ISSN No:-2456-2165

Knowledge and Awareness of Health Workers in Reporting Adverse Drug Reaction of Geriatric Patients at Dr. M. Djamil Padang Hospital

Molinda Damris, Yelly Oktavia Sari, Dedy Almasdy
Faculty of Pharmacy, Andalas University
Padang, West Sumatera, Indonesia

Abstract:- Adverse Drug Reaction (ADR) is a complex health problem and contributes significantly to patient morbidity and mortality. Geriatrics is one of the populations most at risk of experiencing ADR events. Due to age, there is an extended half-life and an increase in blood levels of the drug. Multi-pathology and polypharmacy conditions are the biggest risk factors that participate in the occurrence of ADR. ADR reporting is one way to prevent ADR in health care facilities. The research was conducted in the internal ward of Dr. M. Djamil Padang from February to June 2020. The data was collected using a semi-structured interview method with 22 informants who were selected based on the purposive sampling technique. The results showed the knowledge of health workers on duty in the inpatient ward of Dr. M. Djamil Padang regarding ADR is considered to be still lacking. The awareness of health workers in reporting ADR incidents is also low. The limited knowledge of health workers has resulted in a lack of reporting of ADR incidents in Dr. M. Djamil Padang.

Keywords:- *Adverse Drug Reaction, Geriatric, Health Personnel.*

I. INTRODUCTION

Adverse Drug Reaction (ADR) is a response to drugs that are dangerous and accidental, occurring at doses used in humans as prophylaxis, diagnosis, therapy, or modification of physiological functions [1]. In line with that, Allemann stated that the term ADR refers to an event that is unexpected from the patient's experience or is suspected to be due to drug therapy. So that the potential to interfere with the success of therapy [2]. ADR is a complex health problem for healthcare professionals and contributes significantly to morbidity, mortality, and hospital care costs [3].

Geriatrics are one of the most populations at risk of experiencing ADR events. In their research, Bond and Raehl stated that the incidence of ADR in America caused morbidity and mortality due to ADR reaching 1.73% and 19.18% [4]. While the incidence of ADR in geriatric patients at Dr. M. Djamil Padang hospital in 2010 reached 20% [5].

The high incidence of ADR is driven by the multi-pathological conditions that commonly occur in geriatric patients. With increasing age, there is an extended half-life and an increase in the blood levels of the drug in its active form. Whereas for some drugs, this condition will have a bigger effect, especially in the condition of geriatric patients [6].

Some geriatric patient health complaints require more serious treatment and require the patient to be hospitalized. The multi-pathology experienced by geriatric patients also contributes to increasing the potential for polypharmacy and the development of ADR during treatment. The body response of geriatric patients with multi-pathological conditions is different from that of adult patients. This is because with ageing there are changes in the absorption, distribution, metabolism, and elimination processes of drugs in the body [7].

Drugs have potential for harm as well as benefit, and older patient might obtain less benefit and more harm compared with younger patients. Health workers might have difficulty making trade-offs when a new illness emmerges in patient with polypharmacy and need to consider prescribing another drugs [8].

Therefore, the use of drugs in geriatric patient needs attention, especially the medical team. This requires health workers to fully understand the need for drugs and their benefits in patient therapy. [8] However, there is often no data on the safety and effectiveness of drugs in geriatric patients due to the lack of studies and reports that address these issues.

The World Health Organization (WHO) has recommended that each country initiates pharmacovigilance programs to identify drugs that can cause ADR [9]. In Indonesia, activities to monitor the safety of drug use are the responsibility of the indonesian FDA. However, in its implementation, it certainly needs the support and participation of all key players, especially health workers who are involved in the journey or cycle of a drug. Since drugs go through the pre-marketing to post-marketing processes.

ISSN No:-2456-2165

ADR reporting activities by health personnel in Indonesia are still voluntary [10]. Besides, the reporting of ADR incidents in health care facilities is also considered less active. However, the lack of awareness to report ADR by health workers is still a challenge that must be faced, especially in developing countries. The significant consequence of ADR reporting will facilitate broad public interest [11].

II. RESEARCH METHOD

The research was carried out in Dr. M. Djamil Padang. This research is a descriptive study with a qualitative approach. Involving health workers, such as physician, nurses, and pharmacists who handle patients directly.

Informants were selected by purposive sampling method according to the applied criteria. The number of informants involved in this study was 22 people (Table 1). Is a health worker who has served at least 3 years in the internal ward of Dr. M. Djamil Padang hospital. The determination of the minimum work period aims to ensure that the information obtained comes from subjects who truly understand the situation in which the research is located.

The data collection process was carried out by using a semi-structured interview method, the researcher prepared several questions related to the research topic. A list of questions is attached in table 2. During the interview, the researcher will record the results of the interview and then translate them verbatim. Then, it analyzed.

TABLE I. INFORMANT SOCIODEMOGRAPHIC CHARACTERISTIC

Demographic Information	Number (person)	Percentage
Gender		
• Male	7	31,8 %
• Female	15	68,1 %
Age		
• 20-40 years	12	54,5 %
• 41-60 years	7	31,8 %
• > 60 years	3	13,6 %
Education Background	4	18,1 %
• D3	2	9,0 %
• S1	7	31,8 %
• Profesi	4	18,1 %
• S2	5	22,7 %
• Spesialis		
Length of work		
• 3-10 years	9	40,9 %
• 11-20 years	5	22,7 %
• > 20 years	8	36,3 %

III. DISCUSSION

This study involved 23 health workers who have worked in the inpatient ward of Dr. M. Djamil Padang for a minimum of three years. Based on sociodemographic charateristic, informants are grouped by gender, age, last education, and length of work. Based on the gender of the population, male informants were less than female informants, namely 31.8% and 68.1%. Based on the age range of informants, they are grouped into three, namely the age range of 20-40 years of 54.5%, the age range of 41-60 years of 31.8%, and the age range> 60 years of 13.6%. The age range is considered sufficient to describe in general that the 20-40 year age range group is the largest population who work in the inner disease ward.

Judging from the educational background of the informants, 18.1% were associate's degree, 9.0% were undergraduate, then 31.8% continued to the professional level, both pharmacists and nurses, 18.1% had completed postgraduate education and 22.7% the other completed a secondary specialist study consisting of sub-specialist geriatrics, endocrinologists and immunologists. From the results of the interview, it can be seen that the level of education influences informants' knowledge about ADR. Where informants who have a higher educational background can explain more specifically about ADR and its reporting. The higher education a health worker has, the more likely he is to get a higher structural position. Of course, this consideration is not solely based on educational background, other factors also affect the working period of the health worker concerned. The results of this study are slightly different from Lovia, who said that the level of education does not have much influence on the results of the interview. According to her, tenure and experience are the more dominant factors affecting the knowledge of health workers on pediatric ward [12].

From the results of a sociodemographic survey of the informants' tenure, it was found that the smallest distribution of work tenure was three years and the longest working period was 55 years. As many as 40.9% of informants have a working period of 3-10 years, 22.7% of informants have worked 11-20 years and 36.3% of other informants have worked for more than 20 years. The work period seems to influence the results of the interviews obtained. Researchers assessed that informants who served longer periods had more experience in finding cases of ADR. This is in line with research [12] which states that although it is influential, tenure cannot be the only measure in assessing the understanding of health workers. Because besides that, the researcher also found informants who had a shorter work period but had a quite good experience with ADR events. They also did not rule out that informants with longer tenure would forget more about ADR incidents they had encountered.

Informants were given questions that included knowledge related to ADR, the informant's experience in finding ADR incidents to reporting ADR incidents at Dr. M. Djamil Padang hospital. The results of this study indicate that the majority of health workers do not have a good knowledge of the ADR concept, both its definition and implementation objectives [13]. However, in general, health workers have encountered the incidence of ADR during their tenure in the interne ward. In the reporting process, it was found that health workers did not fully understand that ADR incident reporting needed to be reported to the Pharmacy and Therapeutic Committee team. Most ADR events were reported through the patient's medical record only. This is a critical point and needs to be under the government's spotlight.

This paper states that geriatrics are one of the populations at risk of developing ADR. As in [14] more detail Factors Associated With ADR in Older Patient in Taiwan. Reported that the incidence of ADR in geriatric patients hospitalized ranged from the period of 2006-2011 as much as 539 reported ADR cases.

Referring to the literature, it can be said that the experience of the informants in finding ADR incidents was very small compared to what should have been encountered. The rare category referred to by informants is thought to be due to the lack of monitoring carried out to determine the occurrence of ADR. Researchers suspect this is related to the understanding and knowledge of health workers regarding ADR. To be able to know that a reaction that occurs in a patient is an ADR, health workers must have knowledge of the ADR. Researchers argue that there are more ADR incidents than the informants conveyed. Apart from the lack of ability to assess the reactions that occur in patients, this is also due to the characteristics of the ADR itself which sometimes tend to resemble the patient's underlying disease.

Table 2. List of Questions for Health Workers

NO	Questions
1	Knowledge of ADR and Pharmacovigilance
2	Experience finding ADR cases
3	ADR risk factors
4	Effect of gender and age on the incidence of ADR
5	Effect of disease complications on the incidence of ADR
6	Drugs with the potential for ADR
7	ADR experience due to herbal medicine
8	Experience finding events with transfusion reactions
9	Knowledge of handling and reporting flow
10	Experience reporting ADR events

The importance of reporting ADR cases is an unavoidable topic. Several studies have shown that optimizing the knowledge, ethics, and treatment associated with ADR reporting will create a specific strategy to encourage the implementation of more massive ADR reporting [13] [15].

The results showed that only 9.09% of informants had ever reported the incidence of ADR they encountered while working. This is considered very little compared to the experience of informants who have encountered ADR cases but did not report them according to the reporting flow available in the hospital. Several reasons were conveyed by the informants, including because the informant was confused about where to report (41,1%). Besides that, health workers felt that minor cases did not need to be reported (58,8%). The results of this study are not much different from that conducted by Kudri & Barliana (2017) who examined the understanding of pharmacist that 68.9% of health workers did not know where to report ADR cases, 35.2% felt that ADR should not be reported, 30.2% felt it was more important to take care of other patients and the other 25.8% were related to patient confidentiality issues [11].

When the ADR case was found, all informants agreed that the incident must be reported immediately to the doctor in charge of the patient or the doctor on duty at that time. In line with Lovia's research (2019), it was stated that before the hospital accreditation period, ADR reporting was only submitted to the DPJP orally, then written down in the patient's medical record [12]. However, after hospital accreditation, the informants' knowledge was improved by the existence of an ADR incident reporting standars operational prochedure in the hospital. Reporting is done by sending an incident report via WhatsApp message to the Pharmacy and Therapeutic Committee. Then this report will be followed up by the Pharmacy and Therapeutic Committee to the location of the incident. Although in general, the informants were aware of the reporting flow, it is unfortunate that researchers still found several informants who thought that reporting was sufficient to write down medical records only.

Overall it can be said that the knowledge of the informants who served in the hospital interne ward Dr. M. Djamil Padang regarding ADR is considered to be still lacking. The number of reports submitted to PFT is very small compared to what happened in the field. It was deemed necessary to increase informants' knowledge regarding ADR and their reporting. The lack of informant knowledge affects the lack of awareness of complaints and unwanted reactions that occur in patients after drug use. This condition in turn can have an impact on decreasing the success of therapy and the safety of using drugs in patients.

IV. CONCLUSION

From the results of the research that has been done, it can be concluded that the knowledge of the health workers on duty in the interne ward Dr. M. Djamil Padang regarding ADR (Adverse Drug reaction) is considered to be insufficient. This shows that pharmacovigilance activities are not carried out in Dr. M. Djamil Padang. One of them can be seen from the absence of ADR reports received by the PFT from the internal medicine ward during 2019.

ETHICS APPROVAL

Ethics approval was obtained from the respective ethics comittes at the Dr. M. Djamil Padang hospital, West Sumatera, Indonesia. All of the informant invited to participate in this study gave informed consent before taking part in this study. To protect the informant from any consequences, data were mde anonyous (code) before analyses. The views and opinions of each informant were considered equally.

ACKNOWLEDGMENT

The author thank all health workers and staff at the interne ward Dr. M. Djamil Padang hospital who contributed to participate in this study. This study was financially supported by 2019 Postgraduate Achievement Scholarship of Jambi Provincial Education Office.

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