

Consumption of Jamu in Pregnant Women as A Risk Factor of Birth Asphyxia in Bekasi

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Abstract

Jamu is traditional medicine which is made by natural ingredients, which has good effect by using several ingredients. The effectiveness and safety of traditional medicine as self medication in health care still need to be proven, especially if it is used by pregnant women. The goal of this study was to know the effect of consuming jamu for pregnant women with birth asphyxia in Bekasi in 2008. Quantitative and qualitative study designs were used in this study. We used case control design to see the odds ratio of the mothers who have experience of consuming jamu during pregnancy. The result showed that there were relationship and risk of consuming jamu with birth asphyxia ($p=0,000$, $OR=7,1$) and frequency of antenatal care with birth asphyxia (4–8 times during pregnancy, $p=0,052$, $OR=1,68$ and less than 4 times during pregnancy, $p=0,019$, $OR=3.02$). The result of in-depth interview told us that the majority of the mothers did not know about the health attitude during pregnancy and didn't have enough information from providers about it. We suggest increasing the quality of health service during pregnancies and deliveries, and establishing a standard of using jamu for pregnant women.

Key words : *traditional medicine, jamu, asphyxia*

INTRODUCTION

Health is an important element in the development of human resources. According to the National Health System (1998) one of the important factors in realizing the ability to live a healthy life is a drug, so that to achieve the goal of health development we need to provide drugs with different types and amounts. It is quite suitable for community needs, it safe and use efficacious, and has quality that has established requirements affordable for all community.

Strengthening the traditional medicine will be more enhanced and developed by prioritizing the existing resources in Indonesia, starting from

assessment, research and testing various types of traditional medicine. Based on National Economic Census data in 2001, there is an increase use of traditional medicine from 15.6% in 2000 to 30.2% in 2001 (Rai, 1995). Although, the success of traditional medicine as health care effort still need to be proved in terms of the effectiveness and side effects, especially when it is used by pregnant women. This needs to be considered because the mortality and morbidity resulted from consumption of jamu by pregnant women is high enough and the effects of consuming drug for the fetal has a long-term risk and impact more than short term risk to maternal and fetal systems (Katno, 2006).

Currently there are about 60% of pregnant women and lactating mothers who use drugs or suplemen (Dwiprahasto, 2006). Research on the consumption of traditional medicines and their effects on the fetus is not yet clinically proven, but from studies conducted in experimental animals, it appeared that some medicinal plants used as herbal medicine for pregnant women is oksitosik (stimulates the uterus), resulting in uterine and intestinal bleeding, fetal death and abnormal fetal growth (slow), therefore the use of traditional medicines by pregnant women should be controlled. Some natural ingredients of traditional medicine that is often consumed as a herbal medicine for pregnant women appeared to have oksitoksik effect, thus affecting the health of the fetus in the uterus (Katno, 2006).

Author's experience in hospital and maternity hospital, in Bekasi, showed that most infants with asphyxia have a history of maternal consumption of traditional medicines such as herbs from the beginning of pregnancy, gestational age of 3 months, 7 months up to a week ahead of the delivery process. This study aims to see the influence of jamu consumption in pregnant women in the incidence of asphyxia on the newborn babies in Bekasi.

MATERIALS AND METHODS

This study uses a case-control design using two approaches namely quantitative and qualitative. Quantitative approach aims to assess the role of herbs in the exposure of pregnant women against the occurrence of asphyxia in newborns. After that it is followed by qualitative approach with in-depth interview method that aims to explore information about the reasons why a pregnant woman consumes the herbs, about the perception whether or not they consume a herbal medicine for pregnancy and its effect on pregnancy and about the response from traditional medicine sellers and health provider regarding to the consumption of herbal medicine for the pregnant women.

The research was carried out in several places in maternal care in Bekasi, including Bekasi General Hospital, Maternity hospital, and Private Midwives Practice from January to May 2008. The number of cases that needed are 103 cases and 309 controls. The data were collected using questionnaires and in-depth interviews conducted to the mothers. Each mother was accompanied by two informants' support, which consists of labor helper (midwives), as well as traditional medicine sellers (traders carrying herbs). Statistical data analysis using software included the univariate analysis, bivariate (chi-square test) and multivariate (multiple logistic regression test) to assess the relationship of independent variables or major exposures.

RESULT AND DISCUSSION

Result

Univariate analysis. Results showed that 25% of infants are born with asphyxia diagnoses and 75% are without asphyxia. The average value of the first minute Apgar score was 7.68 and Apgar score after 5 minutes was 8.75. The average age of the mothers was 28.7 years old. Meanwhile, the education backgrounds were as follows: 8.65% respondents came from high education and there were still 0,48% of respondents who were not educated. Fifty six point zero one percent of respondents came from a high socioeconomic level. The majority of respondents (81.87%) did routine antenatal care (ANC). only 6.73% does the ANC less than 4 times. The majority of respondents (77.4%) said they never took drugs and consumed herbs during pregnancy, and only 22.6% of respondents had a history of taking herbal medicine during pregnancy.

From 22.6% of respondents who consume herbal medicine, 61.7% said they regularly consume herbal medicine during pregnancy. 60.64% of respondents consumed herbs in the third trimester of pregnancy. And 90.62% respondent con-

Table 1. Distribution of Research variable

Variable	Category	n	%
Asphyxia	No	312	75
	Yes	104	25
Education	High Education	36	8,65
	Senior High School	221	53,13
	Junior High School	101	24,28
	Primary School	56	13,46
	Not Educated	2	0,48
Economic level	High	233	56,01
	Low	183	43,99
Nutritional State	Good	364	87,5
	Less	52	12,5
Age	>35 Year	54	12,98
	< 20 year	5	0,96
	20-35 year	357	85,82
ANC Frequency	>8 times	179	43,03
	4-8 times	209	50,24
	<4 times	28	6,73
Drug Consumption	No	372	89,42
	Yes	44	10,58
Herbs Consumption	No	322	77,40
	Yes	94	22,60

Table 2. Distribution Consumption Jamu On Pregnant women

Variable	Category	N	%
Type of jamu	Medicinal plants	1	1,06
	Herbs wrapped	5	5,32
	Carrying herbs	88	93,62
Frequency of consuming jamu	No	58	61,70
	Yes	36	38,30
Time of consuming jamu	Third Trimester	57	60,64
	Second Trimester	19	20,21
	First Trimester	18	19,15
Advise for consuming jamu	Your self	26	27,66
	Family	39	41,49
	Neighbor	25	26,60
	Herbalist	4	4,26
The reason for consuming Jamu	Blood not fishy during	36	38,3
	Others	58	61,7

sume the types of herbs which is jamu gendong (sellers carrying herbs). 41.49% of respondents consume herbal medicine based on the recommendation from the family. The reasons of respondents for taking herbal medicine are varied, but for 38.3% of respondents said that taking herbal medicine during pregnancy can cause that the blood is not fishy when delivery. The reason of 46.58% respondents who did not consume jamu, is afraid.

Bivariate analysis showed that there is no significant relationship between the consumption of herbal medicine with the incidence of asphyxia on the newborn baby in Bekasi ($p = 0.000$ OR = 6.89, 95% CI = 4.14 to 11.38). There is significant relationship between the level of education and asphyxia ($p = 0.046$ OR = 3.9 for the low education and OR = 2.7 for medium education) and there is significant relationship between frequency of ANC with asphyxia ($p = 0.030$ OR = 2.98 for frequency of ANC <4 times and OR = 1.45 for 4-8 times of the frequency ANC). Meanwhile for the level of socioeconomic variables, age and nutritional status, each did not show significant relationship with the incidence of asphyxia in newborns with p values greater than alpha.

Multivariate analysis conducted with the participation of all confounder and effect modifiers, the final model obtained showed a significant association between the consumption of herbal medicine with asphyxia and asphyxia on the frequency of the ANC with newborn baby.

The analysis is based on odds ratio value, the value of the largest odds ratio was 7.10 for the variable consume jamu, it is mean that pregnant women who drink jamu will have more risky 7.10 times to deliver a asphyxia baby than pregnant women who do not drink

jamu after controlled by a variable ANC frequency. The same thing happen to the variable number of ANC, value 4-8 times that has odds ratio 1.68, it means the number of pregnant women has 4-8 times frequency ANC, has a risk 1.68 times to deliver a baby with asphyxia than those who did the ANC more than 8 times. Pregnant women with a number of ANC less than 4 times has a risk 3.02 times to deliver a baby with asphyxia than those who did the ANC more than 8 times. Attributable fraction in the herbal group 0.85, meaning 85% of cases of asphyxia does not occur if the mother does not consume jamu. Attributable fraction in a population of 0.43 means that 43% of cases are populated asphyxia caused by taking herbal medicine.

The results of in-depth interviews conducted in the mother's case, health provider and herbalist, it is known that most of the mothers said that they consulted their pregnancy to a midwife after having late of menstruation. Only one mother who checked to the midwives' in 6 months gestation. This was done because the mother did not expect her pregnancy so she did not try to check it to health provider (mother 2). Only a minority of mothers did not know how many times a pregnant woman should be checked by health provider. The rest said that it was better to check the pregnancy during pregnancy.

According to mothers, healthy behaviors during pregnancy is to drink milk, eat vitamin and drink herbal (mother 1) which is beneficial for the baby development in the uterus. However most of them have already implemented the health behavior by having enough rest, eating, not taking random drug and drinking vitamin given by a midwife. However, only a small amount of mothers who know about nutrition.

Most of the mothers gave true answers about the herbs, the other mentioned types of herbal medicine. Special herbs for pregnant women, the three mothers did not know for sure, they only know jamu kunyit asam (turmeric sour herbs). Besides that, all the

mothers do not know what kind of herbs are best consumed by pregnant women, because they consume it based on the advice from family and neighbors to fill fresh and not to smell fishy when. Most of the mothers consume jamu in the second trimester of pregnancy until the baby is born, only a minority of mothers who consumed jamu in the first trimester of pregnancy until the second trimester. Almost all mothers said that in taking herbal has no standard rules and they do not know the effects of jamu.

According to the health provider (midwives), a pregnant woman should take care the pregnancy with nutrition and regular, antenatal care (ANC), balanced nutrition and the need of family support. According to the midwife, a pregnant woman typically consume jamu due to family habits and culture factors, especially, the Javanese people, socioeconomic factors and knowledge. but there is also reason to abort is the an unwanted pregnancy. About the effects, one midwife told that she did not know the effect, she only heard from a doctor. while the second and third midwife said that taking herbal medicine can affect the health of the fetus and all midwives said that a pregnant woman should not consume jamu.

From interviews with herbalist seller we know that there are 2 types of herbs for pregnant women. Which names of package are sorok I and sorok II, and herbs turmeric acid. The beneficial of turmeric acid makes the blood is not fishy when delivery, and makes the pregnancy clean and can also make the baby healthy "because for the mother is for her baby too, and then it is to smoothen the menstruation." According to the herbalist seller, pregnant women should take jamu from 5 months of gestation to delivery, but the herbalist seller did not give a reason why it should be in age of pregnancy

and he made herbal free from side effects.

DISCUSSION

Herbs should be readily available to meet the criteria, known by many people, process simple of storage, easy to use and is not harmful to use. This should really be considered, especially if its use by pregnant mothers.

The results of this study of 416 mothers in childbirth in Bekasi from January to May showed that mothers who consume herbal medicine during pregnancy have seven times the risk odds to give birth with asphyxia compared with mothers who did not consume jamu during pregnancy. Pregnant women should avoid herbal drink containing cayenne pepper puyang Java (*piper retrofractum vahl*) continuously, because it has the effect of inhibiting muscle contractions during labor. Chili Java contains alkaloids piperine inhibits the effect of muscle contraction, so it will be difficult to deliver. Beside herbs chili Puyang, turmeric acid should be avoided is, the amount of turmeric (*curcuma domestica val*) is dominant in strong turmeric sour when using it, because turmeric extract has a stimulant effect on uterine contractions and the effect abortivum.²

One thing of concern is the possibility deposition of material jamu in amniotic fluid. Amniotic fluid is mixed with herbs to make residual amniotic fluid becomes cloudy and cause the infant hypoxia thereby disrupting fetal airway. It is said by informants that there is relationship between taking jamu and asphyxia in newborns. The possibility of deposition of material in the amniotic fluid of herbal medicine is very dependent of the dose and duration of consumption of herbs, but in this study the relationship between dose and duration of consumption of herbs is not conducted due to the various answers from the respondents and lack of standard rules for taking herbal medicine. Herbal viscosity it self varies according to experience each herbalist, because they make only approximate and based on feedback from customers. According Suharmiati in the process of carrying herbs, the only difference

lies in the composition and variety of additional materials and there is no standard dose for one type of jamu gendong (Suharmiati, 1998).

On traditional medicine, especially herbal medicine, the government has not issued a fixed requirement, but there is only coaching for jamu seller, the government has issued several directions namely, 1) the water contents of not more than 10%, this is to prevent the breeding of bacteria, molds and yeasts (yeast). 2) The number of molds and yeasts are not more than 10,000. 3) The number of non-pathogenic bacteria are not more than 1 million. 4) free of pathogenic bacteria such as salmonella. 5) The herbs in the form of pills or tablets, crushed the power of not more than 15 minutes. Tolerance to 45 minutes. And the last 6) it should not be polluted or beneficial chemical intervened (Santoso, 1990).

This is very worrying, because more than 90% of mothers with a history of taking herbal medicine during pregnancy, usually takes herbal drink. One disadvantage of this herb is not standardized, carrying raw materials and easily contaminated with various microorganisms. Research conducted by Pratiwi against bacterial contamination testing and mold contamination in herbal products carry the Special Region of Yogyakarta (DIY) found that of 20 makers of herbal medicine in the three districts and one municipality in the province most of the samples were contaminated with bacteria that exceed the threshold required by Ministry of Health in 1992 (Pratiwi, 2005).

Although from the survey results revealed that mothers who have a history of taking jamu during pregnancy has a risk of 7 times the odds to give birth asphyxia. But these results can not be concluded that the jamu can cause asphyxia, because there are some things

that can not be revealed in this study the diagnosis of asphyxia in newborns, such as exposure time with exposure both in terms of regularity in eating, dose, viscosity, etc. Then the condition of the newborn is closely associated with the helper labor skills. Babies should be born healthy, but due to poor management of labor and unskilled labor helper can also cause birth asphyxia.

Neonaturum own asphyxia is a condition of newborns who failed to breath spontaneously and regularly soon after birth, so it can reduce oxygen (O₂) and may increase the carbon dioxide (CO₂) which lead to bad consequences in the lives further. With good management of the actual incidence of birth asphyxia in newborns can be minimized. It is like what one informant said as follows:

"I think the biggest factor that led infants born with birth asphyxia is a long time so the baby is experiencing hypoxia in utero, while in the hospital the average case of asphyxia is the referral case. It feels when handling the asphyxia is good, I think the asphyxia does not happen, for example of good labor leader, not too fast leading labor and good labor position. she was told to sleep a side there's also because of the factors of health care workers, so that from the health workers must know a lot about it, most treatment is done after the baby is born, the right thing is after the head is born with the ABC technique."(informant 1)

Spontaneous breathing of newborns depends on the state of the fetus during pregnancy and childbirth. Random drug habits and behavior of mothers during pregnancy can be a factor increasing the risk of congenital malformations in population (Koren, 1998). Commonly using drugs that can cross the placenta of pregnant women as well as provide exposure to the growing embryo and fetus to the effects of pharmacologic and teratogenic. Use of medication during pregnancy is always accompanied by risk of adverse effects both

on the fetus, the mother or the pregnancy. The size of the risk varies depending on the type of drug, as well as how to use a variety of biological characteristics of the individual.

Pregnancy testing is done to check the state of pregnant women and fetuses on a regular basis. The goal of prenatal care is the first to monitor the progress of pregnancy. Besides the examination of ANC we also examine the frequency of the ANC. In accordance with the policy program, the antenatal visits should be conducted at least four times during pregnancy (Saifudin, 2000). Mothers with adequate prenatal frequencies are expected to know more about the health of her pregnancy, thus avoiding behaviors that can harm the fetus in the womb, including the habit of taking drugs or herbs.

From the survey results revealed that there is a relationship between the ANC and the incidence of asphyxia in newborns in Bekasi. Mothers who had ANC between 4-8 times the risk odds to give birth asphyxia of 1.6 times compared with mothers who did the ANC more than 8 times during pregnancy. Similarly, mothers with a number of ANC less than 4 times during pregnancy have a risk three times the odds to give birth asphyxia compared with mothers who during pregnancy make the ANC more than 8 times.

The same thing said by Susilowati, 2003, that mothers who during pregnancy do not have adequate services antenatal risk for perinatal mortality 2.3 times compared to mothers who did antenatal care during pregnancy are adequate. Meanwhile, according to Tisnarah, 2002, revealed that mothers who do not have ANC have odds 3.5 times the risk for delivery with asphyxia infants compared with mothers who did the ANC.

CONCLUSION

Mothers who consume jamu during pregnancy are at risk 7 times greater to give birth asphyxia compared with mothers who did not consume jamu during pregnancy after controlled by a variable number of the ANC. Pregnant women with a number of ANC less than 4 times during her pregnancy had 3 times the risk odds to give birth asphyxia compared with mothers who number more than 8 times. Similarly, for mothers who have a 4-8 times the amount odds 1.68 times the risk for birth asphyxia infants compared with mothers who number more than 8 times.

SUGGESTION

Asphyxia on the newborn baby is rare, however asphyxia is the biggest factor leading to infant mortality in Indonesia, because of that, it is needed to improved the quality of health services related to pregnancy and the risk of pregnancy and pregnant women are expected to pay more attention to healthy behaviors and pay attention to food or beverages should be consumed as it can affect the fetus in the womb.

In addition there is need for standardization of the use of herbs for pregnant women, especially packaged herbs (herbs from the manufacturers of traditional medicines that have been registered). Given the considerable public interest in the use of herbs in particular are usually consumed by pregnant women.

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