

Profile of The Use of Traditional Medicines Among Adolescents in SMK Farmasi Teladan Demak

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ABSTRACT

The use of traditional/herbal medicines is prevalent among Indonesians. However, the description of such use among adolescents is scarce. This study aimed to describe the profile of traditional medicine used by adolescents. This study conducted a descriptive survey as a preliminary study of a proposed research to explore adolescent intentions and behavior in the use of traditional medicines. Respondents were students of SMK Farmasi Teladan Demak. Data were obtained from 78 respondents using a structured interview guideline in Google Forms. Data were analyzed descriptively. The results of this preliminary study show the profiles of traditional medicines usage among adolescents, as follows: 1) 35% of respondents use traditional medicine once a month, 2) 44% of the respondents said the traditional medicine is more harmless than conventional medicine, 3) 96% of respondents showed an interest in "jamu gendong", 4) 86% of the respondent preferred "jamu beras kencur", 5) 79% of respondents use branded traditional medicine for the common cold, 6) 51% of respondents cited the Internet as a source of information about branded traditional medicines, and 7) 78% of respondents purchased branded traditional medicines at pharmacies. This preliminary study identified particular beliefs regarding traditional medicines among adolescents, such as it is safer, natural and practical. The Internet becomes the primary source of information about traditional medicines. The adolescents found it is easy to use traditional medicines, as they can be quickly obtained from a pharmacy. Further research is needed to explore the factors that influence the behavior of using traditional medicine among adolescents.

INTRODUCTION

In almost all countries, traditional medicine has a role and a long history in medicine. The World Health Organization (WHO) has recorded a significant development in the last two decades of the role of traditional medicine in improving public health status. The WHO has recommended using traditional medicines, including herbs, to prevent and treat disease, especially for chronic diseases (WHO, 2003). Traditional medicine, called herbal medicine by the WHO, includes

herbs and products containing plant parts. Herbal medicines can contain natural organic or inorganic active ingredients derived from plants, animals, and mineral materials (WHO, 2019).

Many countries have placed traditional medicine in an essential position in health care. In 2018, 64% of the WHO member countries had regulations regarding traditional medicine, including 45 countries in Europe (85% of all countries in Europe) and ten countries in Southeast Asia (91% of all countries in Southeast

Asia). In addition, more than 50% of the WHO member countries recognize the vital role of traditional medicine in their health systems (WHO, 2019).

Traditional medicine in Indonesia can be grouped into three major groups: "*Jamu*," "*Obat Herbal Terstandar*" (OHT), and "*Fitofarmaka*". The three groups are recognized from scientific evidence availability, i.e., practical experience for "*Jamu*," pre-clinical trials for OHT, and clinical trials for "*Fitofarmaka*" (BPOM RI, 2004). The development and utilization of traditional medicine in Indonesia are supported by 30,000 types of plants and animals that can be used as medicine, and 300 of them have been formulated into herbal medicine from generation to generation. Until now, Indonesia already has 23 "*Fitofarmaka*" products (BPOM RI, 2019). The plants most widely used in the manufacture of herbal medicine include *Zingiber officinale*, *Alpinia galanga*, *Curcuma longa*, *Curcuma zanthorrhiza*, *Elettaria cardamomum*, *Morinda citrifolia*, *Phaleria macrocarpa*, *Strobilanthes crispera*, *Andrographis paniculata*, *Aloe vera*, etc. (Direktorat Jenderal Hortikultura, 2014).

Commonly, traditional medicine is considered more harmless to be used than conventional medicine. Most people think that the side effects of traditional medicine are minimum (Abdel-Qader *et al.*, 2020; Bayisa *et al.*, 2014). Riskesdas 2018 data provide a clear picture that more than 50% of the Indonesian population have used traditional medicines or herbal medicines, both in dosage forms produced by pharmaceutical companies and home-made (Balitbangkes Kemenkes RI, 2019).

More than 65 million people are aged between 10 and 24 years in Indonesia, representing around 28% of the population (WHO, 2017). The WHO defines adolescents as those in a transitional stage between childhood and adulthood or ten to 19 years (WHO, 2020). Through the Minister of Health Regulation (PMK) No. 25 of 2014, the Indonesian government limits adolescents as a population in the age range of ten to 18 years (Kementrian Kesehatan RI, 2014). Adolescents in advancing to maturity experience three stages of adjustment: early adolescence, middle adolescence, and late adolescence. During this development period, adolescents experience several changes, specifically biological changes, including morphology and physiology related to reproductive capacity, psychosocial changes, and growth speedup, which are part of physical changes (Soetjningsih, 2010). During their development, adolescents experience various conditions that make them feel uncomfortable

with complaints or illnesses. Common complaints and diseases in adolescents include anemia, diarrhea, asthma, back and neck pain, skin disorders such as acne (Collaboration, 2016), obesity (Özdemir, 2015; Suandi, 2010), constipation (Thea *et al.*, 2020), and headache (Vaičiūnas and Šmigelskas, 2019). Other disorders that commonly occur, especially in young women, are menstrual disorders (Febuanti *et al.*, 2020; Gray, 2013), abdominal pain, and vaginal discharge (Gupta *et al.*, 2020).

Referring to the complaints and illnesses experienced by adolescents during their developmental period and their role as the nation's next-generation, research into the use of traditional medicines among adolescents is imperative. This study aimed to describe the profile of traditional medicine used among adolescents in Indonesia. This research is a preliminary study, which will be used as the source for further research on the factors that influence the intention and behavior of adolescents in using traditional medicines.

METHODS

This preliminary study is a descriptive survey to explore the initial data on the profile of traditional medicines used among adolescents. The data obtained in this preliminary study will be used as a reference for the development of instruments and a conceptual framework for further research that will explore the factors that influence adolescent intentions and behavior in the use of traditional medicines. Ethical clearance has been obtained from The Health Research Ethics Committee - Stifar Yayasan Farmasi Semarang with No.286/AHW-SW/KEPK/STIFAR/EC/IX/2021 under the main research protocol titled The Intention of Using Traditional Medicines Among Adolescents: A Review of the Theory of Planned Behavior.

The population of this preliminary study was all students in grades X, XI, and XII at SMK Farmasi Teladan Demak, which was 78 students. The inclusion criteria were those who were registered as students of the SMK Teladan Farmasi Demak and willing to fill out the structured online interview guidelines using Google form voluntarily. In this preliminary study, the sample size is the same as the population because the entire population meets the inclusion criteria.

The instrument used in this study was a simple structured online interviews guideline containing sets of questions, i.e., the respondent's characteristics and the profile of traditional medicines usage. The structured interview

guideline contains 48 questions. There are six questions related to demographic data, 19 questions related to the use of traditional medicines, 19 questions about types of traditional medicines used, one question about the importance of using traditional medicines, one question about the source of information of traditional medicines, one question about the benefits of using traditional medicine, and one question about the reasons for using traditional medicines. The structure of the questions was conducted by referring to several references that report similar research (Februanti *et al.*, 2020; Oktaviani *et al.*, 2020; Sari Dewi *et al.*, 2019).

The instrument was validated with content validity by expert judgment. A language comprehension test was also conducted with several students who had similar characteristics to the study population. The structured interviews guideline was distributed to respondents using a Google Form link. The link was formatted for sending the response once only. The data were analyzed descriptively. The frequency and percentage were calculated.

RESULTS AND DISCUSSION

Respondent's characteristics

Respondents in this study were categorized into several characteristics, i.e., gender, age, the highest level of education, and the expenses per month. Of the 78 respondents who were given the online survey, all completed and returned the responses, giving a response rate of 100%. As shown in Table 1, the 78 respondents are aged between 14-18 years with a dominant age of 17 years of 35%. A total of 88.5% of respondents are female. The number of respondents with expenses less than or equal to 300 thousand rupiah reached more than 70%.

The profiles of traditional medicines usage

As shown in Table 2, the use of herbal medicines by respondents in this study is sporadic. About one-third of them used traditional medicines every two weeks to once a month only, generally if they had any health complaints. The two dominant reasons for using herbal medicines stated by respondents in this study are that herbal medicines are more harmless than conventional medicines and reflect the habits of their parents and family. Low prices are not the main reason of teenagers in this study to use herbal medicines.

The 78 respondents who gave answers regarding the use of traditional/ herbal

medicine, it was found that 96% of respondents used "*jamu gendong*" which is sold by seller-women either walking or by bicycle door to door. Currently, "*jamu gendong*" is available in Polyethylene Ethylene Terephthalate (PET) plastic bottles sold in supermarkets or traditional markets. The PET herbal medicine is used by 71% of respondents in this study. On the other hand, herbal medicine named "*Jamu Godog*", a particular type of traditional medicine is made by boiling herbs in the water, is less popular among adolescents. Respondents in this study used "*jamu*" sold by the seller-women door-to-door and/or the plastic bottle version. Herbal medicines called "*Beras Kencur*" and "*Kunyit Asem*" were the most popular "*Jamu*" bought by respondents in this study.

The use of branded traditional medicines

The branded traditional medicines used among the respondents were predominantly for common colds, as shown in Table 3. Other health complaints include motion/travel sickness, diarrhea, sore throat, and menstrual pain. Most respondents have used the Internet to obtain information about traditional medicines. In addition, they also sought information from their parents. Pharmacies are the most preferred place to purchase traditional medicines, besides kiosks and groceries.

Generally, "*Jamu*" is very popular as a particular type of traditional medicine among Indonesians, as found in this study. The behavior of using traditional medicines seems to not depend on gender (Abdel-Qader *et al.*, 2020; Jabbar *et al.*, 2017; Medisa *et al.*, 2020; Oktarlina *et al.*, 2018; Oktaviani *et al.*, 2020; Wardania and Muhlis, 2020) although more adolescent girls were involved in this study. Using traditional medicines is commonly based on the perception that natural materials are less harmful than synthetic compounds (Abdel-Qader *et al.*, 2020; Bayisa *et al.*, 2014; Wardania and Muhlis, 2020; Welz *et al.*, 2018). Furthermore, traditional medicines can be easily obtained either from their backyard as the herb plants or the neighbor kiosks or groceries as a product (Wardania and Muhlis, 2020). People's experience in using traditional medicines is also a prominent reason to do so in the future for similar health complaints (Welz *et al.*, 2018). Again, natural material is a particular attraction for people to use traditional medicines (Sari Dewi *et al.*, 2019).

Table 1. Respondent's Characteristics of The Preliminary Study of Traditional Medicines Usage Among Students of SMK Farmasi Teladan Demak

Characteristics	Frequency	Percentage (%) N = 78
Gender		
Male	9	11.5
Female	69	88.5
Age (Years old)		
14	2	3
15	13	17
16	25	32
17	27	35
18	11	14
Class		
X	27	34.6
XI	30	38.5
XII	21	29.9
Expenses per-month		
< Rp. 100,000, -	20	26
Rp. 100,000 - Rp. 200,000	21	27
Rp. 200,000 - Rp. 300,000	17	22
Rp. 300,000 - Rp. 400,000	11	14
> Rp. 400,000	9	12

Table 2. The Profiles of Traditional Medicines Usage Among Students of SMK Farmasi Teladan Demak

The frequency of use	Percentage (%) N = 78	
Once a month	35	
Twice a week	32	
If needed for health problem	28	
Once a week	17	
Irregular	14	
Everyday	3	
Reasons of use	Percentage (%) N = 78	
More harmless	44	
No particular reason	32	
Family members	31	
Minimum side effect	15	
Cheaper	6	
Type of "jamu"	Percentage (%), N = 78	
	Use	Not use
"Jamu Gendong"	96	4
"Jamu" in plastic bottle	71	29
"Jamu Godog"	8	92
Perceived benefit of using traditional medicine	Percentage (%) N = 78	
Improve health	77	

Cure the symptoms	19
Do not have any benefits	4

Table 3. Health complaints, sources of information, and place to obtain branded traditional medicines among students of SMK Farmasi Teladan Demak

The health complaints treated using branded traditional medicines	Percentage (%)	
	N = 78	
	Yes	No
Common Cold	79	21
Cough	73	27
Motion / travel sickness	68	32
Diarrhea	64	36
Sore throat	54	46
Menstrual syndrome	48	52
Place to obtain branded traditional medicines	Percentage (%)	
	N = 78	
Pharmacy	78	
Kiosks	35	
Drug store	29	
Others	15	
Minimarket	6	
Online shop	4	
Source of information for branded traditional medicines	Percentage (%)	
	N = 78	
Internet	51	
Parents	44	
TV advertisement	42	
Teacher	31	
Social media (Instagram, WhatsApp, Facebook, etc.)	31	
Friends	27	

Besides, the literature has clearly shown that the behavior of using medicines for self-medication, including using traditional medicines, is influenced by family members, especially the mothers. In fact, medicines stored in the household are used interchangeably between family members (Widayati, 2013). All of those reasons mentioned above have also become the causes of adolescents in this study regarding taking traditional medicines.

Generally, "*Jamu*" or herbal medicines have been used empirically for preventive and curative (Tilaar and Widjaja, 2014). However, most people tend to take more active health-seeking when they encounter health symptoms (Widayati, 2012). Perhaps, an elderly group has more willingness to take medication for health

prevention. Also, patients with chronic disease usually take alternative medication, including using herbal medicines. Herbal medicines for weight-loose are also common among the female population (Abdel-Qader *et al.*, 2020; Welz *et al.*, 2018). Uniquely, adolescents in this study are also using traditional medicines occasionally when they suffered health complaints.

Although herbal medicines can be prepared at home as hand-made products, adolescents in this study preferred to obtain traditional products from the pharmacy. The pharmacy is quite popular among people who willing to take traditional medicine products (Oktaviani *et al.*, 2020; Sari Dewi *et al.*, 2019). In addition, herbal stores are also another option to purchase herbal/traditional medicine products (Wardania

and Muhlis, 2020). The choices of where to obtain herbal medicines can be based on easy access and other practical reasons.

Typically, family members become sources of information for self-medication, including traditional medicines (Wardania and Muhlis, 2020; Welz *et al.*, 2018; Widayati, 2013). Other sources of information can also be accessed, for example, printed media (Sari Dewi *et al.*, 2019). Currently, the use of the Internet to access health information is extensive (Ariyanti, 2016; Azizah and Irhandayaningsih, 2019). Adolescents are the group of the population as the highest users of the Internet. Young people in this study showed a significant preference in using the Internet to seek information about traditional medicines. However, it should be noted that critical thinking is required when seeking information provided through the Internet since not all of the information, including information regarding traditional medicines, are reliable (Dirjen Aptika, 2016).

CONCLUSIONS

This preliminary study elicited profiles of traditional medicines used among adolescents. Beliefs about using traditional medicines that emerged are natural and accessible. Information from the Internet is more prominent instead of the family member's influence. This study also implies that adolescents are much confident in using traditional medicines to deal with their health problems. Therefore, further research is urgent to explore which factors influence the behavior of using traditional medicines among adolescents.

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