgery	30 (37.5%)
	Orthopaedics	14 (17.5%)

Table 2: Knowledge About ADRs (n=80)

Questions	Yes N (%)	No N (%)
Do you know what an ADR is?	80 (100%)	0 (0%)
Do you know how to report ADR?	75 (93.75%)	5 (6.25%)
Do you know when to report ADR?	78 (97.5%)	2 (2.5%)
Do you know where to report ADR?	66 (82.5%)	14 (17.5%)
Do you know who can report ADR?	78 (97.5%)	2 (2.5%)
Do you have an ADR monitoring centre in your hospital?	18 (22.5%)	62 (77.5%)
Do you know which ADR is to be reported?	36 (45%)	44 (55%)

Table 3: Attitude About ADRs (n=80)

Questions	Yes N (%)	No N (%)
Do you feel is it important to report ADR?	80 (100%)	0 (0%)
Do you think reporting ADR is your moral duty?	80 (100%)	0 (0%)
Do you think that it is important to keep record of ADR?	80 (100%)	0 (0%)
Is it necessary to maintain confidentiality of the reporter?	75 (93.75%)	5 (6.25%)
Do you think reporting ADR would benefit the patient?	78 (97.5%)	2 (2.5%)

Table 4: Practice About ADRs (n=80)

Questions	Yes N (%)	No N (%)
Have you ever reported an ADR?	22 (27.5%)	58 (72.5%)
Have you ever visited an ADR reporting centre?	0 (0%)	80 (100%)
Have you ever seen any patient with ADR?	73 (91.25%)	7 (8.75%)
Have you ever on your own visited ward to look for ADR?	27 (33.75%)	53 (66.25%)
Have you ever been trained on how to report and ADR?	7 (8.75%)	73 (91.25%)
Have you ever participated/ attend any workshop/ presentation/ CME on ADRs?	2 (2.5%)	78 (97.5%)
Have you ever heard about national Pharmacovigilance centre?	10 (12.5%)	70 (87.5%)
Have you ever reported an ADR online?	0 (0%)	80 (100%)

Most of the nurses reported the ADRs to the treating physicians verbally but not to the adverse drug reaction monitoring centre (ADRMC). Only 27.5% of nurses had reported an ADR inspite of having a strong belief that reporting is important for patient safety (97.5%). None of them had even visited the ADRM centre of their institution. Majority of the nurses 66.25 % had never visited wards or OPDs to look for ADRs on their own and neither of them had even reported an ADR online or heard about the PV centre (87.5%). 91.25% nurses had never been trained on how to report an ADR and 97.5% had never attended any workshop/ CME related to ADRs (Table 4).

Discussion

Out of 100 KAP questionnaire circulated, only 93% nurses were involved in the survey. The overall response

rate of nurses in filling the form was 80%. Nurses plays a vital role in reporting of ADRs, as they are the bedside caregivers and also have a good knowledge of patients' health, symptoms, medicines and ADRs. Most of the times nurses are the source responsible in alerting the doctor on duty about the possible ADR. Our study was done to evaluate the Knowledge, Attitude and Practice of nurses about the ADRs as it is important to involve nurses and encourage them to contribute in ADR reporting. There are many studies done to evaluate the KAP of health care providers towards ADR reporting, but limited studies have been done among nurses to capture their knowledge about the same. This study is one of the few studies done among nurses regarding KAP on ADRs in our setup.

The present study was conducted in the tertiary care hospital among nurses from all the specialities which were



in the age group between 31 to 40 yrs. (35%) and from the senior staff (70%). All the nurses in our study had knowledge about ADRs, results of which are in concordance with observations made by other authors (8,9,10). Merely, having an idea about ADR is not enough, reporting is an important tool for monitoring, assessing, treating and preventing the effects related to it. 93.75% of the nurse in our study knew how to report an ADR while, several other studies have shown a lesser percentage of knowledge about reporting (11,12).

Majority of the nurses (82.5%) knew where and how (93.75%) to report an ADR, but their pattern of reporting was different as the ADRs were communicated verbally only to the treating physician and not to the appropriate authority which is similar to the observation made by De Angelis *et al.* (13) in their survey. Nurses thought that they were reporting an ADR while they were merely informing the physician about it. In contrast to our findings Vural *et al.* (12) observed an even distribution of ADR reporting to the proper authority like PV centre (35%), treating physician (30%) and (25%) quality manage unit. Hence, the knowledge regarding reporting of ADRs differs significantly and the findings in our study clearly depicts the confusion over where the ADR has to be reported, urging the need for proper training sessions on reporting protocols. 97.5% of the nurses had a fair knowledge about when and who can report an ADR while only 55% of the nurses did not know which ADR is to be reported. Again, it has to be impressed upon among various health care providers about the importance and proper management of ADR reporting.

The attitude of nurses seemed to show their commitment and positive attitude towards reporting of ADRs which was found to be acceptable. In our study all nurses had a strong belief that reporting of ADRs is of utmost importance, a moral responsibility on their part. Almost all nurses (93.75%) agreed that maintaining the confidentiality of the reporter is necessary thus preventing the fear of consequences after reporting, legal liability and shrinking away from filling up the formalities. Majority of the nurses (97.5%) believed that reporting of ADRs would be beneficial for the patients similar to the findings observed by Rehan *et al.* (14) and Singh *et al.* (15). This depicts the attitude level of nurses towards their professional responsibility.

The findings in our study showed that 27.5% of the nurses had reported an ADR while a higher percentage of reporting was seen by Rehan *et al.* (14) in their study. In spite of the belief that it is important to report an ADR,

a fair percentage of nurses practiced it. This may be because of lack of sensitization to the ADR reporting form and lack of knowledge about existing ADRM centre in our hospital as nobody amongst the said nurses had ever visited the centre or were aware of it. Only 33.75% of the nurses had visited wards on their own to look for ADRs, reason being, due to lack of incentives, consumption of time, limited awareness about importance of assessing, monitoring and preventing of ADRs which can add to morbidity and mortality.

Maximum percentage of the nurses in our study had neither been trained on reporting (91.25%) nor had ever attended any workshop or CME (97.5%) related to ADRs. Singh *et al.* (15) also emphasized in their survey that there is an urgent need to increase awareness about PV among young HCPs, and adequate interventions should be instituted to encourage PV practices. So, there should be continuous awareness programmes in every hospital to educate and train them regarding importance of proper ADR reporting. Strategies should be developed to improve knowledge about ADR reporting and Pharmacovigilance (PV) amongst health care providers especially nurses by including a chapter regarding ADRs and PV in their basic curriculum. There may be a misconception amongst nurses that reporting an ADR may offend the concerned doctor. This barrier should be removed by improving the knowledge that this is not going to harm their image. There is need to strengthen PV programme through continuous discussion and practical involvement of nurses who are in maximum contact with the patients during their hospital stay.

Conclusion

Therefore, we conclude from our study that despite fair knowledge about ADRs among nurses, there is still a lot of work required in overcoming the barriers for proper monitoring and reporting of ADRs to appropriate authority.

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Conflicts of Interest

There are no conflicts of interest.

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