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KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) OF PHARMACOVIGILANCE AMONG UNDERGRADUATE MEDICAL STUDENTS IN A TERTIARY CARE TEACHING HOSPITAL OF KUMAON REGION, UTTARAKHAND

Pharmacology

Gupta A	Post-Graduate Resident, Department of Pharmacology, Government Medical College, Haldwani-263139.
Srivastava B*	Professor, Department of Pharmacology, Government Medical College, Haldwani-263139. *Corresponding Author
Bhardwaj R	Professor, Department of Pharmacology, Government Medical College, Haldwani-263139.
Khanchandani R	Assistant Professor, Department of Pharmacology, Government Medical College, Haldwani-263139.

ABSTRACT

Introduction: Pharmacovigilance program is responsible for conducting activities related to ADR monitoring. But it is encountering problem of underreporting. The medical students are the budding doctors who can play a major role in strengthening this program. Therefore, our study was carried out to assess and compare the KAP of MBBS students according to the year of study.

Materials and Methods: It was a questionnaire-based cross-sectional study. Questionnaire contained 21 questions to evaluate KAP of second, prefinal and final year MBBS students regarding pharmacovigilance.

Results: KAP scoring was average for knowledge, good for attitude and poor for practice. The mean score for knowledge was highest for final year students (7.01 ± 1.96) whereas attitude and practice score was highest for second year students (5.65 ± 0.64; 2.18 ± 0.95). There was a significant difference in mean score between three groups for practice.

Conclusion: Students lack adequate knowledge and practice but they have positive attitude towards pharmacovigilance.

KEYWORDS

ADR, KAP

INTRODUCTION

Pharmacological treatment is an integral part of medical management. Drug treatment has beneficial effects but it is not devoid of harmful effects such as side effects and adverse drug reactions (ADRs). Adverse drug reaction is defined by World Health Organization (WHO) as "a response to a drug that is noxious and unintended, and which occurs at doses normally used in man for prophylaxis, diagnosis or therapy of disease or for the modification of physiological function".[1] ADR is responsible for significant morbidity, mortality and escalating cost of treatment. [2] It is implicated for 0.2-24% of hospital admission.[3] WHO started Program for International Drug Monitoring in 1961 for promoting drug safety.[4] Later on, WHO started pharmacovigilance program at national level whose database is maintained at Uppsala, Sweden. India's pharmacovigilance program was started in July 2010 and since then is responsible for conducting activities related to ADR monitoring.[5] Spontaneous reporting of ADR is integral part of pharmacovigilance. But pharmacovigilance program is encountering problem of underreporting.[6] It was estimated that only 6-10% and <1% of all ADRs were reported globally and in India respectively.[7] This may be due to inadequate knowledge, attitude and practice of healthcare professionals.[8] So to strengthen pharmacovigilance program, culture of ADR reporting should be inculcated in the undergraduate medical students from the very beginning. Their proper training can bring about major change in reporting of ADRs and thus successful functioning of pharmacovigilance program. Limited studies have been performed assessing and comparing KAP of different batches of undergraduate medical students. No such study has been carried out in uttarakhand till date. Therefore, our study was conceptualized to evaluate and compare the knowledge, attitude and practices of undergraduate students towards pharmacovigilance according to the year of study.

MATERIALS AND METHODS

It was a cross-sectional questionnaire based study carried out on undergraduate medical students of Government medical college and Dr Susheela Tiwari Government Hospital, Haldwani. Two hundred seventeen students were recruited, out of which 70, 69 and 78 were from second, prefinal and final year respectively. Written informed consent was obtained. Structured pretested questionnaire contained 21 questions, of which 11, 6 and 4 questions are to check knowledge, attitude and practice respectively. [9] All the students were explained about purpose of the study and 30 minutes were given to fill the questionnaire. Scoring of each question was done with 1 for correct response and 0 for incorrect or unanswered response. Maximum possible score was 11, 6 and 4 for knowledge, attitude and practice respectively. Mean Score of <50%, 50-69%, and 70% or above was considered as poor, average, and good performance respectively. Data was entered in Microsoft Excel sheet and analyzed using SPSS version 21, Chi-square and ANOVA test $p < 0.05$ was considered significant.

RESULTS

TABLE 1: KAP OBJECTIVE QUESTIONNAIRE

1. Define ADR
2. Who can report ADR?
3. Is ADR reporting mandatory?
4. What is Pharmacovigilance?
5. Which method is commonly used for assessment of ADR?
6. PvPI stands for?
7. Where is National Pharmacovigilance Centre located in India?
8. Where Uppsala monitoring centre is located?
9. Which WHO online database available for reporting ADR?
10. Who has given guidelines for setting up Pharmacovigilance centre in India?
11. Do you know location of ADR reporting centre in Haldwani?
12. ADR reporting is useful or just waste of time?
13. Do you think ADR reporting benefit to both doctor and patient?
14. Should ADR reporting be taught in pharmacology practicals?
15. Do you think discussion on ADR during pharmacology practical has any relevance?
16. Do you think ADR form should be attached with every inpatient record file?
17. Do you think ADR collection box and toll free number displayed at clinical department and public places have any relevance?
18. Have you seen ADR form?
19. Have you seen a case of ADR during your ward posting?
20. Have you ever reported an ADR?
21. Have you ever visited an ADR monitoring centre in your region?
1-11: Knowledge question 12-17: Attitude question 18-21: Practice question

Students of all three years had good, average and poor knowledge score. Maximum students had average knowledge score (Figure 1).

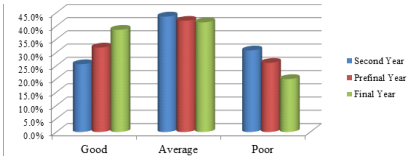

FIGURE 1: KNOWLEDGE SCORE OF ALL THREE BATCHES

Maximum students had good attitude score (Figure 2).

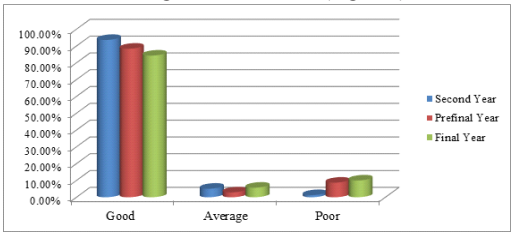

FIGURE 2: ATTITUDE SCORE OF ALL THREE BATCHES

Maximum students had poor practice score (Figure 3).

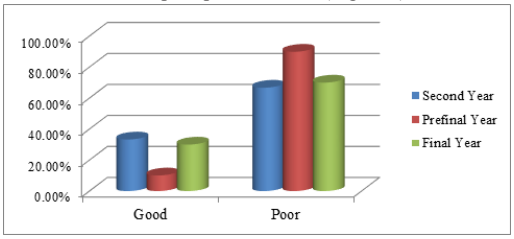

FIGURE 3: PRACTICE SCORE OF ALL THREE BATCHES

The mean score for knowledge was highest for final year students (7.01 ± 1.96) whereas mean score for attitude and practice (5.65 ± 0.64; 2.18 ± 0.95 respectively) was maximum for second year students (Table 2).

TABLE 2: COMPARISON OF MEAN SCORE OF ALL THREE BATCHES

Year of study	Second Year	Pre-final Year	Final Year	p - value
Knowledge (maxi score = 11)	6.37 ± 1.85	6.51 ± 1.63	7.01 ± 1.96	0.086
Attitude (maxi score = 6)	5.65 ± 0.64	5.46 ± 1.1	5.3 ± 1.15	0.094
Practice (maxi score = 4)	2.18 ± 0.95	1.57 ± 0.86	2.01 ± 1.31	0.002

DISCUSSION

Pharmacovigilance is an essential component of health care. It is the science related to detection, assessment, understanding and prevention of adverse effects or any other drug related problem.[10] The knowledge, attitude and practice regarding pharmacovigilance are essential for the successful functioning of pharmacovigilance program of WHO. Significant underreporting of ADRs exists due to lack of KAP regarding Pharmacovigilance. The MBBS undergraduates are the future doctors. Limited studies are present which assessed KAP of undergraduate medical students. So our study was conceptualized to assess the same. In the current study, KAP scoring was average for knowledge, good for attitude and poor for practice (Figure 1,2,3). Similar results were found by Meenakshi T et al but this was in contrast to Meher B R et al where KAP scoring of most students was average or poor.[11,12] We found mean score for knowledge to be highest for final year students whereas mean score for attitude and practice was highest for second year students (Table 2). There was a significant difference in mean score between three groups for practice. In Contrary, Gupta et al found that knowledge score was highest for second year students.[13] Overall, all three groups have inadequate knowledge which corroborates with findings of Vora MB et al.[2] Major reason for underreporting of ADR in Pharmacovigilance Program of India (PvPI) was lack of knowledge and practice which was also evident in our study (Figure 1,2,3 Table 2).[6] These drawbacks can be overcome by sensitization through educational interventions such as continuous medical education (CME), workshops and inclusion of pharmacovigilance activities in undergraduate teaching curriculum.

CONCLUSION

Students lack adequate knowledge and practice but they have positive attitude towards pharmacovigilance. Therefore, our study concludes that for successful functioning of pharmacovigilance program, undergraduate medical students should be targeted who are the future of health care delivery system.

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