

DOI: <http://dx.doi.org/10.18203/2319-2003.ijbcp20172753>**Original Research Article****Educational intervention to improve knowledge, attitude and practice of pharmacovigilance among nursing staff in tertiary care hospital****Sadhana Hingorani*, Chaitali Mehta, Paresh Gajera, S. K. Srivastava**

Department of Pharmacology,
Surat Municipal Institute of
Medical Education and
Research, Surat, Gujarat, India

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Dr. Sadhana Hingorani,
Email: sadhanakh01@
gmail.com

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ABSTRACT

Background: The present study was planned to assess the knowledge, attitude and practice among nursing staff and to evaluate the effect of educational intervention.

Methods: The questionnaire related with knowledge, attitude and practice (KAP) were given to nursing staff before and after the educational intervention in a tertiary care hospital. The data obtained were subjected to statistical analysis.

Results: The training given in different sessions has improved KAP among nursing staff. Ninety six percent of them responded correctly regarding who can report ADR as compared to pre training session (69%). Regarding pharmacovigilance as purpose of safe use of medicines was responded by 71% after training as compared to 54% before training. In questions related to PvPI, 94% of nursing staff responded correctly about the scale to be used for causality assessment in comparison to 79% before training. Majority of them were of opinion that only unknown and serious ADR should be reported whereas after training they answered that all the ADR should be reported. A significant improvement has been noticed in questions related to attitude and practice.

Conclusions: The educational intervention to improve KAP among nursing staff has resulted in significant improvement.

Keywords: Adverse drug reaction, Nursing staff, Pharmacovigilance

INTRODUCTION

One of the major reasons of morbidity and mortality all over the world is adverse drug reactions. Adverse drug reactions are encountered commonly in daily practice, most of which are preventable.^{1,2} WHO defines ADR as a response to a drug which is noxious, unintended and which occurs at doses normally used in man for the prophylaxis, diagnosis or therapy of disease or for the modification of physiological function. Pharmacovigilance is defined by WHO: "The science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other drug related problem."

Primary source of information for Pharmacovigilance is from spontaneous reporting by health care professional. Under reporting of ADRs is a major problem affecting the safety of patient. It is important to enhance the awareness and knowledge of the health care professionals in India to improve the reporting. Several studies have been conducted to evaluate the knowledge, attitude and practice (KAP) towards Pharmacovigilance among clinicians, pharmacist, nurses.³⁻⁸ Nursing staff is important health care professional to detect and reporting ADR particularly for hospitalized patient as they are in contact with patient and available round the clock. Thus the present study was planned among nursing staff as mentioned below:

- To assess the knowledge, attitude and practice among nursing staff.
 - a) To clarify problems regarding ADR reporting such as apprehension, legal issues, and lack of confidence etc.
 - b) To improve reporting of ADR by training nursing staff regarding ADR reporting and filling the ADR reporting form.

METHODS

This was a cross sectional, questionnaire based study which evaluated the KAP among nursing staff working in a tertiary care hospital.

Institutional Ethic Committee (IEC) clearance has been obtained. Total 55 nurses enrolled in this study. Training was arranged in four sessions. Questionnaires were prepared to assess the KAP of nursing staff which were designed and modified from previous studies.⁹ Questionnaire contain 25 questions out of which 15 questions were related to knowledge, 5 related to attitude and remaining 5 related to practice.

Initially pre KAP Questionnaire were given to all nurses and briefed about the purpose of the study. Then an educational training was given to them for a period of 2 hours. After this training session again post KAP Questionnaire were given to all the participants. Among 55 nurses 2 of them did not submitted post KAP Questionnaire so they were excluded from the study.

The result was analyzed question -wise. Each correct answer and positive response was given a score of 1 whereas negative response or wrong answer was given a score of 0. More than 1 answer was allowed in some questions.

The questions of attitude and practice were analyzed by applying paired t test and questions related to knowledge were analyzed by McNemars test and Chi square test.

RESULTS

Questions related to knowledge were analyzed question-wise

After training a significant improvement is seen in nursing staff regarding questions related to ADR reporting. Only 69% were aware about who can report ADR whereas after training 96% of them responded correctly.71% of them told that the most important purpose of pharmacovigilance is to identify safety of drugs as compared to 54% (before training).

Only few of them (3%) were aware regarding the programme under which blood component related ADR should be reported whereas after training 60% of them became aware.

Table 1: Questions related to ADR reporting.

Questions	Pre training (n=53)		Post training (n=53)	
Who can report ADR	37	69%	*51	96%
What is ADR reporting system in India	38	71%	*50	94%
Most important purpose of Pharmacovigilance is	29	54%	*38	71%
Rare ADR can be identified in which phase of clinical trial	16	30%	33	62%
Under which programme ADR due to blood component is reported	02	4%	*32	60%
Pharmacovigilance center at SMIMER, Surat is a ADR Monitoring Center	23	43%	42	79%

*P<0.05- significant (Chi square test) (difference between pre- and post training value)

Questions related to pharmacovigilance programme of India

Table 2: Questions related to pharmacovigilance programme of india.

Questions	Pre training (n=53)		Post training (n=53)	
Define ADR	18	33%	33	62%
Define Pharmacovigilance	14	26%	*25	47%
Which scale is used to establish causality of ADR	42	79%	*50	94%
Which is web based ICSR system for reporting ADR	04	7%	47	88%
Who co-ordinate Pharmacovigilance programme of India	08	15%	*19	35%
Which regulatory body is responsible for monitoring of ADR	08	15%	*29	54%
Which is regional Pharmacovigilance center in western region	02	3%	*30	56%
Where is International center of ADR monitoring located	01	2%	51	96%

*P<0.05- significant (Chi square test) (difference between pre- and post training value)

Ninety four percent of nursing staff responded correctly about which scale is used to establish causality of ADR as compared to 79% before training. Only 3% of them were aware regarding the location of Pharmacovigilance Centre in western region whereas after training 56% of them became aware. Only 2% of them were aware about International monitoring Centre before training whereas 96% were aware after training.

Opinion about which ADR to be reported

Before training majority of them were of opinion that only unknown and serious ADR should be reported whereas after training they were of opinion that known as well as nonserious ADR should also be reported. There was significant change in opinion regarding frequent, rare and spontaneous reporting of ADR.

Table 3: Opinion about which ADR should be reported.

Questions	Pre training		Post training	
Known	08	15%	42	79%
Unknown	27	50%	*40	75%
Serious	19	35%	28	52%
Nonserious	06	11%	26	49%
Frequent	08	15%	*12	22%
Rare	09	17%	*11	21%
Spontaneous	17	32%	*16	30%

*P <0.05 significant (Chi square test) (difference between pre and post training value)

Question related to attitude and practice

A significant improvement has been noticed in questions related to Attitude and Practice (Table 4).

Table 4: Comparing the mean score of attitude and practice before and after intervention.

Factor	Pre training	Post training
Attitude	1.92±0.78	*2.43±0.77
Practice	4.33±0.80	*4.54±0.72

*P<0.05- significant (paired 't' test) (difference between pre and post training value)

Factors which encourage them to report ADR

Seventy one percent of them told that only serious reactions to be reported as compared to 58% before training. 66% of them felt that reaction to a new drug to be reported as compared to 62%. 43% of them told unusual reaction to be reported as compared to 30%.

Factors which discourage them to report ADR

Most of the nursing staff was able to understand various reasons for non reporting of ADR after the training sessions (Table 6).

Table 5: Factors that may encourage reporting of ADR.

	Pre training		Post training	
Serious reaction	31	58%	*38	71%
Unusual reaction	16	30%	*23	43%
If the reaction to a new drug	33	62%	*35	66%
Certainly an ADR	18	33%	25	47%
If the reaction was well recognised for a particular drug	19	35%	*20	37%

*P<0.05- significant (Chi square test) (difference between pre and post training value)

Table 6: Factors that may discourage reporting of ADR.

	Pre training		Post training	
No remuneration for reporting	05	9%	10	*18%
Lack of time to report ADR	25	47%	36	68%
A single unreported case may not affect ADR database	08	15%	15	*28%
Difficult to decide whether ADR has occurred or not	23	43%	30	56%
Concern that report may be wrong	07	13%	16	*30%
Concern that reporting may create unnecessary problem	09	17%	21	*39%
Lack of confidence to discuss the ADR with other colleagues	06	11%	12	*22%

*P<0.05- significant (Chi square test) (difference between pre and post training value)

DISCUSSION

The present study was a question based study which assessed KAP of nursing staff towards ADR. After educational intervention, it shows that there was improvement of KAP towards pharmacovigilance. Most of the nursing staff were not aware about Pharmacovigilance Programme of India (PvPI) and its co-ordinating centre.

In our study, it shows that nursing staff had poor knowledge about ADR. Similar results were observed in other studies.¹⁰ Most of the nursing staff felt that the most common reason for reporting of ADR was improvement of patients safety. Other similar studies were conducted which compared KAP of doctors and nurses.⁹ Similar result was seen in other study conducted by Desai et al.³

In our study we included educational training to nurses which shows significant improvement in KAP. Similar study was conducted by Nazli Sencan which concluded that to create reporting culture CMEs are necessary for health care professionals.⁹

Another study conducted by Sunita Kumari at a tertiary care centre showed that there is lack of awareness among nurses and there is need for educational intervention to increase their knowledge and awareness and to incorporate the gained knowledge in practice.¹⁰

Nursing staff should be trained adequately because they are first person to come in contact in the in-patient department when ADR occurs. Training should be given to all nursing staff in tertiary care hospital. Continuous training sessions were arranged in our centre to train most of the nursing staff adequately. Apprehension regarding legal issues can only be solved by giving adequate training.

A metanalysis which concluded that there was enormous gap of KAP towards pharmacovigilance and ADR reporting, particularly pharmacovigilance practice in India. So there is urgent need for educational awareness.¹¹

Limitations

Limitation of our study was that we have taken 55 nursing staff in our study but this was a preliminary study. All nursing staff should be given training in future and it is recommended to include PvPI in teaching curriculum of nursing students.

CONCLUSION

The training given in different session has improved the knowledge, attitude and practice among nursing staff. After training, there was marked improvement in knowledge related questions like who can report ADR and how to fill ADR reporting form. Apprehensions regarding legal and other issues related with reporting of ADR have been alleviated/solved.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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