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Factors Associated with The Habit of Drinking Jamu in Madurese Postpartum Mothers

Esti Yunitasari
Department of Maternity and Child
Faculty of Nursing Universitas Airlangga
Surabaya, Indonesia
esti-y@fkp.unair.ac.id

Aria Aulia Nastiti*
Department of Maternity and Child
Faculty of Nursing Universitas Airlangga
Surabaya, Indonesia
aria.aulia.n@fkp.unair.ac.id

Devin Jessica Sari
Department of Maternity and Child
Faculty of Nursing Universitas Airlangga
Surabaya, Indonesia
devinjessicasari@yahoo.com

Abstract—***Jamu* is a traditional medicine made from local herbs which have been well-known in Madurese society, Indonesia. Postpartum mothers in the society have been drinking jamu since a long time ago due to its benefits. Unfortunately, there is no sufficient information regarding the factors associated with the drinking habits. The design of this study was descriptive analytic with cross-sectional approach. The population in this research was the postpartum mothers from Madurese society. A number of 32 respondents were chosen using total sampling technique. The independent variables in this study were knowledge, attitude, belief, personal reference, resource, and culture. The dependent variable was the habit of drinking jamu. The data were analyzed using Chi-square test with a degree of significance α≤0.05. The results showed a significant correlation between belief (p = 0.011), resources (p = 0.026) and culture (p = 0.003) with the habit of drinking *jamu*, while the knowledge, attitude and personal reference did not have any association with it. The most dominant factor in this study was culture. There were other factors that caused knowledge, attitude and personal reference not associated with the habit of drinking *jamu*.**

Keywords—jamu; herbal; Madurese; postpartum mothers

I. INTRODUCTION

Jamu is a traditional herb that has been famous in the Indonesian society, especially in Madurese [1]. Drinking herbal medicine, such as *jamu*, is commonly found in pregnant and postpartum women [2]. *Jamu* is used to facilitate breastfeeding post-partum, body recovery after childbirth, clean the dirty blood and womb, restore the belly to be slimmer, tighten genital organ, and eliminate vaginal discharge [3, 4]. Drinking *jamu* is the part of Indonesian culture, particularly for Madurese, which has been implemented during centuries and across generations [5]. The parents always encourage their children to obey the habit of drinking *jamu*, even the children have grown into adulthood [6].

The consumption of complementary and alternative medicine, such as *jamu* for women, was common in some countries. In Nigeria, a study found that 82.1% of pregnant women consumed complementary and alternative medicine, 53.8% of which had used it in previous pregnancies [7]. In Turkey, the herbal products were consumed by 47.3% women during their pregnancies [8]. In Uganda, 20% women used herbal medicine in their current pregnancy [9]. A study in Nairobi, Kenya, found that 12% of urban women with access to healthcare services used herbal medicine during their pregnancy [10]. A study found that in Saudi Arabia, 48.9% of women consumed herbal medicine after delivery, while for during pregnancy and labor the prevalence was 25.3% and 33.7%, respectively [4]. In China, the consumption of herbal medicines reached 43.5% in pregnant women and 45.0% in postpartum women [11]. Regarding the type of herbal medicine, a study conducted in Malaysia found that there were 23 preparations and including 128 medicinal plants which can be consumed by postpartum women [12]. Meanwhile, another study in Malaysia found that 58.3% pregnant women in Kedah consumed traditional herbs [13].

Several factors associated with those habits are including education level, working status, family structure, herbal product status, perception, experience on using similar products, culture, and advice from parents [5, 8, 9, 11]. Unfortunately, the associated factors which encourage Madurese women to drink jamu have not been explored yet.

II. MATERIALS AND METHODS

This study used analytical descriptive design with cross-sectional approach. The sample was 32 postpartum women in Madura selected with total sampling technique. The independent variables of the study were knowledge, attitudes, beliefs, personal reference, resources, and culture. The dependent variable was the habit of drinking jamu. The instruments used in this study were some modified questionnaires including knowledge and attitudes of Kusumadewi (2014), the belief of Rahmawati & Wahyuni (2014), personal reference and resources from Kharismawati (2014), and culture from Kusumadewi (2014). Meanwhile, the questionnaire of the drinking habit was taken from Kharismawati (2014). In addition, the data were analyzed using chi-square test with significance level of p≤0.05. The ethical clearance of this study was approved by Faculty of Nursing Universitas Airlangga with number 207-KEPK, issued on July 22nd, 2016.

TABLE 1 RELATIONSHIPS AMONG KNOWLEDGE, ATTITUDE, BELIEFS, PERSONAL REFERENCE, RESOURCE, AND CULTURE WITH THE HABIT OF DRINKING JAMU IN POSTPARTUM WOMEN IN MADURA

Factors	Habit of Drinking Jamu				Total		Chi-square test P (sig)
	No Jamu		*Drinking Jamu*				
	n	*(%)*	*n*	*(%)*	*n*	*(%)*	
Knowledge							
Poor	1	(3)	9	(28)	10	(31)	0.847
Fair	1	(3)	14	(44)	15	(47)	
Good	1	(3)	6	(19)	7	(22)	
Total	3	(9)	29	(91)	32	(100)	
Attitude							
Negative	2	(6)	17	(53)	19	(59)	0.787
Positive	1	(3)	12	(38)	13	(41)	
Total	3	(9)	29	(91)	32	(100)	
Belief							
Disbelieve	2	(6)	3	(9)	5	(16)	0.011
Believe	1	(3)	26	(81)	27	(84)	
Total	3	(9)	29	(91)	32	(100)	
Personal Reference							
Nothing	1	(3)	2	(6)	3	(9)	0.135
Present	2	(6)	27	(85)	29	(91)	
Total	3	(9)	29	(91)	32	(100)	
Resource							
Poor	3	(10)	7	(22)	10	(32)	0.026
Fair	0	(0)	11	(34)	11	(34)	
Good	0	(0)	11	(34)	11	(34)	
Total	3	(10)	29	(91)	32	(100)	
Culture							
Weak	2	(6)	2	(6)	4	(12)	0.003
Strong	1	(3)	27	(85)	28	(88)	
Total	3	(9)	29	(91)	32	(100)	

III. RESULTS

The results of this study indicate that factors had a significant association with drinking herbal were belief (p = 0.011), resources (p = 0.026) and culture (p = 0.003). There are factors that do not have significant relationships, including knowledge (p = 0.847), attitude (p = 0.787) and personal reference (p = 0.135).

Characteristics of respondents regarding age showed the majority of respondents have the ideal age to get pregnant and give birth to women which are 20-35 years old. Thus they have the reproductive maturity, emotional and social aspects. Most respondents with children aged two and four weeks and the majority of respondents had been on postpartum days to 22-42 days, which means the majority of respondents have performed postpartum care with an herbal medicine or *jamu* five days after delivery. The majority of respondents have more than one children, and the respondents have more experience in the use of traditional herbal medicine in the treatment of postpartum. Respondents should have sufficient knowledge regarding education for the majority of respondends were high school. The occupation of the majority of the respondents were housewives, which means that the respondents had more time to drink jamu routinely. Due to their occupation, most of the family incomes were obtained from the husbands on the value of regional minimum wages, which means that the respondents were able to buy *jamu* in the postpartum period.

IV. DISCUSSION

Respondents of this research were the indigenous ethnic of Madurese. They had lived for generations with the habits, customs, and culture that strongly influence health behavior, such as the habit of drinking *jamu*. Most of the postpartum mothers consumed *jamu* made from local herbs which show that the facility of such herbal beverage is very easy to get.

Based on information gained from most respondents, the respondents' knowledge about postnatal care with *jamu* was obtained from parents or figure in the society. Chi-square statistical test results obtained p>0.05, then H1 was rejected, which means there is no significant relationship between the knowledge of respondents with the habit of drinking *jamu* after delivery. The results of data analysis showed that most of the respondents with poor, fair, or good knowledge still drink jamu after delivery. According to Notoatmodjo [14], some factors which affect a person's knowledge are education, both formal and non-formal; the mass media; traditions and culture; environment; and experience. We can assume that someone who has a higher level of education will have more knowledge. However, based on these results, researchers concluded that education does not always influence knowledge. There were some respondents who had higher education but had poor knowledge. Contrary, there were also respondents with lower education but had a good knowledge. Respondents with fair knowledge also had a variation of education from high to low. A person with a low education level does not mean having lower knowledge [14]. In some cases, the reason why the respondents did not drink jamu was the medical treatment. For instance, the women who did *Sectio Caesarea* have to take medication regularly, and people believe that such medication should not be taken with jamu or other herbal medicine.

The respondents in this study had aged in the range of 20-35 years old. The majority of which were the productive and safe age for childbirth. Age affects the perception and mindset of someone [15]. The increase of age will grow the perception and thought patterns, including making the respondents think about the benefits of traditional herbal medicine and family support in consuming traditional herbal medicine in the treatment of postpartum. The respondents had good knowledge but still in the habit of drinking herbal medicine, while the value of culture in these respondents included a category that has a strong culture. The culture of drinking *jamu* has become a hereditary habit in Madurese community. In the Madurese, *jamu* have local peculiarities so trustworthy as balancing physical and mental health. Environmental factors can be obtained from the people around, including the important figure [16]. The willingness of someone can not be influenced by the advice of people who are considered important [17]. In this study, the majority of respondents have a personal reference. Researchers found that the respondents also can be influenced by personal experience seen from the number of children of the respondents which are more than one. The respondents said also had a habit of drinking herbal parturition in the previous delivery. This is consistent with the research of Usemahu et al. [18] which stated that postpartum mothers gain knowledge based on experience and the teachings of their elder, so the use of traditional medicines such as *jamu* for postpartum mothers still used today. All respondents considered that to traditional medicine that has been used for generations proven to provide effective results, so this time they still preserve this behavior and culture. Not all family

members understand the benefits and disadvantages of consuming traditional herbal medicine. The lack of knowledge about *jamu* showed the knowledge of family members remained at the level of knowing and not understanding, applying, analyzing, synthesizing and evaluating related to the consumption of jamu for the treatment of post-partum as well as side effects that may arise from the herbal drink [19].

Chi-square statistical test results obtained the value of $p>0.05$, then H1 is rejected, which means there is no significant correlation between the respondents' attitudes to drinking herbal medicine after childbirth. The results of data analysis showed that most of the respondents with a positive attitude and negative majority remained in the habit of drinking herbal medicine after childbirth. There are several factors that determine the development of such attitude, encompassing the experience, the influence of other people, the culture, media and education [16]. The low educational level of knowledge acquired will also be less and will form a negative attitude [20].

Based on these results, researchers concluded that respondents with higher education do not always have a positive attitude, there are respondents with higher education have a negative attitude, there are also respondents with lower education have the positive attitude. It was contrasted with the research of Kusumadewi [3] which stated that high levels of education would produce a good knowledge and influence the attitude to be good, otherwise poor education will produce less knowledge and will develop the negative attitude.

Researchers found that attitudes can be influenced by the culture and people's recommendation. Respondents who have a positive attitude but the did not drink *jamu* did not have any reference of important people and a strong culture. The attitude of a person is always influenced by the experience and work, personality, family, social status and degree of success in their studies or work [21]. The majority of the respondents were housewives which success rate is only focused on the family. In addition, to follow the parent's advice, the majority of respondents said that the drinking habit of *jamu* also performed to treat themselves and to make the husband as well as to make the baby healthy because *jamu* can facilitate breastfeeding. The majority of the respondents have more than one child. They said that they had experience drinking *jamu* in the previous pregnancy. This means that the respondents had experience of drinking such herbal medicine in the previous pregnancy.

Chi-square statistical test results obtained the value of $p <0.05$, then H1 accepted, which means there is a significant correlation between beliefs with drinking herbal medicine for women. The beliefs are often obtained from the parents, grandfather, or grandmother. Someone accept it by faith and belief without prior evidence [22]. Everyone has different levels of knowledge. This is related to a person's knowledge and beliefs about the usefulness or efficacy of herbal medicine [18]. The value and efficacy of herbal medicine into a meaning to a group of people who believe that meaning [6].

Based on the description above, the researchers found the respondents believe the habit of drinking *jamu* obtained from parents or the important figure. The results of data analysis showed most respondents believe the habit of drinking herbal will make a habit of drinking herbal medicine. Another factor is affecting confidence by income, attitudes, and interests to buy something. The majority of the respondents have incomes above Minimum Wage Regency in Bangkalan, which means the majority of respondents were able to buy *jamu* in the habit of drinking herbal medicine.

According to the theory of the behavior of the WHO (1990), personal reference is one of the factors that influence the behavior of a person's health. The important person in a person's life will make the person follow whatever he or she says and offers [22]. People who are considered as figures come from the groups of the reference group, among others, teachers, clergy, head of ethnic society, the village head, and etc. [22]. Other people either individuals or groups that had an impact on the people is called the referent and can be a parent, friend, or a person who is considered an expert or important. Those figures can affect the development of attitudes which become the preference of the people to follow the attitude of the public figures.

Based on the description above, the researchers found that the respondents have personal reference will tend to do what is recommended by the referent, whereas respondents who have no reference will not tend to follow the recommendation. The result showed that most respondents or not there is a personal reference still tend to make a habit of drinking herbal medicine after childbirth. The level of education can increase a person's knowledge about health [23]. The more information you gain the more knowledge gained about health. Someone who has a higher education will increase their knowledge by seeking information or referrals from someone who is considered important, as the majority of respondents in this study high school educated. Respondents in this study are all from Madurese say drinking herbal medicine on the advice of parents and families, but the majority of respondents said herbal drink of their own accord and by its own rules without listening to the advice of elderly people and public figure. This contrasts with an expression of Madurese is *buppa' babu' guru rato* which means the adherence to Madurese hierarchy leading figures [24]. Family members will be upset, especially if the mothers of the respondents knew that the respondent did not drink *jamu* [16]. Respondents' mothers gave more information on the consumption of *jamu* than the husband. It is more due to the experience factor and drinking herbal medicine; it means the mother of respondents also consume traditional herbal medicine until now. The habits of the respondents' mothers then were taught to the respondents to follow their habits to consume traditional herbal medicine for the postpartum treatment. Family serves as a collector and disseminator of (spreader) information [25]. Advice, suggestions, guidance and providing information will make someone be obedient to the counsel, including in consuming traditional herbal medicine.

Regarding the resources, it is infrastructure or facilities owned by the respondents. In this study, it includes the information resources, health facilities, time, money, skills and abilities of the respondents make herbal medicine such as *jamu*. Chi-square statistical test results obtained the value of $p <0.05$, then H1 was accepted, which means significant link resources with a drinking habit of herbal medicine during childbirth.

According to the theory of the behavior by WHO (1990), the resource is a supporting facility for the behavior of a person or society. When compared with the theory of the Green, this resource is the same as enabling factors (infrastructure or facilities). Resources can include facilities, time, money, energy, and skills of the individual. The behavior will be influenced by the presence or absence of health information or health care facilities [26].

Based on the description above, the researchers found the resources that will support the health behaviors are good also. Their resources in the form of health facilities tend to produce better health behaviors, as well as to the time, money, energy, and skills. Those are the important components for shaping health behaviors, one of which is the habit of drinking herbal during childbirth. The majority of respondents in this study were a housewife who does not have a job outside the home. Thus, the researcher believes that the respondents have plenty of time to drink *jamu* routinely. Respondents have family incomes ranging from below Minimum Wage Regency in Bangkalan until more than Minimum Wage Regency. Economics is an activity to make money in the community to meet the necessities of life [27]. Postnatal care performed by the respondents also associated with purchasing power including the purchase of traditional herbal medicine. Purchase of traditional herbal medicine can be respondents' willingness or family member who buys traditional herbal medicine. The family is a source of practical and tangible help, support also includes direct assistance, such as in the form of money, equipment, time, and environmental modification help. Mother postpartum in consuming herbal medicine can also be bought by parents (mother) of the respondents or the husband [16]. Inventories of *jamu* at home is also a manifestation of instrumental support by the family members. *Jamu* is consumed by the majority of respondents obtained from a herb maker who resides in the village of Bencaran.

Chi-square statistical test results obtained the value of $p < 0.05$, then H1 accepted, which means there is a significant relationship between cultures by drinking herbal medicine for women. The results of the analysis of experimental data showed that the majority of respondents have a strong culture that most respondents do drinking herbal culturally appropriate occurring hereditary.

A culture where someone lived and grew up to have a major influence on the formation of a person's attitude. Attitude is an important domain to form an action or behavior health [22]. The value of culture is the highest level and the most abstract of the customs. This is because the value of culture is the concept of life in the minds of most citizens about what they deem valuable, precious and important in life thus functions as a guideline that gives direction and orientation to the lives of citizens.

Based on the description above, we conclude that the culture in the community are factors that influence health behavior is the custom of herbal drink during childbirth. This is supported by research of Kusumadewi [3] that cultural factors related to knowledge, attitude, and action. The level of education regarding the ability of respondents to receive health information, especially about the benefits and disadvantages of consuming herbal medicine [16]. The majority of respondents in this study had a medium to high education. Knowledge is also influenced by the experience of a person. The majority of respondents have more than one child so that the respondents have had experience of himself in the habit of drinking herbal medicine after childbirth. This study consisted of all respondents rate Madura, where communities have the habit of drinking herbal medicine after childbirth that has been passed down from generation to generation. For the people of Madura, *jamu* have local peculiarities so trustworthy as balancing physical and mental health [16].

Based on the results of statistical Chi-square test data, the most dominant factor associated with the habit of drinking herbal medicine on the postpartum mother is a cultural factor with a value of $p = 0.003$ which has the lowest value of p which means having a strong relationship.

In this study, culture is the dominant factor. The culture where someone lived and grew up to have a major influence on the formation of a person's attitude [22]. *Jamu* is a major requirement [6]. It is claimed that drinking herbal tradition has been rooted in a culture that serves as a means to maintain and treat public health in the City Bangkalan Madura. *Jamu* as normative rules that bind everyone in Madura. Community perceptions of health, the origin of the disease and its treatment methods are believed by the public owners of the culture. The phenomenon of local herbal drink as a treatment in view of Bangkalan Madura society as a civilized human response.

V. Conclusion

Drinking herbal medicine has been carried out for generations in postpartum mothers. Beliefs and cultural resources associated with the habit of drinking herbal medicine for women. Culture has a strong role to postpartum mothers in developing the habit of drinking *jamu* or other herbal medicine. Postpartum women expected to need prudence in the conduct of the culture, especially drinking *jamu* for postpartum care by taking into account the benefits and effects will be caused by the use of *jamu*, prior to postnatal care by drinking *jamu* should consult with medical personnel.

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