FACTORS RELATED TO MEDICINAL PLANT SELECTION AS FIRST AID FOR HEALTH PROBLEMS IN COMMUNITIES AROUND AIR DINGIN LANDFILL AREA

Wiya Elsa Fitri [1*], Oktariyani Dasril[2], Adewirli Putra[3]

[1,2] Syedza Saintika Institute of Health Science
[3]Mohammad Natsir University

*Corresponding author : wiyaelsafitri@gmail.com

ABSTRACT

The increasing population growth, technological developments, and environmental pollution have an impact on human health. To treat various health problems, people today tend to prefer to use modern medicine (synthetic chemistry) compared to the use of medicinal plants (herbal medicine). The Theory Health Belief Model can be used as the basis for the behavior of medicine plant selection in treating health problems. This study aims to determine the factors associated with medicine plant selection as first aid for health problems in communities around the Air Dingin Landfill. This research is a quantitative analytic with a cross-sectional design. The research was conducted in August 2019 in the residential around the Air Dingin Landfill area. The sample in this study were all heads of family or wives living around the landfill area with 66 respondents with the sampling technique was the total population. Then, the data were analyzed by univariate and bivariate using the SPSS program with the chi-square test to see the relationship between independent variables (knowledge, attitudes, perceived benefits, and economic status) with the dependent variable (medicinal plants selection).There are the relationship between Knowledge (p-value 0,004), Attitude (p-value 0,00), Beneficial Perception (p-value 0,001), and Economic Statues (p-value 0,03) with Medicinal Plant as the First Aid in Health Problem around Air Dingin Landfill Area.

Keywords: medicinal plant, knowledge, attitude, benefit, Landfill

INTRODUCTION

Along with the increasing population growth, it causes environmental deterioration due to environmental pollution. Deterioration of environmental quality greatly affects environmental functions, both abiotic, biotic, and social. environmental problems such as waste pollution, air pollution, limited clean water, damage to natural resources, erosion, flooding, cause the development of various cases of the disease. As a result, residents who live in polluted isolation are prone to disease due to substances that harm the body in their environment (Puspitasari *et al.*, 2009).

Decreasing environmental quality and increasing population are the factors causing the increasing incidence of disease in Indonesia, especially environmentally-based diseases. DHF is a contagious disease that has increased cases every year. The highest incidence of DHF cases in Indonesia in 2016 was recorded at 2014,171 patients (IR = 78.85 / 100,000 population) with a mortality rate of 1,598 (CFR = 0.78%) and a mortality rate of 751 in 2019. (profil kesehatan indonesia, 2018, Sandra et al., 2019)). Indonesia is ranked 5th and contributes 60% of all TB cases in the world with a TB prevalence of 285 per 100,000 population with

a mortality rate of 27 per 100,000 population (Astariani, Yasa and Lestari, 2013),(Noveyani et al., 2013)). Apart from DHF and TB, other environment-based diseases with a high incidence prevalence are respiratory Tract Infection, diarrhea in children under five, and pneumonia (Dirjen P2P Kemkes RI, 2019)

In treating various diseases, both communicable and non-communicable diseases, people today tend to use modern medicines (synthetic chemical drugs). Treatment using synthetic In treating various diseases, both communicable and non-communicable diseases, people today tend to use modern medicines (synthetic chemical drugs). Treatment using synthetic chemical compounds should be avoided. Medicines are poison if they are not given according to the prescribed rules. According to Chen et al.,(2013) Many drugs approved by Food and Drug Administration (FDA) were recalled each year after some unexpected side effects were discovered. The drug side effects may have seriously harmful consequences to human beings. To be able to know the side effects of synthetic chemical drugs also takes a long time, about 10-20 years, while its use has been previously permitted.

The use of synthetic chemical compounds, WHO (World Health Organization) recommends the use of traditional medicines including herbs in public health maintenance, prevention, and treatment of diseases, especially for chronic diseases, degenerative diseases, and cancer. According to WHO, traditional medicine including herbal medicine has been used continuously by every country in the world. However, treatment using traditional medicine must be used rationally and based on evidence. In developing countries users of traditional medicine account for more than 80% of the population (Siahaan and Aryastami, 2018).

Indonesia is a rich country in natural resources. Traditional medicine has existed since ancient times and has become the local wisdom of the community that can improve the standard of life, both economically and the health of the local community. Indonesia is well known as a country rich in natural ingredients. Indonesia has 30,000 growing species (from 40,000 species in the world) and 9,600 plant species that have medicinal properties, and ± 300 plant species have been used as raw materials for herbal medicine by the herbal medicine industry in Indonesia. However, along with the development of technology, the use of medicinal plants is decreasing. It is caused by people turning to chemical treatment because the reaction is faster (Salim and Munadi, 2017). In general, the use of traditional medicine is considered safer than the use of modern medicine. It is because medicinal plants have relatively fewer side effects than modern medicine (Sumayyah and Salsabila, 2017).

Air Dingin Landfill is a waste storage location for Padang City that stores 400-450 tons per day. Around the area, there are residential areas with a radius of 50 meters closest (Audina, 2018). Residents who live around the landfill area every day breathe air contaminated with garbage, as well as contaminated water (Yatim and Mukhlis, 2013). From the Air Dingin Public Health Centre report, the high incidence of diarrhea in children under five and complaints of respiratory tract infection from residents around the Air Dingin Landfill area. However, people often ignore the complaints they feel on the grounds of economic factors and are busy working every day for treatment. The surrounding community can take advantage of medicinal plants around the yard as first aid when sick (Fitri *et al.*, 2019).

Several factors influence people's behavior in medicinal plant selection. They are knowledge, attitudes, subjective views, seriousness, and the perceived benefits of using medicinal plants. The factors that most influence the preference for synthetic chemical medicine are psychological factors (perception) and social factors (information). The factors that most influence the selection of medicinal plants (Herbal Medicine) are psychological factors (perceived benefits) and personal factors (knowledge, attitudes, and income).

(Widiyanto, Yuniarno and Kuswanto, 2015). Based on this background, it is necessary to research the factors related to the use of medicinal plants as the first aids in health problems in the communities around the Air Dingin Landfill area.

MATERIAL AND METHODS

This research is a quantitative analytic with a cross-sectional design. This research was conducted in August 2019 which was located in the residential area around Air Dingin Landfill. The population in this study were all heads of family or wives living around the landfill area. The sampling technique was total population of 66 respondents. The dependent variable in this study was the use of medicinal plants and the independent variables were knowledge, attitude, beneficial perception, and economic status. The data were analyzed in univariate and bivariate ways to see the relationship between each independent variable and the dependent variable using the SPSS program with the chi-square test (Dahlan, 2014).

RESULTS

From the data analysis results of the research, conducted on 66 respondents who live around the cold water landfill area, regarding the use of medicinal plants as first aid for health problems, the following results were obtained:

Univariate Analysis

Table1
Caracteristics of Respondents Around The Air Dingin Landfill Area

Characteristics of Respondents		*f*	*%*
Status	Head of Family	8	12,12
	Wife	58	87,88
Age	20 – 30 years	18	27,77
	31 – 40 years	31	46,97
	41 – 50 years	11	16,67
	51 – 60 years	6	9,09
Education	Junior High School and below	45	68,18
	Senior High School Graduated and above	21	31,81
Health Insurance	Free Health Insurance (JKN-KIS)	36	54,55
	Independent Health Insurance	14	21,21
	Not have Health Insurance	16	24,24
Occupation	Scavenger	21	31,81
	Enterpreneur	8	12,12
	Civil servants	3	4,55
	Housewife	34	51,52

Based on the results of the analysis on the characteristics of the respondents, it was known that most of the respondents 87.88% were wives, 31 respondents (46.97%) aged 31-40 years, 45 respondents (68.18%) had low education (did not complete elementary school until Junior high school), 50 respondents (75,76%) have health insurance, 34 respondents (51.52%) were housewives and 21

respondents (31.81%) worked as scavengers in the Air Dingin Landfill area.

Table.2
Frequency Distribution of Variables in the Medicinal Plant Selection In Communities Around Air Dingin Landfill Area

NO	*VARIABELS*	*f*	*%*
1.	**Medicinal Plant Selection**		
	First Choice	28	42.42
	Second Choice	38	57,58
2.	**Knowledge**		
	High	30	45,45
	Low	36	54,55
3.	**Attitude**		
	Positif	32	48,48
	Negatif	34	51,52
4	**Benefit Perception**		
	Beneficial	25	37,88
	Low Beneficial	41	62,12
5	**Economics Status**		
	Above the regional minimum wage	29	43,94
	Under the region minimum wage	37	56,06

Based on the frequency distribution in table 3.2, it was known that 37 respondents chose medicinal plants as the second choice as first aid in facing health problems, 36 respondents (54.55%) had low knowledge about the use of medicinal plants, 34 (51.52%) respondents had attitudes which is negative towards the use of medicinal plants, 41 respondents (62.12%) on the perceived benefits stated that medicinal plants have low benefits, and 37 respondents (56.06%) received the minimum wage under the minimum wage region in the communities around the Air Dingin Landfill Area.

Bivariate Analysis

Tabel 3
The relationship between knowledge and Medicinal Plant Selection as first aid for health problems around Air Dingin landfill Area

Variabels		Medicinal Plant Selection				Total		P value
		First Choice		Second Choice				
		f	%	f	%	f	%	
Knowledge	High	21	70	10	30	30	100,0	0,004
	Low	8	22,33	28	77,78	36	100,0	
	Total	28		38		66		
Attitude	Positif	26	81,25	6	18,75	32	100,0	0,00
	Negatif	2	5,88	32	94,12	34	100,0	
	Total	28		38		66		
Benefit Perception	Beneficial	21	84	4	16	25	100,0	0,001
	Low Beneficial	5	12,19	36	87,81	41	100,0	

	Total	28		38		66		
Economic Statues	Above the regional minimum wage	8	27,59	21	72,41	29	100,0	0,03
	Under the region minimum wage	20	54,05	17	45.95	37	100,0	
	Total	28		38		66		

Based on table 3.3, it is known that there is a relationship between knowledge (p-value 0.004), attitude (p-value 0.00), perceived benefits (p-value 0.03), and economic status (p-value 0.03) with the use of medicinal plants as first aid for health problem in communities around Air Dingin Landfill area, where the p-value is <0.05 so that Ho is rejected and Ha is accepted, which means that there is a significant relationship between the independent and dependent variables tested.

DISCUSSION

The Relationship Between Knowledge And Medicinal Plant Selection As First Aid For Health Problems In Communities Around Air Dingin Landfill Area

Respondent‘s knowledge about the use of medicinal plants is quite low, 30 respondents (54,55%) have low knowledge and most of them, 28 respondents (77,78%) chose medicinal plants as the second choice in overcoming health problems. The statistical test obtained p-value = 0.004 (p-value <0.05%) which means that Ha is accepted, it can be concluded that there is a significant relationship between knowledge and medicinal plant Selection as first aid in communities around Air Dingin Landfill Area.

Based on analysis result, only 43.94% respondents who know the advantages of traditional medicine and 40.90% do not know how to process medicinal plants. Public knowledge about traditional medicine generally comes from experiences that have been passed down from generation to generation, mass/electronic media, information which obtained from family and the social environment. Another reason why people have not used many medicinal plants is that many people do not know the function and use of traditional medicines. there is no counseling from health workers, especially pharmacists about the use and benefits of traditional medicines (Jabbar, Musdalipah and Nurwati, 2017). The relationship between biopharmaceuticals is underdeveloped in Indonesia, partly due to the lack of public knowledge of the properties and ways of using medicinal plants. People have limited knowledge of various herbal medicines and their properties (Helmi A, 2017).

The low level of public knowledge is also related to the education level of respondents, 68.18% of respondents have low education (Not Completed Elementary School-Junior High School Graduate). For that, it is necessary to make efforts to improve to the community use medicinal plants as the fitrst aid in health problem desease. The higher the level of education, the knowledge will also increase. It is related to the theory, that the level of education of an individual is one of the factors that will support his or her ability to receive information. The higher a person's education level, the perspective also be wider and way of

thinking in dealing with a situation that occurs around him (Ikaditya, 2016). For this reason, it is necessary to make efforts to increase public knowledge by the government, regarding the types of medicinal plants and their processing.

The Relationship Between Attitude And Medicinal Plant Selection As First Aid For Health Problems In Communities Around Air Dingin Landfill Area

Of the total 66 respondents, 34 respondents (51.52%) had negative attitudes, and most of them 32 respondents (94.12%) chose medicinal plants as the second choice. The statistical test obtained p-value = 0.004 (p-value <0.05%) which means that Ha is accepted, it can be concluded that there is a significant relationship between knowledge and medicinal plant Selection as first aid in communities around Air Dingin Landfill area.

From the results of the questionnaire analysis, 60.61% of respondents strongly agree and agree that processing medicinal plants takes a lot of time, 57.8% of respondents strongly agree and agree that using modern medicine pain will heal faster than using traditional medicine. It was because most of the respondents work and do not have free time to find and process several types of medicinal plants. Respondents prefer to go to buy modern medicines that can be obtained quickly at drugstores or food stalls. They presumed that the reactions of chemicals modern medicine are faster to relieve complaints. It proves that the level of public trust in traditional medicinal plants to heal or maintain health is still low. The public considers that Medicinal Plants have a longer response than synthetic chemical drugs in treating diseases. It is because the pharmacological effects are mostly weak, the raw materials are not standardized, and a series of tests have not been carried out to ensure their effectiveness and safety (Ningsih, 2016).

From the results of the questionnaire processing, the community tends to ignore complaints if they are still mild, such as coughs, colds, headaches, and colds. When there is a decline in health conditions, the community prefers to go to a health facility center because it is quite close to the residential area, approximately 1 km. From the results of Liana (2017) study, there is a relationship between the distance of health facilities and the use of traditional medicine as self-medication. Distance is an important factor for the community to take advantage of health services. In general, someone will visit a health service facility if they feel that their health condition has deteriorated considerably.

The Relationship Between Beneficial Perseption And Medicinal Plant Selection As First Aid For Health Problems In Communities Around Air Dingin Landfill Area

From a total of 66 respondents, 41 respondents (62.12%) did not have a perception of the benefits of medicinal plants, and most of these respondents, 36 respondents (87.1%) chose medicinal plants as the second choice as first aid in communities around Air Dingin Landfill Area. Base of the questionnaire analysis result, only 50% of respondents said they did not feel the benefits contained in traditional medicinal plants. 52% said they only felt the benefits after a long time. It is probably because the ingredients most of the modern chemical medicine consists of several active substances with a clear identity and quantity, while traditional medicine does not so that respondents do not believe in its benefits. And people do not know exactly how many they need and how to measure doses of these medicinal plants in treating disease complaints.

Modern medicine contains one or more active substances with a clear identity and quantity, while medicinal plants contain chemical ingredients and generally, it is not known or certain that the active substances play a role in causing therapeutic effects or causing side effects. In addition, the chemical content of herbal medicines is determined by many factors. This is because plants are living organisms so that the geographical location/place of growing plants, climate, cultivation method, harvest method, and time,

post-harvest treatment (drying, storage) can affect the chemical content of herbal plants (Widiarti, Bachri and Husaini, 2016).

The Relationship Between Economic Statues And Medicinal Plant Selection As First Aid For Health Problems Around Air Dingin Landfill Area

The statistical test obtained p-value = 0.014 (p-value <0.05%) which means that Ha is accepted, it can be concluded that there is a significant relationship between Economic Status and medicinal plant Selection as first aid Around TPA Air Dingin Area. From 66 respondents, 56.06% of respondents had an income below the regional minimum wage, but only 54% of these respondents chose medicinal plants as the first choice. This may be due to the busy response that partially works, to fulfill needs, so that they often ignore complaints if they feel less serious and prefer synthetic chemical drugs because they are considered to have faster reactions. However, the community does not know and even ignores the dangers caused by consuming these drugs.

Even with middle to lower economic status, almost half of respondents (45.95%) prefer treatment with modern chemistry. From the results of the analysis of the characteristics of the respondents, was found that this was because these people generally received free health insurance (JKN-KIS). When experiencing minor health problems, respondents often ignore it, due to being busy. However, when their health condition has deteriorated, so they feel the need for treatment, people tend to prefer to go to the Air Dingin Health Center. With insurance that they have, the community can get a direct diagnosis and get free medicine, so that people are more confident with the treatment and chemical medicines that giving to him. However, on the other hand, people who do not have insurance generally choose to do self-medication when they are sick. Supadmi (2013) states that people who do not have health insurance are more likely to self-medicate with herbal plants than those who have health insurance.

CONCLUSION

Based on the research results, the following conclusions are obtained:

1. There is the relationship between Knowledge with Medicinal Plant as the First Aid in Health Problem around Air Dingin Landfill Area.
2. There is the relationship between Attitude with Medicinal Plant as the First Aid in Health Problem around Air Dingin Landfill Area.
3. There is the relationship between Beneficial Perception with Medicinal Plant as the First Aid in Health Problem around Air Dingin Landfill Area.
4. There is the relationship between Economic Statues with Medicinal Plant as the First Aid in Health Problem around Air Dingin Landfill Area.

This is recommended that the relevant health workers provide training to the community regarding the use of medicinal plants and how to process them as first aid in health problems in the community around Air Dingin Landfill area.

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