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Knowledge, Attitudes and Practices of Hospital Pharmacist in Some Province of Indonesian against Covid-19

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Abstract:- Hospital pharmacists have an important role in the management of pharmaceutical supplies and direct services to patients. The Knowledge, Attitudes and Practices (KAP) of pharmacists in this regard are very important in carrying out this role. This study aims to evaluate the level of KAP of hospital pharmacists in Indonesia about COVID-19, and examine the relationship between the three variables. This is a cross-sectional study, and the sampling technique is purposive sampling. The research instrument is a questionnaire that has been validated, and distributed through social media applications (WhatsApp). A total of 146 respondents participated in this study. The results obtained, pharmacists who have a high level of KAP towards COVID-19 are 69.2%, 59.6% and 52.1%, respectively. In this study, attitudes were influenced by education level and marital status. The results of the chi square test showed that there was a significant relationship between attitudes and practice (p=0.003).

Keywords:- *Knowledge, Attitudes, Practice, COVID-19, Hospital Pharmacist.*

I. INTRODUCTION

In Indonesia since the announcement of the first positive case of COVID-19 by President Jokowi on March 2, 2020, the number of incidents continues to increase. Judging from the situation of the spread of COVID-19 which has almost reached all provinces in Indonesia with the number of cases and/or the number of deaths increasing. and have an impact on the political, economic, social, cultural, defense and security aspects, as well as the welfare of the community. In dealing with the COVID-19 case, the Government of Indonesia formed a Task Force for the Acceleration of Handling COVID-19 which was ratified through Presidential Decree No. 7 2020, which was later updated through Presidential Decree No. 9 2020.[1]

One of the ones managed in this task force are hospitals that have been designated as referral hospitals and hospitals that claim to accept referrals for COVID-19 patients. Pharmacists in hospitals are responsible for providing pharmaceutical services in the form of management of pharmaceutical preparations and clinical pharmacy services.[2] Pharmacists as one of the health workers who provide pharmaceutical services to patients in hospitals both outpatient and inpatient cannot avoid direct contact either with patients or with other health workers who carry out patient care, so that in each work process knowledge, attitudes and practices are needed accordance with the protocol for handling COVID-19.

Knowledge about disease can affect attitudes and work practices of health workers, wrong attitudes and work practices can increase the risk of infection.[10] Knowledge about COVID-19 possessed by pharmacists is very necessary in providing consultation, information and education to patients and the attitude of pharmacists in carrying out pharmaceutical work must be in accordance with the COVID-19 handling protocol so as to provide a high level of safety for the officers themselves.[10] Pharmacist compliance with control measures is also very much needed in reducing the spread of COVID-19 which is strongly influenced by knowledge, attitudes, and practices (KAP) about COVID-19.[15]

Several studies on the knowledge, attitudes, and practices (KAP) of pharmacists on COVID-19 have been conducted in several countries such as Vietnam by Giao et al[14] towards 327 respondents showed good knowledge (8.17±1.3 (range 4-10) and a positive attitude (1.86±0.43 (range 1-5), Pakistan by Cacodcar et al[3] towards 200 Pharmacists who were respondents despite having limited knowledge, were quite adequate in terms of epidemiology and clinical symptoms of new diseases. Good attitude and following appropriate preventive practices, in addition another study in Pakistan Muhammad et al[15] on 1149 pharmacists working in community and hospitals showed that 84% of pharmacists had good knowledge of COVID-19 and also conduct and good practice against COVID-19 (94%). Research conducted on hospital pharmacists in Turkey concluded that using accurate information media is one of the basic requirements to prevent and control the spread of disease.[4] Based on the literature search, there has been no published research on the knowledge, attitudes and practices of hospital pharmacists in Indonesia towards COVID-19. Therefore, research is needed to assess the knowledge, attitudes and practices of hospital pharmacists in Indonesia towards COVID-19. Based on a literature search, there has been no published research on the knowledge, attitudes and practices of hospital pharmacists in Indonesia towards COVID-19. Therefore, research is needed to assess demographic characteristics of respondents (gender, age education level, etc) towards knowledge, attitudes and practices and to asses knowledge, attitudes and practices of

hospital pharmacists in Indonesia towards COVID-19. Independent variables this study are Demographic Characteristics of Respondents (Gender, Age, Education Level, Marital Status, Work Period, Type of Hospital based on services related to COVID-19) and dependent variables are Pharmacist Knowledge, Pharmacist Attitudes and Pharmacists Practice.

II. RESEARCH METHOD

This study is an observational study with a cross-sectional study design based on the knowledge, attitudes and practices of hospital pharmacists in several provinces of Indonesia on COVID-19.This study was conducted from December 2020 to April 2021. This study was ethically approved by Research Ethics Committee, Faculty of Medicine, Andalas University Padang, West Sumatra, Indonesia. on October19, 2020. The ethical approval number was 78/UN.16.2/KEP-FK/2020.

Instrument and Data Collection

The instrument used in this study was a questionnaire. The questionnaire was developed largely based on the World Health Organization (WHO) Questions and Answers on COVID-19 (Control, 2020) and from several previous studies adapted to the pharmaceutical field.[4,5,6,11,12] The content validity test was conducted on 6 experts, namely five pharmacists and one linguist. Validity and reliability testing was then carried out on 30 people according to the general rules of research in order to obtain a distribution of research valuesthat was close to the normal curve. 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 47 questions covering: sociodemographic data (10 questions) evaluation of knowledge level (17 questions), attitudes (8 questions) and practice (12 questions) about COVID-19.

Determination The Number Provinces and Samples

The determination of this target province is based on the comparison of the number of cases to the cure rate. Then, the percentage of cure rates was clustered which was divided into three parts, namely high, medium and low. Then in each cluster a province that represents the western, central and eastern parts of Indonesia is taken. Samples that are part of the population are pharmacists who work in hospitals in the provinces of DKI Jakarta, Central Java, West Java, North Kalimantan, Gorontalo, Maluku, West Nusa Tenggara, Papua, West Papua, West Sumatra. This study was conducted on pharmacists who work in hospitals spread across several provinces in Indonesia. The minimum number of samples taken in this study using the Lemeshow formula, this is because the number of populations is unknown or infinite.and based on the formula obtained a minimum number of samples of 100 respondents.The number of respondents in this study were 332 who are pharmacists who are members of the IAI (Ikatan Apoteker Indonesia) organization in the target provinces (DKI Jakarta, West Java, Central Java, West Nusa Tenggara, North Kalimantan, Gorontalo, Maluku, Papua, West Papua and West Sumatra). A total of 186 respondents were excluded from the study sample because they did not meet the inclusion criteria, consisting of 54 hospital pharmacists who also had pharmacist license in Indonesia it's called SIPA (Surat Izin Apoteker) in other places and 132 pharmacists who worked with 1 SIPA not in hospitals (clinics, health centers, pharmacies). So that the remaining samples of 146 pharmacists were processed for statistical analysis.

Data Analysis

High knowledge criteria, if the respondent can answer > 60% of the questions and includes low criteria if the respondent answers < 60% of the question. For data with a Likert scale, from the scores obtained from the respondents, we calculate it to be a T score (standardized score). After the data is collected, the data is tabulated and coding is done. The data was then processed using the SPSS (Statistical Package for the Social Sciences) version 16 program. The statistical test used in this study was the Chi Square Test.

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III. DISCUSSION

Characteristics of the Study Participants

A total of 146 participants completed the KAP survey, it is known that demographic data shows that most of the respondents are female pharmacists 124 respondents (84.(%) with productive age in the range of <35 years (78 people = 53.4%) who married 122 respondents (76.7%) with an average education level of pharmacist (128 =87.7%) and less than 10 years of practice experience as a pharmacist (89 people = 61%) who generally work in hospitals that serve COVID-19 patients 118 respondents (80.8%) and most of the respondents come from provinces that have including the moderate category based on the cure rate as many as 96 people (65.8%). Similar to the research conducted on pharmacists in Goa, India that most pharmacists are female (79.5%) with an age under 40 years of 81.5% of the total respondents.[3] Judging from the period of work as a pharmacist, it is slightly different from a hospital pharmacist in Turkey, namely 48.8% of respondents have work experience of more than ten years as a hospital pharmacist.[4]

Table 1. Distribution of sociodemographic characteristics of hospital pharmacist respondents in Indonesia

No	Respondents characteristics	n = 146	
		F	%
1	Jenis Kelamin		
	Woman	124	84.9
	Man	22	15.1
2	Age		
	< 35 years old	78	53.4
	≥ 35 years old	68	46,6
3	Maritas Status		
	Single	34	23.3
	Married	122	76.7
4	Level of Education		
	Pharmacist	128	87.7
	Pharmacist + S2	28	12.3
5	Length of practice		

	< 10 years	89	61
	≥ 10 years	57	39
6	Hospital Type		
	Type of hospital that serves COVID patients	118	80.8
	Type of hospital that does not serves COVIDpatients	28	19.2
7	Provinces by Healing Rate		
	High	17	116
	Medium	96	65.8
	Low	33	22.6

Knowledge of Participants on COVID-19

A total of 146 participants completed the KAP survey, respondents who have a low level of knowledge are 45 people (30.8%), and respondents who have a high level of knowledge are 101 respondents (69.2%).The question that most answered correctly was knowledge question number 9, which was 144 respondents (99%), and the most incorrect question was question number 4, which was 126 respondents (86%). Almost all respondents (95%) already know the name of the virus that causes COVID-19 correctly, namely Coronavirus SARS 2 (SARS-CoV-2). Higher than that found by Cacodcar et al.[3] about 87%. However, for the place where the case was first discovered, more than 50% of respondents answered incorrectly. The first case was reported by a doctor in China's Wuhan province. Some of the people who were exposed were suspected of having contact with the Huanan Seafood wholesale market.[16]

Table 2. Distribution of respondents based on knowledge answers

Question Number	Question	True F (%)	False F (%)
4	Fever, fatigue, convulsions and dry cough are the main symptoms of COVID-19	20 (14)	126 (86)
3	The incubation period (from exposure to the first appearance of symptoms) of COVID-19 is 2-5 days	56 (38)	90 (62)
13	Mixing bleach and household cleaning fluids to get the maximum disinfectant is the right thing to do.	57 (39)	89 (61)
7	There is no difference in the risk of potential exposure to pharmacists who work in services with pharmacists who work in non-services.	63 (43)	83 (57)
2	The first case of COVID-19 was discovered in Hainan, China.	69 (47)	77 (53)
6	The virus that causes COVID-19 can spread through respiratory droplets when a patient coughs/sneezes even though they are more than two meters away	71 (49)	75 (51)
11	The virus that causes COVID-19 can spread through respiratory droplets when a patient coughs/sneezes even though they are more than two meters away	78 (53)	68 (47)
14	Azithromycin/levofloxacin given to COVID-19 patients to kill the SARS-2 coronavirus	81 (55)	65 (45)
16	Vitamin D in COVID-19 therapy is needed by people who are not exposed to sunlight (isolation)	100 (68)	46 (32)
15	WHO prohibits the use of dexamethasone in non-severe COVID-19 patients, unless the patient has received other therapies	117 (80)	29 (20)
12	To reduce the transmission of COVID-19, disinfection of environmental surfaces can use Na. Hypochlorite (eg: Bayclin) 0.1%.	127 (87)	19 (13)
5	All patients who are positive have symptom	129 (88)	17 (12)
17	The use of chloroquine for COVID is not recommended because it can cause heart rhythm disturbances	134 (92)	12 (8)
1	COVID-19 merupakan penyakit yang disebabkan oleh Coronavirus SARS 2 (SARS-CoV-2).	139 (95)	7 (5)
10	Using a mask or face shield and the presence of a glass barrier when serving patients who redeem drugs can reduce the spread of COVID-19	143 (98)	3 (2)
8	Always and regularly washing hands with soap or hand sanitizer can reduce the spread of the COVID-19 virus.	144 (99)	2(1)

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9	Avoiding touching your eyes, nose and mouth when serving patients can prevent COVID-19 infection.	144 (99)	2 (1)

Attitude of Participants on COVID-19

A total of 146 participants completed the KAP survey, it is known that 59 respondents (40.4%) have a negative attitude towards COVID-19 and 87 respondents (59.6%) have a positive attitude. The highest achievement of respondents in attitudes towards COVID-19 in statement number 2 they responded to worry when patients who redeemed drugs at the Pharmacy Installation/Pharmacy did not use masks, here the attitude of respondents reached 99% (only one person is not worried) . The lowest achievement of respondents' attitudes can be seen from their statement number 7 about their willingness to explain to patients about how to prepare disinfectants at home, where in this statement only 82% agreed.This is supported by research conducted by Zhang that 85% of health workers are worried about being exposed to the COVID-19 virus in the workplace.[10] In contrast to what was obtained in Jordan, only 68.4% of respondents believed that using a mask could reduce the spread of the virus.[8] Meanwhile, the willingness of pharmacists to explain to patients about how to prepare disinfectants at home was the least agreeable, which was 83%.

Table 3. Distribution of respondents based on attitude

No	Question		f (5)
1	I am worried that when I serve patients there is no glass barrier between me and the patient	Strongly disagree	0 (0)
		Do not agree	4 (3)
		Neutral	9 (6)
		Agree	52 (36)
		Strongly agree	81 (55)
2	I am worried if the patient who redeems the drug to the pharmacy/pharmacy installation does not wear a mask	Strongly disagree	0 (0)
		Do not agree	1 (1)
		Neutral	0 (0)
		Agree	23 (16)
		Strongly agree	122 (84)
3	I am afraid that while working in pharmaceutical facilities I do not use PPE (masks, face shields or gloves).	Strongly disagree	0 (0)
		Do not agree	3 (2)
		Neutral	5 (3)
		Agree	48 (33)
		Strongly agree	90 (62)
4	I feel the need to ensure the availability of pharmaceutical supplies needed for handling COVID-19	Strongly disagree	0 (0)
		Do not agree	0 (0)
		Neutral	2 (1)
		Agree	32 (22)
		Strongly agree	122 (77)
5	I am willing to provide pharmaceutical services for patients with COVID-19 infection with complete PPE	Strongly disagree	1 (1)
		Do not agree	4 (3)
		Neutral	20 (14)
		Agree	47 (32)
		Strongly agree	74 (51)
6	I feel uncomfortable when patients wait for drugs at the Pharmacy/Pharmaceutical Installation without keeping a distance.	Strongly disagree	1 (1)
		Do not agree	0 (0)
		Neutral	0 (0)
		Agree	38 (26)
		Strongly agree	107 (73)
7	I am willing to explain to patients how to prepare disinfectant at home.	Strongly disagree	0 (0)
		Do not agree	4 (3)
		Neutral	23 (16)
		Agree	65 (45)
		Strongly agree	54 (37)
8	If I am exposed to COVID-19, I will isolate according to the COVID-19 handling guidelines	Strongly disagree	0 (0)
		Do not agree	0 (0)
		Neutral	1 (0)
		Agree	27 (18)
		Strongly agree	118 (81)

Practice of Participants on COVID-19

A total of 146 participants completed the KAP survey, their good practice efforts against COVID-19 are found in statement number 3, they always avoid touching their eyes, mouth and nose when interacting with other people, and always implement health protocols when they get home from work by 83.6% of respondents.The lowest achievement of respondents' practices can be seen from their statement number 11 about the lack of participation in training related to COVID-19 during the pandemic (offline or online), where in this statement as many as 19.9%of respondents have never participated in training related to COVID-19 during this period. pandemic (offline or online). This study is in line with research in Bangladesh, only 55.1% of respondents had good practices against COVID-19.[7]

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Table 4. Distribution of respondents based on practice

No	Question		f (%)
1	Do you wash your hands the right way?	Always	100 (68)
		Often	41 (28.1)
		Rare	5 (3.4)
		Never	0 (0)
2	Do you always use a mask, face shield or gloves at work?	Always	107 (73.3)
		Often	29 (19.9)
		Rare	8 (5.5)
		Never	2 (1.4)
3	Do you avoid touching your eyes, nose or mouth when interacting with patients or customers?	Always	122 (83.6)
		Often	22 (15.1)
		Rare	1 (0.7)\
		Never	1 (0.7)
4	Do you always keep your distance from people who come to the pharmacy/pharmacy installation?	Always	103 (70.5)
		Often	33 (22.6)
		Rare	10 (6.8)
		Never	0 (0)
5	Do you clean the surface area where the work area is with disinfectant?	Always	56 (38.4)
		Often	56 (38.4)
		Rare	26 (17.8)
		Never	8 (5.5)
6	After work, do you follow the health protocol when you get home (shower and change clothes)	Always	122 (83.6)
		Often	15 (10.3)
		Rare	8 (5.5)
		Never	1 (0.7)\
7	I remind patients who will enter the Pharmacy / Pharmacy Installation to put on the correct mask	Always	98 (67.1)
		Often	41 (28,1)
		Rare	6 (4.1)
		Never	1 (0.7)\
8	Do you limit the number of patients waiting for drugs at the pharmacy/pharmacy installation	Always	38 (26)
		Often	51 (34.9)
		Rare	30 (20.5)
		Never	17 (18.5)
9	I make sure the hand washing facilities where I work are functioning properly	Always	97 (66.4)
		Often	37 (25.3)
		Rare	10 (6.8)
		Never	2 (1.4)
10	Do you ensure the availability of masks at your pharmacy/pharmacy installation ?	Always	118 (80.8)
		Often	26 (17.8)
		Rare	0 (0)
		Never	2 (1.4)
11	Did you participate in any training related to COVID-19 during the pandemic (offline or online)?	Always	20 (13.7)
		Often	46 (31.5)
		Rare	51 (34.9)
		Never	29 (19.9)
12	Are you educating the public regarding COVID-19 ?	Always	17 (11.6)
		Often	60 (41.1)
		Rare	46 (31.5)
		Never	23 (15.8)

Sociodemographic relationship with KAP

None of the sociodemographic factors gave a significant relationship (P<0.05) to knowledge and practice of covid 19. While Attitude is influenced by marital status (p=0.001), education (p=0.028) and type of hospital based on the services provided by the hospital to the hospital pharmacists who work in hospitals that provide services to covid patients have a more positive attitude (p= 0.015).

The Relationship between Knowledge and Practice, Attitude and Practice, Knowledge and Attitude

From the results of the study, there was no significant relationship between knowledge and attitudes (p=0.384) and practices (p=0.079). In terms of the influence of attitudes on practice, the results obtained in this study are the same as those conducted on pharmacy students in Egypt, namely between attitudes and practice there is a significant relationship (P < 0.005).[14] Different research conducted in Jordan[8] showed no relationship between each variable. Meanwhile from the results of this study there is a significant relationship between attitude and practice (p=0.003), this is in accordance with research conducted in Jordan.[8] Health workers in Jordan already have well-behaved habits in terms of preventing a disease, even before the COVID-19 virus outbreak, such as washing hands with hand sanitizer, using masks and following etiquette when coughing and sneezing.[8]

Table 9. Relationship Between Variables with Chi Square Test

Number	Variables	P Value
1	Knowledge and Practice	0,384
2	Attitude and Practice	0,003
3	Knowledge And Attitude	0,079

IV. CONCLUSION

From the results of this study it can be concluded pharmacists working in hospitals in Indonesia have a high level of knowledge, positive attitude and good practice about COVID-19. Hospital pharmacists should always attend training/seminars related to COVID-19 both offline and online so that they can update the information held by pharmacists. There needs to be clear policies and regulations regarding standard operating procedures for pharmaceutical services in hospitals that are adapted to the 5M roles.of determining whether drug side effects had occurred or not.

ETHICSAPPROVAL

Ethics approval was obtained from the respective ethics committees at the medical faculty of Andalas University, West Sumatra, Indonesia. 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 mde anonymous (code)

before analyses. The views and opinions of each informant were considered equally.

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