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EXTENT OF KNOWLEDGE, ATTITUDE AND PRACTICES OF PHARMACIST TOWARDS ADVERSE DRUGREACTION REPORTING IN THE COMMUNITY PHARMACY SETTING

Gura C. J. P., Cruz A. M. B., Figura V. K. C., Hade H. R. V., Josue H. M. D, Quizan M. M. Andal*, M. S. MS Pharm and Santiago C. D. PhD

School of Pharmacy, Centro Escolar University-Manila Philippines Mylene S. Andal.

***Corresponding Author: Quizan M. M. Andal, M. S. MS Pharm**
School of Pharmacy, Centro Escolar University-Manila Philippines Mylene S. Andal.

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ABSTRACT
Under-reporting of ADR is one of the main problems in the healthcare system. The pharmacist is solely the responsible healthcare professional in monitoring and documenting adverse drug reactions. Study from (Gidey et al., 2020) express that community pharmacists have inadequate knowledge and practice about Adverse Drug Reaction reporting but have an advanced attitude. This scenario greatly affects the pharmacists' practice, so the researchers aimed to study community pharmacists' knowledge, attitude, and practice towards ADR reporting. A stratified sampling technique was used to group the population, and from each locality, researchers get an equal number of respondents. A cross-sectional survey questionnaire was distributed to community pharmacists in the selected localities in the Philippines. Researchers used descriptive quantitative research and collected data using the web-based and distributed it in different social media platforms. Using a 5-point Likert-scale type of evaluation, researchers assess the data using descriptive statistics such as the weighted mean, frequency, percentage, Pearson r, and chi-square. Data gathered from the 139 community pharmacists from the six localities agreed that adverse drug reactions should be reported once it happened to their patients. This means that they have adequate knowledge about reporting adverse drug reactions encountered by their patients and they know how and when to report ADRs, they also agreed that it is a duty and obligation to report and attend to patients who complained about ADRs. This shows that the community pharmacists have a positive attitude towards ADR reporting, as this is part of their job, and the pharmacists agreed that they had enough practice in reporting ADRs. This means that community pharmacists are performing well in terms of ADR reporting and they follow the different protocols in reporting ADRs as part of their profession. The researchers therefore conclude that there is no significant difference between their knowledge and attitude in the pharmacy community setting in terms of age, gender, position and number of years employed. On the other hand, there is a significant difference in terms of practice.

KEYWORDS: Adverse Drug Reaction, Community Pharmacist, Knowledge, Attitude, Practice, Barriers.

INTRODUCTION
Pharmacovigilance is not only research, but also the identification, evaluation, awareness and avoidance of adverse effects or some other issue related to medications. The tragedy of Thalidomide in 1961 marked the beginning of the creation of the WHO International Drug Monitoring Network, which promotes PV at the national level through cooperation with the Uppsala Monitoring Centre, and this program covers more than 135 nations (Hussain 2016).

ADR is one of the major dilemmas that occurs worldwide, thalidomide tragedyis one of the remarkable cases of adverse drug events as it is distributed for treatment of morning sickness, nausea and vomiting. It was withdrawn in the market in 1961 as it is seen to cause severe birth defects (Vargesson 2015). The most reported ADR were those linked with the central nervous system, gastrointestinal system and cardiovascular system and that ADR is one of the Top 10 causes of mortality in certain nations (Hailu 2020). Occurrence of Adverse Drug Reaction is depending on the patients age, gender, dose accuracy, polypharmacy, environmental and internal factors like disease or health condition (Gurmesa 2016).

Healthcare professionals including physicians, nurses, and pharmacists are considered as the backbone of collecting ADR reports as having constant encounters with patients on a daily practice (Carandang 2015). It is

considered as an ethical responsibility for healthcare professionals to report a suspected ADR case to prevent further complication. Late submission of ADR reports is considered unethical which could knowingly put at risk the next userof the same drug (Guner 2019).

Pharmacists in the community setting are the most accessible to the public and a cornerstone of primary health care. Traditionally, the communitypharmacists are responsible for compounding, dispensing and providing medicines in accordance with the over-the-counter drug, prescription, and also dangerous drugs. This is to ensure the safe and effective use of medication. In addition to ensuring an accuratesupply of appropriate products, their professional activities also cover counselling of patients at the time of dispensing prescription and non-prescription drugs (WHO 2019).

In the Philippines, a memorandum was signed by Dr. Quintin Kintanar, and stated that all serious ADR should be reported and submitted to the Food and Drug Administration (FDA) within two weeks after the receipt while the other ADRs should be submitted on or before January 15 of each year (Carandang 2015). The Food and Drug Administration is the one who handles the ADR-SRS in the Philippines, and according to a key informer,under-reporting of ADR has impeded thesystem in the Philippine setting (Dalmacion 2015).

A reporter can directly submit the completed ADR reporting form to the National Coordination Centre (NCC) or their nearest AMC. These reports are confirmed by healthcare professionals in the case of AMC and entered into Vigiflow and sent for further evaluation to NCC. These reports are then finally reviewed at NCC and committed to the WHO-Uppsala Monitoring Centre. Theinformation collected is entered, processed, and reviewed by specialists inthe drug safety database to identify new signals.

The ADR report submitted does not have any legal consequences for reporters. The identity of the patients is kept inabsolute trust and secured to the fullest extent (Singh 2019).

METHODS

Study design

Descriptive quantitative research is the design utilized to accurately and systematically describe a population of community pharmacists and provide knowledge that can be used as a cornerstone of judgement. The researchers collected numerical data to quantify the Knowledge, Attitude, and Practice of the community pharmacist on Adverse Drug Reaction (ADR) Reporting.

Respondents and Population size

The study is conducted in different areasof Luzon Island, Philippines. The covered areas are Antipolo Rizal, Pili Bicol, San Juan City Metro Manila, San Mateo Rizal, Silang Cavite, and Taytay Rizal. Community pharmacists from the six localities have a chance to be involved in conducting the study. The selection of the area for the survey isdetermined based on the feasibility ofresearchers.

Sampling technique

The researchers utilize a stratified sampling method where the community pharmacists are randomly selected; each area in the six localities had an equal opportunity to become respondents of this study.

Survey instrument

The survey instrument that wasdeveloped are inspired by the questionnaires from different related studies with modifications which includes the studies of (O'Callaghan 2018) (Syed 2018) and (Tew 2016) that involves the Knowledge, Attitude, Practice and Barriers of Adverse Drug Reaction (ADR) Reporting. The survey consists of 24 item questions divided into five different parts. The first section of the survey questionnaire refers to the respondents' socio-demographic profile such as age, gender, employment information like position, and years of employment. The second, third, fourth, and fifth section is a 6-item question designed to determine the knowledge, attitude, practice, and barriers that pharmacists encountered in the community setting. Likert scale was used with the given choices, strongly agree (5) as the highest followed by agree (4), neither agree nor disagree (3), disagree (2), and strongly disagree (1) asthe lowest.

Data collection

The survey questionnaires are distributedthrough Google forms and the information are disseminated through different social media sites. The participants can choose to participate in the study or withdraw and the information provided is kept confidential.

Statistical treatment

Weighted mean, frequency, percentage, Pearson's r, and chi-square are the statistical treatment obtained in data analysis. The weighted mean is used to assess the respondents' knowledge, attitude, and practice about AdverseDrug Reaction (ADR) Reporting.Frequency and percentage are used to determine the socio-demographic profile of the respondents. Chi-square is used in testing the nominal or categorical variables, and lastly, the Pearson r is for continuous variables like knowledge, attitude, and practice.

RESULTS/DISCUSSIONS

A total of 139 participants responded to the survey questionnaire.

Socio-demographic profile of the respondents

In terms of age, chart 1.1 shows that the majority of community pharmacists whoresponded in the survey are within the age of 18 to 35 years old, which falls under the category of young adults while in the middle adults have the least respondents in the group of community

pharmacists. Young adults are more active on social media and have more access to google compared to middle adults when it comes to the survey distribution.

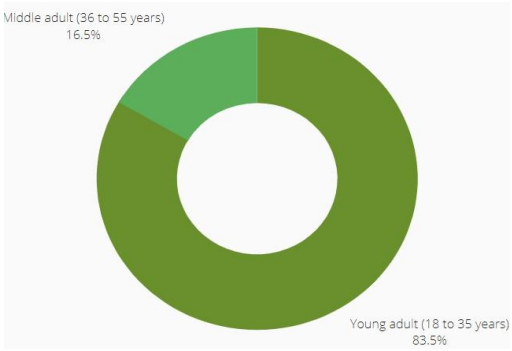

Chart 1.1: Age of the respondents.

In terms of gender, chart 1.2 shows the majority of community pharmacists responding in the survey falls under the category of female and only some of them are male. In terms of position, the majority of the respondents who answer the survey fall under the category of pharmacist and only few are chief pharmacists since most of the respondents came from independent pharmacies.

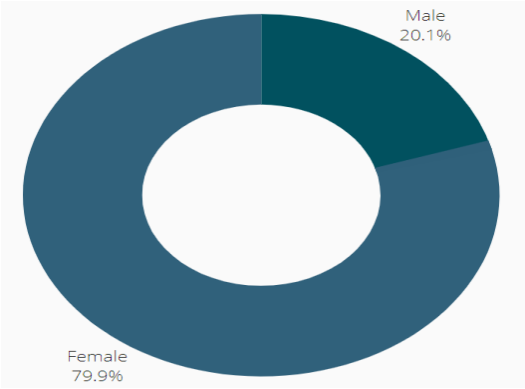

Chart 1.2: Gender of the respondents.

In terms of position, chart 1.3.1 shows that most of the respondents who answer the survey fall under the category of a pharmacist, and only a few are chief pharmacists since most of the respondents came from independent pharmacies.

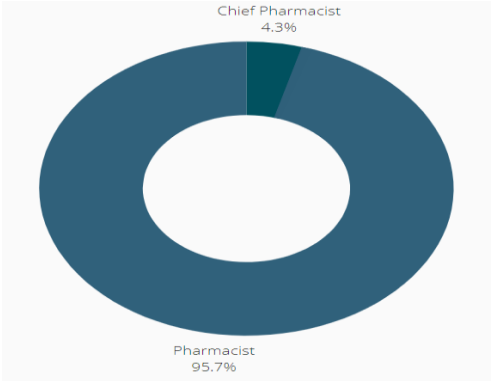

Chart 1.3.1: Position of the respondents.

In terms of number of years of employment, chart 1.3.2 shows that the majority of the respondents are employed within the range of 1 year to 5 years while in the five years and above have the least respondents. Thoserespondents employed in the range of 1 to 5 years are the most active when it comes to adverse drug reaction events.

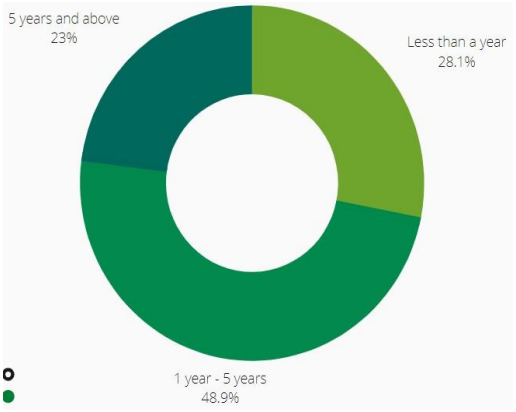

Chart 1.3.2 Number of years ofemployment.

Knowledge, Attitude and Practice Towards ADR Reporting

In terms of Knowledge, figure 2.1 showed that pharmacists have adequate knowledge when it comes to ADR Reporting. The pharmacists agreed that adverse drug reactions should be reported once they happened to their patients (x = 3.70).

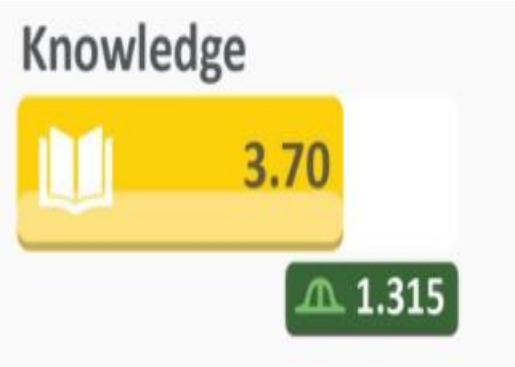

Figure 2.1: Knowledge.

In terms of Attitude, figure 2.2 showed that the pharmacists have a good attitude towards ADR Reporting. Thepharmacists agreed that it is a duty and obligation to report and attend to patients who complained ADRs (x = 3.74).

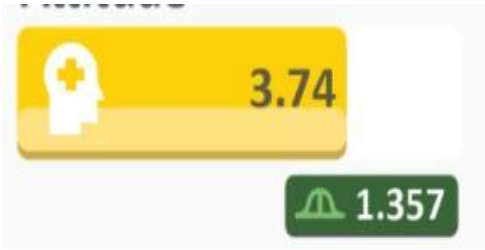

Figure 2.2: Attitude.

And in terms of Practice, figure 2.3 showed that the pharmacists have a goodpractice when it comes to ADR Reporting. The pharmacists agreed that they had enough practice in reporting

ADRs (x = 3.57). This means that community pharmacists are performing well in terms of ADR reporting and they follow the different protocols in reporting ADRs as part of their profession.

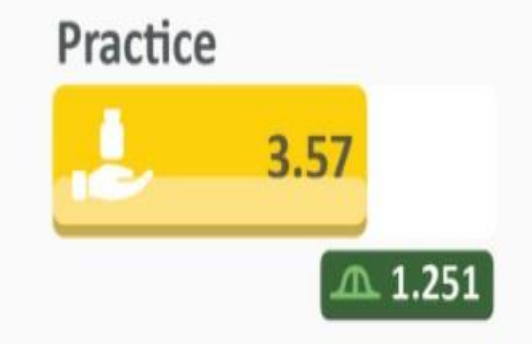

Figure 2.3: Practice.

Association of the respondents Knowledge, Attitude and Practice in terms of:

Age

Among the three variables between knowledge, attitude and practice about ADR reporting, figure 3.1 shows that the young adult community pharmacists and middle adult community pharmacists differ mainly on practices since middle adult pharmacists have more experience in reporting ADR than the youngeradults.

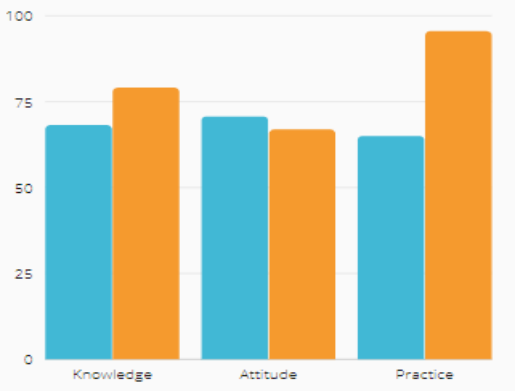

Figure 3.1: Agegender.

Figure 3.2 shows that male community pharmacists have a greater ranked level in terms of practice in reporting adverse drug reactions compared to female community pharmacists based on the gathered data.

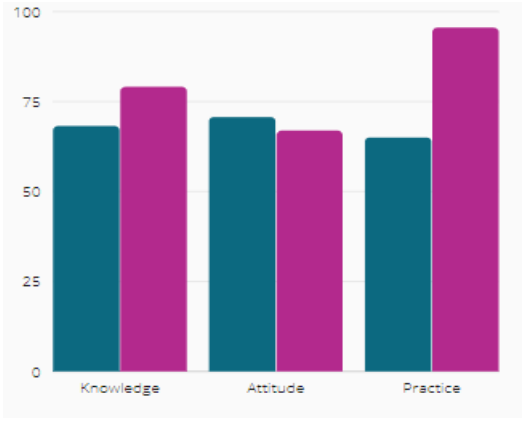

Figure 3.2: Gender.

Position

Figure 3.3.1 shows that chief pharmacists have a greater ranked level in terms of practice compared to pharmacists. Chief pharmacists have more experience on addressing issues and reports regarding adverse drug reactions encountered by theirpatients.

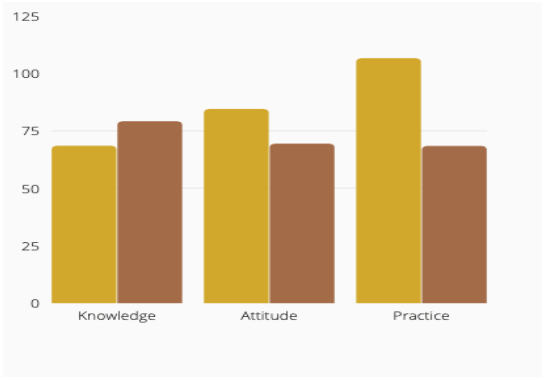

Figure 3.3.1 Position.

Number of years of employment

Figure 3.3.2 shows that the knowledge, attitude, and practice of the community pharmacists does not differ in terms of the length of their employment.

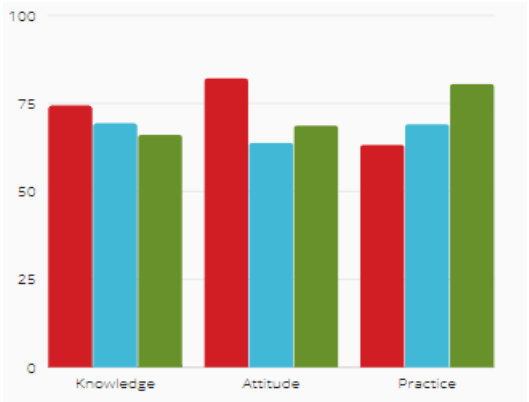

Figure 3.3.2: Number of years of employment.

Barriers Encountered by the Community Pharmacists Towards Adverse Drug Reaction Reporting

Table 4 shows that overall, the pharmacists neither agreed nor disagreedthat the barriers affect adverse drug reaction reporting. This implies that forms are readily available but the information given by the patients is somehow insufficient so community pharmacists cannot determine what is really the cause of reactions experienced by their patients.

Table 4: Barriers encountered by the community pharmacists towards adverse drug reaction.

	Mean	Verbal Interpretation	Std. Deviation
19. Forms for ADR reporting are not available.	2.28	Disagree	1.130
20. Drugs that are newly introduced in the marketare safe from serious ADRs	2.08	Disagree	1.057
21. Patients do not inform			
the pharmacist about the			
reaction they have	3.50	Agree	
encountered after taking			
the medicine..			
22. Inadequate knowledge		Neither	
of detecting ADRs	2.88	Agree nor	
		disagree	
23. ADR reporting istime-consuming	2.32	Disagree	
24. Pharmacists are unable		Neither	
to find which drug caused ADR.	2.68	agree nor disagree	
Overall Weighted Mean	**2.62**	**Neitheragree nor disagree**	

Ethical consideration

The research protocol of the study is submitted to the Centro Escolar University Research and Evaluation Office (REO) and is reviewed and approved by the Institutional Ethics Review Committee (IERC).

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