

## Traditional Medicine Pattern for Self-Medication in Temajuk Village, a 3T (Frontier, Outermost, and Underdeveloped) Region in West Kalimantan

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### Abstract

Living in a 3T region (frontier, outermost, and underdeveloped) of West Kalimantan, people who live in Temajuk village, have long been practicing self-medication using traditional medicines. Despite the existence of a primary care service in Temajuk, the people's habit in utilising natural herbal medicine to cure their illness still exists until now. The aim of this study was to identify patterns of traditional medicine as self-medication treatment among Temajuk villagers. This study was a cross sectional descriptive study using 138 participants who met the criteria including aged 20-50 years and have been practising self-medication. The participants were asked to fill a set of questionnaire. The results of this study showed that the average age of participants was 33.86 y.o. They used Piper betle folium mostly (39.86%) in self-medication practice. 44.2% of participants believed in traditional medicine. Fever (22.47%) was the most chosen indications to use traditional medicine for self-medication. 60.87% respondents used traditional plant from their back and 59.42% of them made it into decocta or infusum. Most of participants did not experience any adverse effect (86.96%) during self-medication practice. In brief, this study proved that the practice of self-medication using traditional medicine is often to occur and still important for people in Temajuk village.

**Keywords:** self-medication, traditional medicine, 3T region, Temajuk village.

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### 1 Introduction

Self-medication is the selection and use of medicines by individuals to treat self-recognised illnesses or symptoms. Medicines for self-medication are often called nonprescription or over the counter (OTC) and are available without a doctor's prescription

through pharmacies [1]. Now-a-days health care services getting costlier and in developing countries health care facilities are not available. Hence, that time self-medication becomes an obvious choice of healthcare service [2]. Herbs or traditional medicines can access by people without prescription either in self-medication practice [3]. Utilization on herbal

medicines is relatively high among rural populations, and is associated with a lack of access to public healthcare [4, 5]. In Indonesia, the traditional medicines, homeopathic therapies or another complementary and alternative medicines have been used for hundred years [6]. Moreover that people living in Temajuk as a 3T region (frontier, outermost, and underdeveloped) possibly used the traditional medicine in self-medication practice. One of the 3T region criteria is due to Temajuk is a coastal village located on the Indonesia-Malaysia border area in the northwest of West Kalimantan [7], it is far from the city and less affordable for access to health care center.

The increased use of complementary and alternative medicines as well as the lack of clinical evidence as to their safety and effectiveness, and the potential for serious adverse events when the product are combined with each other or with nonprescription and prescription medicines [8]. Even more, the use of traditional medicines among a frontier, outermost, and underdeveloped region has not been widely studied. It demands that researcher should to identify Temajuk people's habit in utilising natural and traditional medicines.

## 2 Experimental section

This study was a descriptive with cross sectional design. The study was undertaken in 2018, in Temajuk village, in Sambas Regency the West Borneo province of Indonesia. One hundred and thirty eight peoples involved as participants who met all inclusion criteria. The sampling was done using consecutive technique. The inclusion criteria of this study were (a) in aged 20-50 years old; (b) domiciled in Temajuk village; (c) have been practicing self-medication, whereas the exclusion criteria were (a) worked as health practitioner; and (b) did not fill the questionnaire completely. Ethical clearance was approved for this study, only participants who gave informed consent were recruited for this study.

The data collected was obtained using questionnaires, which had previously been tested for validation and reliability. The participants's answers from questionnaire

analyzed by univariate analysis. All characteristic and demographic data of participants describes in frequency and percentages. The result of this study present in tables and figure.

## 3 Result and Discussion

Table 1. Socio-demographic characteristic of participants

No.	Characteristic	Frequency	%
Gender	Male	47	34.06
	Female	91	65.94
Age	Mean (years)	33.86	
Occupation	Teacher	1	0.73
	Housewife	25	18.12
	Fisherman	3	2.17
	Farmer	85	61.59
	Entrepreneur	18	13.04
	Government officer	2	1.45
	Unemployee	4	2.90
Level of Education	Primary School	66	47.83
	Middle School	25	18.12
	High School	38	27.53
	Academy/college	9	6.52
Marital Status	Single	10	7.25
	Married	128	92.75
Income	Uncertain	62	44.93
	Fixed	76	55.07
	Mean (Rupiah)	824.671,05	

Socio-demographic and characteristic of participant information showed on table 1. One hundred and thirty eight Temajuk people were recruited as participant in this study. Female were the most practice in self-medication than male. Female more dominant in practice of self-medication because they were much involved than male in caring the family members [9]. The mean age of participants were 33.85 years; most of participants works as farmer (61.59%) with uncertainly income (44.93%); and they only completed their education at primary level (47.83%). Those results represent the Temajuk village condition <sup>1</sup>which still under 3T region. The 3 T region characterized in 3 aspects are frontier, outermost, and underdeveloped. Age, education level, occupation, income level and location are the factors related to appropriate in utilization of traditional medicine [9, 10]. In other study, a higher frequency of people who have lower income because they tend to use traditional medicine from they village than consult to doctor [10, 11].

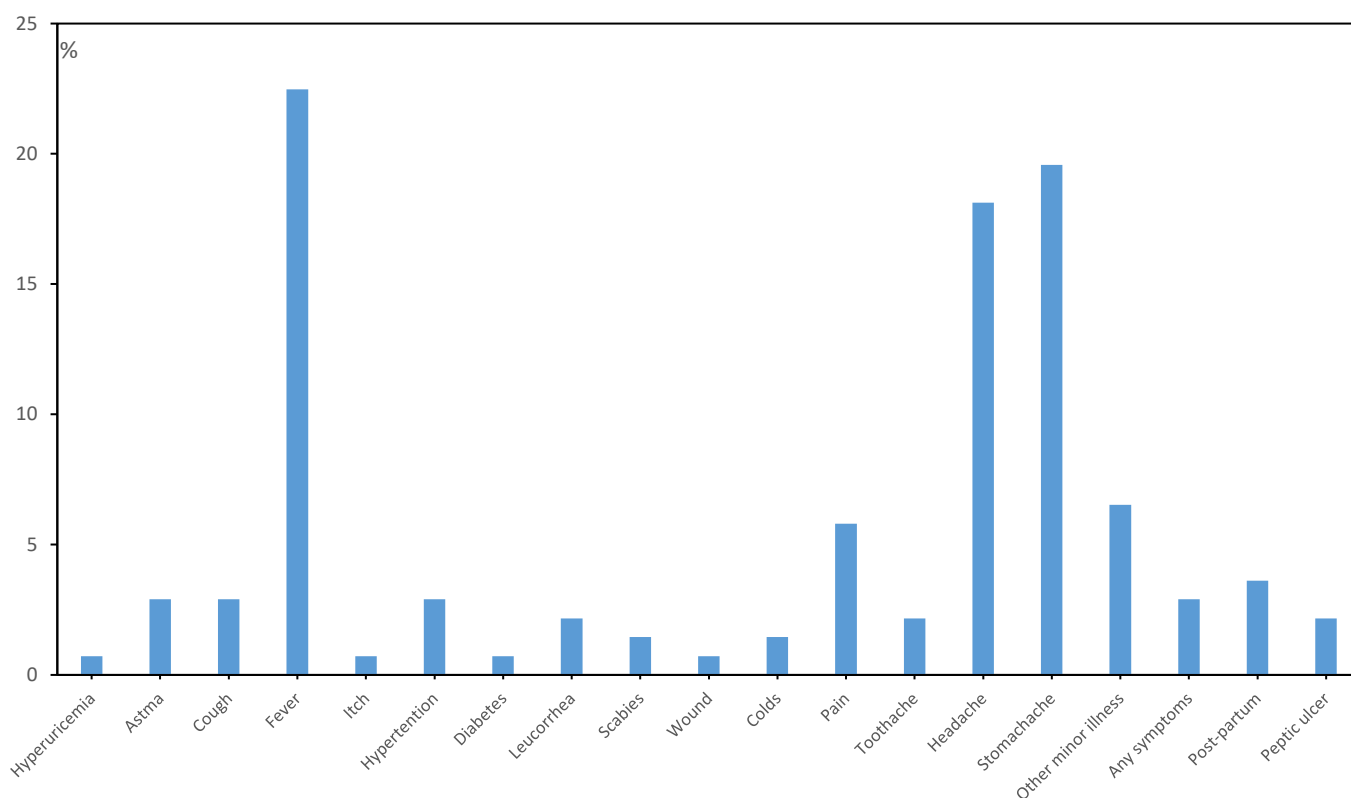


Figure. 1. Distribution of Indication In Participants's Self-Medication Practice

Table 2. Traditional Medicine used by Participants in Self-Medications (n=138)

Herbal/traditional medicine	Frequency	%
Orthosiphon folium	7	5.07
Piper betle folium	55	39.86
Ginger	44	31.88
Galangal	12	8.7
Curcuma xanthorriza	3	2.17
Morinda citrifolia	5	3.62
Total	138	100

Table 4. The Traditional Medicine Form used in Self-Medication

Form	Frequency	%
Liquid/Syrup	2	1.45
Pill/Tablet/caplet	38	27.53
Decocta/Infusum	82	59.42
Pulveres	8	5.8
Others: topical	8	5.8

Table 3. The Source of Traditional Medicine for Self-Medication Practice

Source of Traditional Medicine	Frequency	Percentage
Pharmacy	4	2.9
Jamu seller	6	4.35
Home/Back Yard	84	60.87
Drug Store	8	5.8
Stall	34	24.63
Others: shaman, friends	2	1.45
Total	138	100

In figure 1. the most mild illness in their self-medication practice were to treat fever (22.46%). Fever are the first common symptoms of most of diseases, people might be treat fever on self-medication practice as they first action [12]. This appeared clearly in the references to the custom of using non-prescribed medicines to treat headaches and colds [13]. *Piper betle* folium as commonly traditional plant used; and most of participant used the traditional plant from their back yard

(table 2-3). Piper betle commonly in traditional uses as antiseptic, analgesic and reducing cough[14]. Only few participants got traditional medicines of choice from pharmacy while the majority obtained from backyard and the wild. The pharmacy and drug store is far from Temajuk, its located about 200 km from city of regency, this condition might lead to using traditional plants in self-medication practice. They often made the traditional plants into decocta or infusum as effort to treat their mild illness on self-medication (table 4), it was

made in drinking water. Potable water was the preferred liquid by most respondents for the preparation of herbal medicines of choice which is expected since water has been considered an inert liquid that will ensure adequate extraction of water soluble constituents from plant materials [15]. People living in village often utilize their plants as medicine to treat any mild symptoms. In addition, the easier and the most traditional medicine form are infused herbals [16].

Table 5. The Behavior of Participants in Utilising Traditional Medicine in Self-Medication

Behavior		Frequency	%
Frequency in a day	1 time	15	10.87
	2 times	26	18.84
	3 times	28	20.29
	More than 3 times	8	5.8
	Uncertainly	61	44.2
Traditional Medicine Measure per consumption	1 tea spoon	14	10.15
	1 table spoon	18	13.04
	Half of glass	46	15.94
	1 glass	22	27.54
	Did not measure	38	33.33
Duration of Self-Medication using Traditional Medicine	1 day	8	5.8
	2-3 days	24	17.4
	A week	10	7.24
	A month	10	7.24
	Until symptom disappear	86	62.32
Source of Information in Using Traditional Medicine	Empirically/from elders	109	78.99
	Book	2	1.45
	Health Education	6	4.35
	Advertisement	3	2.17
	Neighbours/friends	16	11.59
The Reason for Using Traditional Medicine	Less time	6	4.35
	Believing in its potency	61	44.2
	Less cost	26	18.84
	Rarely in adverse reaction	24	17.39
	No prescription needed	2	1.45
	Easy to obtain	17	12.32
	Others: trials	2	1.45
First Action when the Symptoms does not Disappear	Remain using traditional medicine	7	5.07
	Consult to doctor	107	77.54
	Stop using traditional medicine	16	11.59
	Consult to shaman	6	4.35
	Convert to using modern medicine	2	1.45
The Experience of Adverse Event after Using Traditional Medicine	No experience	120	86.96
	Sedative	8	5.8
	Nausea	3	2.17
	Loss appetite	1	0.72
	Headache	4	2.9
	Tachycardia	2	1.45

The finding of participants behavior in self-medication using traditional medicine presented in table 5, the participants's

frequency on using traditional medicines were uncertainly, but they still measure off in half of glass on consume the traditional medicine. This

finding correlate that the general perception that herbal remedies or drugs are very safe and devoid of adverse effects is not only untrue, but also misleading. Herbs have been shown to be capable of producing a wide range of undesirable or adverse reactions some of which are capable of causing serious injuries, life-threatening conditions, and even death [17]. Adverse events arising from consumption of herbal medicines are attributable to several factors among which include the use of the wrong species of plant by mistake, adulteration of herbal products with other, undeclared medicines, contamination with toxic or hazardous substances, overdosage, misuse of herbal medicines by either healthcare providers or consumers and use of herbal medicines concomitantly with other medicines. Accordingly to the statements before, people should find out and aware about the dose and its adverse event while consume the traditional medicine [17].

Mostly participants remain to consume the traditional medicine until the symptoms were disappear (table 5). Believing in potency of traditional medicines as the most reason of participants to use the traditional medicine in self-medication, but they prefer to consult to doctor if the symptoms worsen (table 5). Indonesia as a developed countries, the most important among many other reasons for seeking herbal therapy is the belief that it will promote healthier living. Herbal medicines are, therefore, often viewed as a balanced and moderate approach to healing and individuals who use them as home remedies and over-the-counter drugs spend huge amount of money [17]. Although some herbal medicines have promising potential and are widely used, many of them remain untested and their use also not monitored. This makes knowledge of their potential adverse effects very limited and identification of the safest and most effective therapies as well as the promotion of their rational use more difficult [18].

#### 4 Conclusion

The utilization of traditional medicine among people in Temajuk village still occur in self-medication practice, because as well believing in its potency still exist. But there are

potential inappropriate practice during self-medication due to lack of knowledge about administering and duration of therapy.

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