

How to Cite:

Lyngkhai, A., Singh, P., & Khongthaw, J. L. (2022). Knowledge, attitude, and practice of pharmacists towards adverse drugs reaction in west Khasi Hills: A cross-sectional study among clinical pharmacists. *International Journal of Health Sciences*, 6(S3), 4404–4411. <https://doi.org/10.53730/ijhs.v6nS3.6822>

Knowledge, attitude, and practice of pharmacists towards adverse drugs reaction in west Khasi Hills: A cross-sectional study among clinical pharmacists

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Abstract---The purpose of the study is to identify assess and evaluate the adverse drug reactions experienced by the patients from the clinic, and to monitor the adverse drug reactions by spontaneous reporting. As we all know, an adverse drug reaction is an adverse event with a causal link to a drug and can lead to causes of morbidity and mortality. Clinical pharmacists can play an essential role in detecting and preventing as well as management of adverse drug reactions. In general, the patient satisfaction and attitude in West Khasi Hills are the sole subjects of the study as many of the villagers are not able to visit the clinics in town areas in which they depend mostly on the clinical pharmacies for their health care. The entire study was a plan to carry out for a period of months from November (2020) to April (2021). The study was conducted in a cross-sectional method study design. There are about 138 willing participants in the study, most of the pharmacists in West Khasi Hills have low (89.8%) Knowledge about Pharmacovigilance and adverse drug reaction reporting, it was found that about 79.6% of responders had experienced adverse drug reactions in their practice. Only about 75.2% of the pharmacist had gone for therapeutic monitoring of the drugs in which the patients had inquired. The study concluded that the clinical pharmacists should include adverse drug reactions in continuous knowledge, attitude, and practice of pharmacists to adverse drug reaction reporting. The clinical pharmacist can recommend the adverse drug reaction

reporting, to the physicians or pharmacy the role in adverse drug reactions.

Keywords---clinical pharmacists, adverse drug reactions, Meghalaya.

Introduction

Adverse event (AE): Any untoward medical occurrence that may present during treatment with a product but which does not necessarily have a causal relationship with this treatment. Adverse drug reaction (ADRs): any noxious change which is suspected to be due to a drug, occurs at doses normally used in man, requires treatment or decrease in dose, or indicates caution in the future use of the same drug therefore, an adverse drug reaction is an adverse event with causal to a link to a drug. Adverse drug reactions are one of the leading causes of morbidity and mortality. as the clinical pharmacist towards adverse drug reactions can play a significant in detecting, monitoring, and reporting adverse drug reactions with sound knowledge of drug therapy and disease management, they are the preferred group of professionals in ensuring drug and patient safety and is safe and risk-free, adverse drug reaction is threats to patient care and is known some prescriptions, And the drug to response variability from person to person is the major problem of the pharmacological treatment in clinical pharmacy, can be a therapeutic failure or adverse drug reaction in an individual or in clusters. Adverse drug reaction reporting by clinical pharmacists is a crucial part of the drug safety process. More importantly, it is the attitude of the clinical pharmacists toward adverse drug reaction reporting that makes the process more successful as pharmacists can play an essential role in the detection and prevention as well as management of adverse drug reactions. As the role of pharmacists is very important as we have wide knowledge about medication. clinical pharmacists check the prescription of physicians to make sure the rather right dose and duration, frequency in case of presence of any variance as we have to check the prescriber and make appropriate interventions about Clinical pharmacists investigate the patients' medical and medication history and check the medication and prescription and administration, errors and monitor adverse drug reactions for identifying the drug interactions, provide patient counseling and suggest a dosage regimen for each patient.

In the case of having an adverse reaction to the drug, the clinical pharmacists to the doctor and suggest another treatment that causes no adverse reaction to the patient, and the clinical adverse drug reactions pharmacists can do drug dilutions and dose calculations to monitor the dosage and for perform extemporaneous preparation. The drugs that can cause adverse drug reactions in adults to include antibiotic and cardiovascular, immunosuppressive, corticosteroids and anticoagulants, non-steroid anti-inflammatory drugs the drugs that cause adverse drug reactions in children are vaccines and anti-infective and the respiratory drugs on the common in the paediatric and geriatric populations as well. As the clinical pharmacists we to took the responsibility for adverse drug reactions to take care in the hospital and for the risk of various adverse drug reactions for the prescribed medication for the infants, children, newborns care and this could increase the risk of adverse drug reactions among

adverse drug reactions-related hospitals admission is much higher the adult population. Pharmacists can perform these activities in in-patient and out-patient both settings, while taking part in viewing charts for during work round and medication management while dealing with a prescribing. The role of the pharmacists in the health care system has tremendously evolved in the pharmaceutical care. A henceforth great achievement in the therapeutic outcomes and improvement in the disease management proper to consultation and fellow upon patient assessment can be made. The health care system in west Khasi hills is not so well standardized and is not organized with defined or qualified pharmacists, especially in the Nongstoin area. it remains as a usual practice. Unlike most of the pharmacies in the urban areas, the practices are not just patient centres rather than just a product centres. In general, patient's satisfaction and attitude to the clinical pharmacies are the sole subjects of the study as to many of the villagers is not able to visit hospitals in town areas in which they depend mostly on the clinical pharmacies for their health care.

Method

The sample size selected for the study is 136; it is a cross-sectional survey study hence the sample size was calculated using the formula of quantitative variety of cross-sectional study. The study was carried out for 4 months (November 2020-February 2021) in West Khasi Hills, Meghalaya, after the dates were collected, they were compiled and interpreted. Using Google Form format, the 10 self-administered questionnaires are distributed through various social media platforms to collect data from the respondents. The obtained data is to be analyzed statistically and will be reported. All registered Clinical pharmacists are included. Pharmacists who are not willing are excluded. Clinical Pharmacists involved in activities and providing services are excluded. The physically ill participated in a similar study previously.

Statistical analysis

Microsoft excel sheet and SPSS Software, Descriptive analysis of quantitative variables will be done by using mean, standard deviation, and student test.

Result

Demographics characteristics

A total of 10 questionnaires were distributed and out of the 138 patients subjects, only 134 responded with a response rate of 97.1% as shown in Table 1. The mean age of pharmacists was approximately 32 years with the majority in young adult age group patients observed 15-25 (68, 50.7%) other age group patients was 30-35 (35, 26.1%) from 40-45 age group patients observed (20, 14.9%) from this age group patients was lessened than of adverse drug reaction 50-55 (11, 8.2%). The Gender male was accounted for 54 (40%) and female was for 81 (60%) of the total patients. Most of the patients who speak both Khasi and English responded 118 (84.4%). The patients was lives in Nongstoin 71 (53%), Mawkyrwat 34 (25.4%), and Riango 29 (21.1%).

Table 1
Characteristics of the study respondents

AGE	N Of the responds (n=134)	PERCENTAGE (%)
15-25	68	50.7%
30-35	35	26.1%
40-45	20	14.9%
50-55	11	8.2%

Table 2
Clinical pharmacists' knowledge about ADRs

ADR knowledge related questions	Yes (n=134)	No
Are you aware of ADR reporting system in India	117(86%)	19(14%)
Have you ever reported an ADR	23(10.2%)	14(89.8%)

There were 2 questions assessing the knowledge of the pharmacists about Pharmacovigilance. The Results of the knowledge questions were depicted in Table 2. The number of patients aware of the adverse drug reaction reporting system in India was yes 117(86%) and patients aware of the ADR reporting system in India was no 19(14%). patients have ever reported an ADR was yes 23(10.2%) and patients have ever reported was no 14(89.8%). This was reported of evidence of adverse drug reaction reporting and have ever reported an adverse drug reaction was reported in this study on the patients from the clinic. The term Pharmacovigilance and less than half of the cohort neither aware of ADR reporting program nor about nearby adverse drug reactions reporting center. The mean knowledge scores of respondents were 1.46 (SD-0.87).

Table 3
The response of pharmacists to attitude related questions

ADR attitude related questions	Yes (n=134)	No
Does the patient report any adverse Drug reaction?	109 (79.6%)	20 (20.4%)
If 'yes' Did the pharmacists give any counseling or report to the Administrator.	101(74.3%)	35(25.7%)

Response to questions related to the attitudes of the pharmacists toward Pharmacovigilance was mentioned in Table 3. The majority of respondents had a good attitude towards adverse drug reactions of reporting and Pharmacovigilance and considered it as a valuable tool. All respondents were yes 109 (79.6%) expressed of the patients reported any adverse drug reaction. patients do report any adverse drug reactions were not 20(20.4%). The opinion is that ADR reporting

will be beneficial for the patients for the safe use of drugs in the future. 101(74.3%) pharmacists believed that adverse drug reaction reporting should be mandatory for practicing pharmacists and had reported to the health administrator. Responses to individual practice and activity of Pharmacovigilance were listed in Table 3. It was found that 79.6% of responders had an experience of adverse drug reactions in their practice and only single adverse drug reactions report was submitted to their working place. No was 35(25.7%)

Table 4 shows that 103(75.2%) of the pharmacist had gone for the therapeutic monitoring of the drugs in which the patients had enquired and have been monitored anxiously. No was 34(24.8%). The response of the pharmacists for did 'yes' Did the adverse drug reaction improve when the drug was discontinued or a specific antagonist is or was administered was reported yes 76(55.5%), No was reported 10(7.3%), Do not know was reported 51(37.2%). The response of the pharmacists was the adverse drug reaction confirmed by any objective evidence? Was yes reported 69(50.7%) No was 17(12.5%), Do not know was 50 (36.8%).

Table 4
The response of pharmacists to the practice of ADR-related questions

ADR related question	Yes (n=134)	No	Do not know
Did the pharmacist go for any therapeutic drug monitoring?	103(75.2%)	34(24.8%)	-----
If 'yes' Did the adverse drug reaction improve when the drug was discontinued or as specific an antagonist is or was	76(55.5%)	10(7.3%)	51(37.2%)
Was the adverse drug reaction confirmed by Any objectives evidence?	69(50.7%)	17(12.5%)	50(36.8%)

Table 5 Socio-demographic parameters like gender, qualification, and professional status affecting in the knowledge assessment score means SD was (13.5) P-value was reported 0.8 and The living in the knowledge assessment score mean SD was (18.7) P-value was reported 0.00001. The language in the knowledge assessment score means SD was (51.8) P-value 0.00001. The P-values were found to be significant to the reported Mean Values of the socio-demographic characteristics Association of Socio-demographic parameters and knowledge score among pharmacists.

Socio-demographic parameters (variable)	Knowledge assessment score Mean (SD)	P-value
Gender Male/ female	13.5	0.8
Living in Nongstoin		

Mawkyrwat		
Riangdo		
	18.7	0.00001
Language known		
Khasi		
English		
Both	51.8	
	0.00001	

Discussion

Unawareness about existing of adverse drug reactions reported in this study was observed. Adverse drug reaction among pharmacists was reported in west Khasi Hills Meghalaya. The patients living in the districts are mostly Khasi, the health system in west Khasi hills is not so well standardized and is not organized with well-defined, or qualified in especially in the Nongstoin area. It remains most of the pharmacists in the urban areas, as clinical pharmacists; we can see and identify the place or hospitals for these problems about adverse drug reactions and their risks to the patient life. The clinical pharmacist's study of duration, onset, frequency, therapy of patients, and drug medication, including Allergies and drug abuse, and also promoting for avoiding medication errors .AS a pharmacy we want to observe and study the role of a physicians and nurses etc. Most of the pharmacists expressed a positive attitude toward Pharmacovigilance and adverse drug reaction reporting as more than half of the participants agreed that adverse drug reaction reporting should be mandatory and considered it as a part of their professional role. Such a positive attitude towards adverse drug reaction reporting was expressed by pharmacists in other studies also Majority of pharmacists believed that adverse drug reaction reporting will be beneficial for the safe use of medicine and future prevention of occurrence of adverse drug reactions. Electronic media (online or by email) was the preferred method for reporting adverse drug reactions to reporting centers by participants. Clinical pharmacists can identify of the drug interaction and drug side effects. As a Clinical Pharmacists we can see and learned the laboratory monitoring for adverse drug reactions and understanding of the value and to compare with the normal value. As Pharmacists we can change to the lifestyle modification and Management of patients. Clinical Pharmacists, it checks about overall the adverse drug reactions and the age, gender, living in, and the side effect of age, gender, and pregnancy, etc. The main reason for underreporting is the lack of knowledge about whether there is a legal authority/center or an existing national program for adverse drug reaction reporting. A large number of study participants admitted that they did not know about how to report an adverse drug reaction and from where they could get the adverse drug reaction reporting forms. Most of

the pharmacists in the study neither had an educational session about Pharmacovigilance nor were trained about the adverse drug reaction reporting process. So, attention should be paid towards pharmacists to involve in the Pharmacovigilance activities. As clinical pharmacists studying among these adverse drug reactions, it's to improve, identifying the adverse drug reactions in the related knowledge, attitude, and practices in adverse drug reactions. It is useful to me to do with this research. Socio-demographic parameters (gender, qualification, professional status) did not affect the knowledge score of the respondents in this study.

Conclusion

As pharmacists, we have reported in this KAP study about adverse drug reactions by distributing the questionnaires among the clinical pharmacist in different areas of West Khasi Hills, Meghalaya. Through this study, we have observed that the pharmacist in this area has adequate and accurate knowledge and understanding of adverse drug reactions, and have an awareness of the reporting and monitoring system in adverse drug reaction cases.

Acknowledgement

We would like to thank our school of pharmaceutical sciences, VISTAS, for enabling us this opportunity to do the search study in ADR among clinical pharmacists in West Khasi Hills District, Meghalaya

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