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Evaluation of Knowledge, Attitude and Practice of Hospital Pharmacist about Reporting of Drug Side Effects Monitoring in Bengkulu City

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Abstract:- Monitoring drug side effects is one of the clinical duties of pharmacists in the hospital. The pharmacist's knowledge, attitude and practice largely determine the quantity and quality of drug side effects reporting. This study aims to study the level of knowledge, attitudes and practices of hospital pharmacists about reporting of drug side effects monitoring in Bengkulu City, the barriers to doing so, and to examine the relationship between these three variables. This study is a quantitative descriptive study with a cross-sectional approach, and the sampling technique was purposive sampling. The research instrument is in the form of a validated questionnaire and is distributed through the social media application (*WhatsApp*). The number of respondents counted in this study was 42 people. The results obtained, pharmacists who have a good level of knowledge (50%), good attitude (92.9%) and adequate practice (61.9%). Factors inhibiting pharmacists from reporting drug side effects include the uncertain relationship between the reaction and its cause and the difficulty in determining whether to drug side effects has occurred or not. Statistical analysis between pharmacists' knowledge, attitudes and practices regarding monitoring of side effects showed that there was no significant relationship between the three variables (p >0.05).

Keywords:- *Drug Side Effects, Drug Side Effect Monitoring, Pharmacovigilance.*

I. INTRODUCTION

A drug side effect is any unwanted and unintentional harmful effect of a drug arising from the administration of normal doses of the drug in humans for the purpose of prevention, diagnosis or therapy, as well as modification of physiological function [1] WHO under the pharmacovigilance program has recommended each country to report drug side effects, either actively or spontaneously (passively) in an effort to identify drugs that can cause drug side effects [1]. Pharmacovigilance is all activities regarding the detection, assessment, understanding, and prevention of side effects or other problems related to drug use [2].

According to the Minister of Health of the Republic of Indonesia number 73 of 2016, monitoring drug side effects is one of the clinical tasks of pharmacists both in hospitals and in pharmacies. Pharmacists can play a role in the monitoring program for drug side effects by reporting spontaneously related to drug side effects [2]. Currently, when compared to other countries in ASEAN, Indonesia's drug side effect reporting profile is still low [2]. This is because pharmacist awareness to report drug side effects is still very low [3]. Based on research conducted [4] revealed that knowledge, attitudes and practices, which will affect the creation of strategies in encouraging the implementation of more optimal monitoring of drug side effects. Through this study, researchers tried to determine the level of knowledge, attitudes and practices of pharmacists in hospitals, especially in Bengkulu City about monitoring drug side effects and the obstacles experienced by pharmacists in monitoring drug side effects.

II. RESEARCH METHOD

The study was conducted from December 2020 to February 2021. This research is a quantitative descriptive study through a cross-sectional approach. Informants were selected by purposive sampling method according to the applied criteria. The number of informants involved in this study was 42 people, namely pharmacists who work in hospitals in the Bengkulu City area.

The instrument used in this study was a modified questionnaire based on previous research [4] [5]. A list of questions is attached in table 2,3 and 4. The data collection method was carried out by distributing online questionnaires by utilizing social media (*Whatsapp*) by providing a link that was connected to the questionnaire to be filled out by the respondent. The questionnaire contains 23 questions (table 2, 3 and 4) covering: (1) evaluation of the level of knowledge, attitudes and practices (2) pharmacist barriers in reporting drug side effects. After the data is collected, the data is tabulated, coding and data analysis are carried out.

III. DISCUSSION

Based on sociodemographic data, respondents were grouped by gender, age, last education, and length of practice (table 1). Based on the results listed in table 1, out of 42 respondents it is known that 5 respondents (11.90%) are male and 37 respondents are female (88.09%). Based on the age range, respondents aged <26 years are 14 respondents (33.30%), 26-35 years are 22 respondents (52.40%), 36-45 years are 3 respondents (7.10%), >45 years there were 3 respondents (7.10%). This result is also similar

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to a study conducted in India that the average age of pharmacists there is 29 years, or is in the range of 26 – 35 years [4].

From the results of the sociodemographic survey, the last education of pharmacists was 40 respondents (95.20%) and respondents with the latest master's education were 2 respondents (4.80%). This is also in line with research conducted elsewhere in Indonesia and abroad, that there are far more pharmacists with the latest education as pharmacists than pharmacists who have graduated from S2 or S3 [6] [7]. Based on the survey results obtained regarding the length of practice of the respondents, it is known that the respondents who practiced for 1-5 years were 35 respondents (83.30%), practiced for 6-10 years as many as 4 respondents (9.50%), and practice for > 10 years as many as 3 respondents (7.10%). This result is slightly different from the results of a study conducted in Saudi Arabia, that the average length of practice of pharmacists there is 8 years [7].

TABLE 1. INFORMANT SOCIODEMOGRAPHIC CHARACTERISTIC

Demographic Information	Number (Person)	Percentage
Gender		
• Male	5	11,90%
• Female	37	88,09%
Age		
• < 26 years	14	33.30%
• 26 – 35 years	22	52.40%
• 36 – 45 years	3	7.10%
• > 45 years	3	7.10%
Education Background		
• Pharmacist	40	95.20%
• Master (S2)	2	4.80%
• Doctoral (S3)		
Practice Length		
• 1-5 years	35	83.30%
• 6-10 years	4	9.50%
• >10 years	3	7.10%

Based on the results of data collection using a questionnaire about the level of knowledge of pharmacists in hospitals in Bengkulu City about reporting related to monitoring drug side effects can be seen in table 2. The first question is whether the respondent knows the drug side effect monitoring program, the result is that all respondents know this program (100%), as well as realizing that reporting drug side effects is an important role for pharmacists (100%). This is in accordance with research conducted in South India that most pharmacists are aware of the reporting program related to drug side effects, which is 75.2% and consider that reporting related to monitoring drug side effects is the role of pharmacists, which is 69.3% [5].

The next question regarding the knowledge of respondents regarding drug side effects, as many as 40 respondents (95.23%) of respondents answered that they had sufficient knowledge about drug side effects. Research conducted by [7], related to pharmacist knowledge about drug side effects. The next question is about the side effects of drugs that must be reported, namely 18 pharmacists (42.86%) stated that all drug side effects must be reported, and who agreed to report side effects of drugs related to traditional medicines as many as 24 pharmacists (57.14%) according to guidelines for monitoring drug side effects by [2]. This is in line with research conducted in Iran, that pharmacists in Iran tend to report drug side effects if a serious reaction occurs (64.6% of responses), or assume that not all drug side effects should be reported [8]. The next question is whether the respondent knows the procedure for reporting drug side effects, 42 respondents (100%) know the procedure for reporting drug side effects. According to [9] procedures for doing work are necessary to achieve goals and minimize errors that may be made.

The next question related to the algorithm used to determine causality, as many as 30 pharmacists (71.43%) knew the algorithm. Naranjo Algorithm (Naranjo Scale) is an algorithm used to determine the causality of drug side effects. This algorithm is very important to know, so that the cause of drug side effects can be known with certainty, so that pharmacists do not hesitate to report it on the yellow form/online. This result is different from a study conducted in the UAE,that only 5 respondents (2.20%) knew the algorithm used to determine the causality of drug side effects [10]. Questions regarding the appropriate criteria for reporting related to the monitoring of valid drug side effects, 36 respondents (85.71%) pharmacists know these criteria, this is in line with research conducted in Yogyakarta that 79% of respondents know these criteria [6]. This has been described in detail in the guidebook for monitoring drug side effects by [2] regarding what minimum criteria must be in the reporting form related to monitoring drug side effects in order to be said to be valid.

The next question, regarding the institution in charge of monitoring the reporting of drug side effects in Indonesia, namely the Food and Drug Administration, according to the guidebook for monitoring side effects of drugs, 39 respondents (92.86%) knew about it. The last question regarding the location of the International center from to drug side effects monitoring, as many as 30 respondents (71.43%) knew this. The results of this study differ from the research conducted [10] in that only 9.4% of respondents were aware of the location of the to drug side effects monitoring center, namely Uppsala, Sweden.

Based on the results of data collection using a questionnaire about the attitude of pharmacists in hospitals in Bengkulu City regarding reporting related to monitoring drug side effects can be seen in table 3. On the question of attitude aspect, 42 respondents (100%) know that reporting related to monitoring drug side effects is required. Research conducted in India regarding the need for reporting related to monitoring drug side effects or not, 97% of respondents agree that this is necessary [7]. Regarding the next question regarding the need for Standard Operating Procedures (SOP_s) in carrying out reporting related to monitoring drug side effects, all respondents (100%) agree that this is

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necessary in carrying out monitoring of drug side effects. According to [9] SOPs are needed as a guide in carrying out a job/task and to minimize errors when performing these tasks.

The next question regarding the professional duties of pharmacists in reporting drug side effects, as many as 33 respondents (78,57%) agreed, this is also in accordance with what was done by [4],that pharmacists in India 81% agreed that reporting drug side effects is the professional duty of a pharmacist. The last question regarding the importance of training related to drug side effects monitoring, 37 respondents (88,09%) agreed. Although many pharmacists agree with this, in fact, practice on monitoring drug side effect training is still very low.

Based on the results of data collection using a questionnaire about pharmacist practices in hospitals in Bengkulu City regarding reporting related to drug side effects monitoring can be seen in table 4. In the first question related to whether your patient has experienced drug side effects, 39 respondents (92.85%) admitted that their patients had experienced drug side effects, and 20 respondents (47.61%) had reported it. Despite the fact that 39 respondents (92.85%) answered that their place had a drug side effect monitoring form available, there were still few pharmacists who reported this. These results are in line with research conducted on pharmacists in Saudi Arabia, from 135 respondents, 78 respondents (57.7%) had received reports of drug side effects from patients, and only 24 respondents (17.77%) reported the drug side effects [11].

This proves that practices related to reporting related to monitoring drug side effects in Bengkulu City hospitals are still lacking. The last question regarding whether the respondents had attended training on to drug side effects monitoring, 10 respondents (23.80%) had undergone the training, slightly different from the research conducted in South India, that half of the pharmacists there (58.4%) had, undergoing training related to monitoring drug side effects [4] .

TABLE 2. DISTRIBUTION OF RESPONDENTS BASED ON THE ANSWERS TO THE KNOWLEDGE ASPECT QUESTIONS

No	Question	Yes		No	
		F	(%)	F	(%)
1	Are you aware of the drug side effect monitoring program?	42	100	0	0
2	Do you think pharmacists play a role in monitoring drug side effects?	42	100	0	0
3	Do you have sufficient knowledge about drug side effects?	40	95,23	2	4,76
4	Do you think all drug side effects should be reported?	18	42,86	24	57,14
5	Do you think the side effects of drugs related to traditional medicine need to be reported?	24	57,14	18	42,86
6	Are you aware of the procedure for reporting drug side effects?	42	100	0	0
7	Do you know the algorithm used to determine the causality of drug side effects?	30	71,43	12	28,57
8	Do you know the eligibility criteria for a valid drug side effect report?	36	85,71	6	14,29
9	Do you know the agency responsible for monitoring the reporting of drug side effects in Indonesia?	39	92,86	3	7,14
10	Do you know where the international center for monitoring drug side effects is?	30	71,43	12	28,57

F: Frequency (number of respondents) who voted

TABLE 3. DISTRIBUTION OF RESPONDENTS BASED ON THE ANSWERS TO THE ATTITUDE ASPECT QUESTIONS

No	Question	Yes		No	
		F	(%)	F	(%)
1	Do you think monitoring of drug side effects is necessary?	42	100	0	0
2	Do you think there is a need for standard operating procedures in monitoring drug side effects?	42	100	0	0
3	Do you think reporting drug side effects is the professional duty of a pharmacist?	33	78,57	9	21,42
4	Do you think it is important for pharmacists to take part in a training program for monitoring drug side effects?	37	88,09	5	11,90

F: Frequency (number of respondents) who voted

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TABLE 4. DISTRIBUTION OF RESPONDENTS BASED ON THE ANSWERS TO THE PRACTICE ASPECT QUESTIONS

No	Question	Yes		No	
		F	(%)	F	(%)
1	Has your patient ever had any side effects of medication?	39	92,85	3	7,14
2	Have you ever reported drug side effects (using the yellow/online form)?	20	47,61	22	52,38
3	Are drug side effects reporting forms available in your workplace?	39	92,85	3	7,14
4	Have you ever attended training/seminars on procedures for reporting and monitoring drug side effects?	10	23,80	32	76,19

F: Frequency (number of respondents) who voted

Based on the results of the survey data related to the obstacles experienced by hospital pharmacists in Bengkulu City, three main answers to the question of the highest obstacle are uncertainty between the reaction and the cause, it is difficult to determine whether the drug side effects have been occurs or not, monitoring of drug side effects that occur is mild, so it does not need to be reported which is also a major obstacle that also occurs in pharmacists in Saudi Arabia [7]. Therefore, training related to pharmacovigilance is very important to help pharmacists understand the method reporting related to monitoring drug side effects and the use of the Naranjo scale. The hospital must also clearly make a reporting flow, making it easier for pharmacists to carry out this.

The results of the assessment related to the level of knowledge, attitudes and practices of hospital pharmacists in Bengkulu City regarding the reporting of drug side effects, it was found that the majority of pharmacists had a good level of knowledge (50%), good attitude (92.9%) and sufficient practice (61 .9%) related to reporting of drug side effects. Statistical analysis between the knowledge, attitudes and practices of pharmacists about reporting drug side effects, using the Spearman correlation, showed that there was no significant relationship between the three variables ($p>0.05$).

IV. CONCLUSION

Pharmacists who work in Bengkulu City hospitals, have a good level of knowledge, good attitudes and adequate practices related to reporting drug side effects monitoring. In this study, it was found that the main obstacle experienced by pharmacists at Bengkulu City hospitals in reporting drug side effects was the uncertain relationship between the reaction and its cause and the difficulty of determining whether drug side effects had occurred or not. Statistical analysis between pharmacists' knowledge, attitudes and practices regarding monitoring of side effects showed that there was no significant relationship between the three variables ($p >0.05$).

ETHICS APPROVAL

Ethical approval was obtained from the ethics committee at Andalas University, West Sumatra, Indonesia, number 197/UN.16.2/KEP-FK/2021. All of the informants invited to participate in this study gave informed consent before taking part in this study. To protect the informant from any consequences, data were made anonymous (code) before analyses. The views and opinions of each informant were considered equally.

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