

THE RELATIONSHIP OF PHARMACEUTICAL SERVICES TOWARD THE USE OF HERBAL MEDICINE: INDONESIAN CASE

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ABSTRACT

Pharmaceutical services are services provided by a pharmacist in providing health information including the use of herbal medicines. The purpose of this study was to look at the relationship between pharmaceutical services and the use of herbal medicines in the city of Denpasar. The number of samples used was 97. Data were collected from January to February 2020 in the city of Denpasar using a questionnaire. Data were analysed using the binary logistic test. The results showed that pharmaceutical services did not have a significant relationship with the use of herbal medicines ($P > 0.05$). Pharmaceutical services such as completeness of the drug, pharmacist's readiness to assist, and the speed of drug preparation services that are less good can affect the physical, mental, and spiritual aspects of herbal medicine.

Keywords: Pharmacist; Pharmacy; Herbs; Pharmaceutical Services

INTRODUCTION

Pharmacy services are services provided by a pharmacist in providing health information. The results showed 75.78% of pharmaceutical practices were carried out in pharmacies¹. The high number of pharmacist pharmacy service practices in pharmacies will make people choose to seek information from these service places. People also choose pharmacies as a pharmaceutical service, because of the quality in evaluating the safety of good drugs².

The use of herbal medicines is a product that contains natural ingredients and has effectiveness as a drug, and most herbal medicines are sold in pharmacies. The results showed 59.7% of the public consulted the use of herbal medicines with pharmacists³. Other research also shows 68% of people get herbal medicines derived from pharmacists who work in pharmacies⁴. Pharmaceutical services provided by pharmacists affect the use of herbal medicines in the community, but this implementation cannot be given well. Several studies indicate the implementation of

pharmaceutical services in pharmacies has not been carried out properly, such as appropriate drug information (73%) and completeness of the drug (31.8%)^{5,6}. Based on the above problems, pharmaceutical services and the use of herbal medicines are related. The purpose of this study was to determine the relationship between pharmaceutical services and the use of herbal medicines.

MATERIAL AND METHODS

This study uses a cross-sectional survey design. This study has obtained an ethical clearance permit number No.001 / IIK BALI / EC / XII / 2019. Researchers in this study gave questionnaires to the public. This research was conducted in January-February 2020. The sampling method uses purposive sampling. The number of samples is calculated based on the Levy and Lemenshow formulas because the population is unknown⁷.

$$N = \frac{z_{1-\alpha}^2 p(1-p)}{d^2}$$

$$N = \frac{(1.96^2) 0.5 (1-0.5)}{0.1^2} = 97$$

Information ; N = sample, P = chance,
d = Limit error or absolute precision,
 $z_{1-\alpha}^2$ = level of confidence.

The sample used in this study was 97. The study inclusion criteria were people aged 18-60 years, choosing a pharmacy as a place of drug information, and residing in the city of Denpasar. The exclusion criterion for this study is the community who work as health workers.

The pharmacy service questionnaire and the use of herbal medicines are based on theory and focus group design (FGD) with pharmacists in Denpasar. Reliability-validity test using 42 samples. The test results are said to be validity-reliability if the value of $R > 0.304$ and Cronbach's $\alpha > 0.60$. The results of the pharmaceutical service validity-reliability questionnaire test (19 questions) showed the lowest validity value was 0.330, and the reliability value was 0.90. The results of the validity-reliability test for the use of herbal medicines (10 questions) showed the lowest validity value was 0.53, and the reliability value was 0.89. The data analysis method uses binary logistic test.

RESULTS

Sample Characteristics

The results of table 1 about the characteristics of the sample show that the number of female sex (53.6%) is higher than that of males (46.4%). Marital status is less (39.2%) compared to married (60.8%). Non-school (NS)/Elementary school (ES)/Junior high school (JHS)/Senior high school (SHS) (62.9%) community education is more than Diploma/Bachelor/Master degree (MD) (37.1%). Most jobs in the community are private employees (63.9%), employers (16.3%), unemployed (10.3%), and civil servants (8.2%). The least age is elderly (13.4%), late adulthood (23.7%), early adulthood (30.9%), and adolescents (32.0%)

Pharmacy service questionnaire value

The results of Table 2 show that pharmaceutical service levels that are still lacking are the completeness of the drug

(19.6%), the pharmacist's readiness to assist (18.6%), and the speed of drug preparation service ≤ 15 minutes (17.5%). Excellent pharmaceutical services are the completeness, readiness, and cleanliness of the equipment used (38.1%), clean and neatly dressed pharmacists (37.1%), and the drugs given as requested (37.1%).

Table 1. Characteristics of the sample

Sample Characteristics	f	%
Gender		
Female	52	53.6
Male	45	46.4
Marital status		
Single	38	39.2
Married	59	60.8
Education		
NS/ ES/JHS/SHS	61	62.9
Diploma/Bachelor/MD	36	37.1
Profession		
Does not work	10	10.3
General employees	62	63.9
Businessman	17	16.3
Civil servants	8	8.2
Age		
Teenager	31	32.0
Early adulthood	30	30.9
Late adulthood	23	23.7
Elderly	13	13.4

Recapitulation of herbal medicine use questionnaire

The recapitulation results of the use of herbal medicines are shown in table 3. The best value is the more knowledge about herbal medicine, the more likely you will use it with a true rating of 17.5% and a very true 8.2%. The category of rating for the least good value is the question you believe in the physical, mental, and spiritual aspects of health. It is better to use herbal medicines with incorrect, incorrect, and true enough values respectively, 5.2%, 26.8%, and 55.7%.

Binary logistic test

The results of the binary logistic test analysis are shown in table 4. The insignificant results regarding the

characteristics of the sample in Denpasar about gender, occupation, education, marital status, and age with the use of herbal medicines ($P > 0.05$). The relationship between pharmaceutical services does not provide significant value with the use of herbal medicines ($P > 0.05$).

DISCUSSION

The results showed there was no significant relationship between pharmaceutical services with the use of herbal medicines. Excellent pharmaceutical services include completeness, readiness, cleanliness of the equipment used, clean-tidy dressed pharmacists, and medicines given as requested do not affect the knowledge of herbal medicines. This is in line with research that states that the most important use of herbal medicines is indicative of information, drug interactions, and side effects of herbal products⁸. This is supported by research that says pharmacists do not have enough information about the types of herbal medicines⁹. Pharmaceutical service research data mention the completeness of the drug, the pharmacist's readiness to assist, and the speed of drug preparation service ≤ 15 minutes is still not good and can affect the use of herbal medicine in physical, mental, and spiritual aspects.

Pharmaceutical service research data shows the level of pharmaceutical services regarding the completeness of the drug is still not good. The completeness of the drug is very closely related to the number of herbal medicine variations in the pharmacy. The results showed that more variations in herbal medicines would increase the use of public¹⁰. In regulating variations of herbal medicines requires the presence of pharmacists in the procurement of herbal medicines, and can influence patients in using drugs¹¹. Good completeness of medicine will be able to increase the use of herbal medicines, especially for physical, mental, and spiritual aspects. The results showed the presence of pharmacists in pharmacies with a workload of 40 hours or more per week to improve the system of drug procurement¹².

Pharmaceutical services in terms of pharmacist readiness to help are still lacking and the public will not get complete knowledge of herbal medicines. The results showed the role of pharmacists was limited due to lack of time, management, and skills in the use of information systems,¹³. This is supported by research which states that pharmacists are in pharmacies less than 20 hours/week, so that the interaction between pharmacists and patients is very low¹⁴. This can result in information related to herbal medicine, especially as physical, mental, and spiritual aspects cannot be conveyed precisely. The results of other studies indicate that pharmacists generally show good knowledge, positive attitudes, and effective practices towards herbal products¹⁵. This result is also supported by studies of patient perceptions about pharmacists who can provide safe use of medicines¹⁶.

The speed of service in pharmaceutical services is a guarantee for the public to get medicine. The right speed of service will be able to make patients more focused on gaining knowledge and can improve the physical, mental, and spiritual aspects of herbal medicine use. The results of this study are in line with the speed of pharmacy services that are not good, which makes people not focus on receiving information and can influence drug use¹⁷. The number of pharmacists following pharmacy operating hours can help increase service speed. This is supported by the research that pharmacists have many opportunities to increase the speed of the services they provide by adjusting the needs of the existing number of officers¹⁸. Other research also mentions the number of pharmacists by the needs of pharmacy operating hours can increase the speed of pharmaceutical services¹⁹.

Table 2. Pharmacy service questionnaire recapitulation

	Pharmaceutical Services	f (%)				
		Not good	Not good	Pretty good	Good	Very good
1	Drug and drug queuing system	2 (2.1)	2 (2.1)	12 (12.4)	60 (61.9)	21 (21.6)
2	The medicine is completely available.	1 (1)	1 (1)	19 (19.6)	55 (56.7)	21 (21.6)
3	Medicine sold does not exceed the highest retail price	1 (1)	1 (1)	16 (16.5)	57 (58.8)	22 (22.7)
4	Pharmacists serve with a friendly and smiling	0 (0)	1 (1)	12 (12.4)	49 (50.5)	35 (36.1)
5	pharmacists are always ready to help	0 (0)	0 (0)	18 (18.6)	55 (56.7)	24 (24.7)
6	Guaranteed service speed of less than 15 minutes	3 (3.1)	4 (4.1)	17 (17.5)	45 (46.4)	28 (28.9)
7	Pharmacists are responsive to consumer complaints	0 (0)	2 (2.1)	14 (14.4)	55 (56.7)	26 (26.8)
8	Pharmacists are able to provide solutions to problems faced by consumers	0 (0)	4 (4.1)	12 (12.4)	58 (59.8)	23 (23.7)
9	Good communication between pharmacists and consumers.	1 (1)	1 (1)	11 (11.3)	58 (59.8)	26 (26.8)
10	Consumers get clear and easy to understand information about prescriptions / drugs	0 (0)	1 (1)	16 (16.5)	46 (47.4)	34 (35.1)
11	Pharmacists have good knowledge and skills at work.	0 (0)	1 (1)	11 (11.3)	52 (53.6)	33 (34)
12	The quality of the medicines purchased is guaranteed.	1 (1)	1 (1)	8 (8.2)	53 (54.6)	34 (35.1)
13	Medications are given as requested	0 (1)	1 (1)	6 (6.2)	54 (55.7)	36 (37.1)
14	Pharmacists pay attention to consumer complaints.	0 (0)	0 (0)	10 (10.3)	58 (59.8)	29 (29.9)
15	Pharmacists provide services to all consumers regardless of social status	0 (0)	1 (1)	13 (13.4)	48 (49.5)	35 (36.1)
16	Consumers feel comfortable while waiting for drugs.	0 (0)	2 (2.1)	7 (7.2)	57 (58.1)	31 (32)
17	The pharmacy looks clean and neat	0 (1)	1 (1)	12 (12.4)	50 (51.5)	34 (35.1)
18	Completeness, readiness and cleanliness of the equipment used	0 (0)	3 (3.1)	11 (11.3)	46 (47.4)	37 (38.1)
19	Clean and neatly dressed pharmacists	0 (0)	1 (1)	10 (10.3)	50 (51.5)	36 (37.1)

Table 3. Recapitulation of herbal medicine use questionnaire

No	Use of herbal medicines	f (%)				
		False	Not true	True enough	Correct	Very true
1	Herbal remedies provide good information for maintaining a healthy lifestyle	6 (6.2)	13 (13.4)	64 (66)	8 (8.2)	6 (6.2)
2	Herbal remedies have little side effects	4 (4.1)	23 (23.7)	53 (54.6)	12 (12.4)	5 (5.2)
3	Herbal remedies involve natural plant formulas that are healthier than taking chemical drugs	3 (3.1)	15 (15.5)	59 (60.8)	13 (13.4)	7 (7.2)
4	The use of herbal medicines will be more frequent if there are more herbal clinics	4 (4.1)	20 (20.6)	55 (56.7)	12 (12.4)	6 (6.2)
5	Herbal remedies provide safer defence and healing	4 (4.1)	13 (13.4)	63 (64.9)	10 (10.3)	7 (7.2)
6	The more knowledge about herbal medicine, the more likely you will use it	3 (3.1)	12 (12.4)	57 (58.8)	17 (17.5)	8 (8.2)
7	The family supports the use of herbal medicines	3 (3.1)	17 (17.5)	57 (58.8)	11 (11.3)	9 (9.3)
8	You are more likely to use herbal medicine if your friends use it too	9 (9.3)	34 (35.1)	40 (41.2)	11 (11.3)	3 (3.1)
9	You believe in the physical, mental and spiritual aspects of health, it is better to use herbal medicine	5 (5.2)	26 (26.8)	54 (55.7)	6 (6.2)	6 (6.2)
10	The use of herbal medicines is not dangerous	6 (6.2)	23 (23.7)	54 (55.7)	7 (7.2)	7 (7.2)

Table 4. Binary logistic test for pharmaceutical services using herbal medicines

Characteristics of pharmaceutical samples and services	OR	95% CI		P.
		Lower limit	Upper limit	
Gender	0.422	0.175	1,014	0.054
Profession	0.597	0.324	1,101	0.099
Education	1,023	0.405	2,585	0.962
Marital status	0.516	0.161	1,660	0.267
Age	1,219	0.694	2,142	0.491
Pharmaceutical Services	0.765	0.325	1,797	0.538

CONCLUSION

Pharmaceutical services do not provide a significant relationship with the use of herbal medicines. This is due to the completeness of the drug, the pharmacist's readiness to assist and the speed of drug preparation services is still not good so that it can affect the physical, mental, and spiritual aspects of herbal medicine. Pharmaceutical services need special attention regarding the workload and the number of pharmacists at the pharmacy.

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