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Effectiveness Of Giving Soy Milk To The Duration Of First Stage Of Labor

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ABSTRACT
Soy milk contains phytoestrogens which is the class of isoflavones which have estrogen-like activity. Phytoestrogens have estrogenic activity which ultimately increases uterine sensitivity. This study was to analyze the effectiveness of giving soy milk to the duration of first stage of labor.The results showed that respondents in the treatment group had a duration of fast delivery by 9 people (90%) in the normal category, namely 1 respondent (10%), the majority of the control group respondents in the fast category were 1 respondent (10%), the normal category were 3 respondents (30%) and the slow category were 6 respondents (60%). The Result of analyzing by Mann-Whitney test was found that there was an effect of soy milk giving on the duration of labor (Sig. (2-tailed) of 0,000 <0.05 (α value), so Ho was rejected. Pregnant women can consume soy milk to increase maternal power in labor to advance the duration of labor.

Keywords: Soy Milk, Phytoestrogens, Duration of Labor

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BACKGROUND

Soy milk is one processed products made from raw materials soy. Soy milk is known as milkalternative to cow's milk. Due to soy milk has high protein content with a relatively cheaper price if compared to protein sources from the other. Soy milk also contains phytoestrogens which is the class of isoflavones. It has the potential for such activities estrogen. High estrogen levels pushes the connective signal inside the uterine smooth muscle cells. Konekson that formed inserted in the plasma membrane myometrium to form a fissure link which electrically unites cells uterine smooth muscle so they are able coordinate contraction. This myometrial change causes responsiveness of the uterus to oxytocin increase which eventually triggers labor. High estrogen levels encourage the formation of prostaglandins too, which plays a role in cervical maturation by stimulating cervical enzymes which locally decomposes fiber collagen.

Soy milk is believed to have phytoestrogen and mineral content others that function as sources power in labor. Physiologically, the estrogen is proliferative so that it can increase the number of myometrial cells and receptors oxytocin in myometrium. Change in myometrium causes the increasing of responsiveness and uterine sensitivity to oxytocin so myometrial contractions are getting more and more strong and finally triggers the process labor.

Childbirth is a process for pushing out the fetus and placenta from inside of uterine tract by contraction uterine muscles. Normal delivery is labor with vertex presentation, term, completed within 4-24 hours, and neither involves artificial assistance nor complications. The first time labor has begun since the occurrence of uterine contractions which regularly and increasing (frequency and strength) until the cervix opens complete (10 cm). The first time labor begins since the contraction of the uterus and cervical opening until it reaches complete opening (10 cm). The the first of stage is divided into 2 phases, namely the latent phase and active phase. The latent phase of labor has begun since the beginning of the contraction that causes cervical thinning and opening gradually, the cervical opening is less than 4 cm, usually under 8 hours. The active phase of labor is frequency and duration of uterine contractions generally increased (contraction considered adequate / adequate if it occurs three or more times within 10 minutes and lasts for 40 seconds or more), cervix open from 4 to 10 cm, usually at speeds of 1 cm or more per hour until the opening is complete (10 cm), a decrease in the bottom of the fetus.

OBJECTIVE

This study aimed to determine effectiveness of administration soy milk against the duration of labor the first time, which hopes can reduce duration of labor in the first stage, and saves mother's labor facing the birth process second time.

METHODS

The type of research is Quasi Experimental with cross sectional approach. Design the research is non equivalent control group design. Subject of the study was divided into two, treatment groups and groups control. In the treatment group Praktek Mandiri Bidan (PMB) place of birth, given treatment in the form of giving soy milk while the control group not given soy milk. Research

held in April - August 2019 at PMB of the Puskesmas Bendo, Pare District, Kediri Regency. Technique of the sampling used is purposive sampling.11 Criteria for inclusion in this research is: 1) Parturient, phase latent with gestational age 37-40 week; 2) Normal pelvic

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size; 3) Estimated fetal weight of 2500-4000 grams; 4)Single fetus; 5) Head presentation. Exclusion criteria in this study are: 1) Praise score of Rochyati> 8; 2) Referred.
This research consists of 2 variables namely the dependent and independent variables. The independent variable is milk giving 500 ml of soybeans, on a nominal scale. The dependent variable is Duration of first stage of labor, with interval scale, use an observation sheet measurement tool and partograph.
This research was conducted after get an eligibility permit from Komisi Etik Penelitian Kesehatan Politeknik Kesehatan Kemenkes Malang. Research applied three basic principles of ethics research, namely respect to person, beneficience, and non maleficience as well justice.

RESULTS

Overview of Respondents

Table 1
Characteristics of Respondents by Age, Education and Occupation

Variable	Status of Giving Soymilk			
	Given SoyMilk		Not Given SoyMilk	
	n	%	n	%
Age :				
< 20 years	0	0	0	0
20-35 years	10	100	9	90
>35 years	0	0	1	10
Education				
Primary school	1	10	0	0
Junior high school	1	10	4	40
High school	6	60	6	60
Bachelor	2	20	0	0
Occupation				
Housewife	8	80	7	70
Teacher	2	20	1	10
General employees	0	0	2	20
Total	10	100	10	100

Source: Primary Data 2019

Table 1, the distribution of respondents according to the age of the mother can be known the number of respondents in both places the majority aged 20-35 years, the group of maternity women who were given soy milk are 10 respondents (100%) and the control group of maternity mothers who were not given soy milk are 9 respondents (90%) according to the age of effective reproduction, respondents according to mother's education level most of the respondents who were given soy milk had a high school education (60%), while the number of respondents were not given soy milk with a junior high school education (40%) and high school (60%), respondents by type Mother's work shows that the majority of jobs in both places have the status of housewives, amounting to 8 respondents (80%) and 7 respondents (70%). This is related to maternal activities during pregnancy.

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Effectiveness Of Soy Milk On The Duration Of The First Stage Of Labor

Table 2
Distribution Of Effectiveness Of Soy Milk Feeding On The Duration Of First Stage Of Labor

No.	Category	Status of Giving Soymilk			
		Status of Giving Soymilk		Status of Giving Soymilk	
		n	%	n	%
1	Fast	9	90	1	10
2	Normal	1	10	3	30
3	Slow	0	0	6	60
	Total	10	100	10	100

Source: Primary Data 2019

Based on Table 1, it is known that most respondents who were given soy milk had a faster delivery duration are 9 respondents (90%) and most respondents who were not given soy milk had a slower delivery duration, namely 6 respondents (60%). Mann-Whitney test results with the SPSS version 17.0 program obtained the following results.

Table 3
Effectiveness Of Soy Milk Feeding On The Duration Of First Stage Of Labor

	Result
Mann-Whitney U	7.000
Wilcoxon W	62.000
Z	-3.542
Asymp. Sig. (2-tailed)	.000
Exact Sig. [2*(1-tailed Sig.)]	.000[a]

Based on table 2 above, the Sig (2-tailed) value is 0,000 <0.05 (α value), which means that there is effectiveness of Soy milk giving for the duration of first stage of labor in PMB in the work area of Puskesmas Bendo, Pare District, Kediri 2019.

DISCUSSION

20 samples which included the group of maternal women who were given soy milk and the control group of maternity women were 95% at the age of 20 to 35 years, 5% were> 35 years old. According to the researchers' assumptions, age affects the duration of labor, in other words, mothers who have a young age (<20 years) will experience labor for the first time in their lives, where a relatively young age will cause anxiety responses of mother because it is her first labor. The same thing happens to mothers who are too old (> 35 years old) will cause an anxiety response because age that will pose risks in labor that needs attention. selection of the next delivery place. Characteristics of maternal education level is known to be more than half of respondents who were given soy milk with a high school education (60%), while the number of respondents who were not given soy milk with junior high school education (40%) and high school (60%). The education level of most respondents of high school graduates means that respondents are faster in choosing and deciding in the selection of a good delivery place and are able to provide the needs of mothers during labor,

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including nutritional needs that are easily digested and speed up the delivery process. The low background of maternal education makes difficult for a health education to take place for mothers because they are less aware of the importance of information about the health of pregnant women, so they do not know how to care for health especially during pregnancy. Likewise with the characteristics of the work of the respondents most housewives This is very supportive in providing more time to watch TV, listen to the radio, read newspapers (mass media) to see advertisements and health programs especially about nutritional needs during labor that are easily digested and accelerate the labor process and more time to prepare themselves and needs in labor.

Table 2 shows that 10 respondents who gave birth to soy milk with an average duration of delivery in the fast category (90%), while the control group gave birth to mothers with a slow duration of labor (60%). Based on the Mann-Whitney Test analysis, it was obtained Sig (2-tailed) value of 0,000 <0.05 (α value), meaning that there was an Effectiveness Of Giving Soy Milk To The Duration Of First Stage Of Labor in PMB in the Work Area of the Puskesmas Bendo, Pare District, Kediri Regency in 2019. Factors that influencing labor is Power, Passage, Passanger (fetus and placenta), maternal psychological and helper. Maternal power includes His (contraction of the uterus) and straining power of the mother. At the time of a maternal delivery a latent phase may be given any type of food according to the mother's taste, but it would be better if the food provided is easily digestible. In labor when one type of food is given is liquid food that contains nutrients, because during labor the slowing of gastric emptying occurs so that if the mother is given normal food, then the food substances contained therein cannot be absorbed. As stated by the journal that gastric emptying time in caran and solid forms is different, where the liquid form ranges from 10 - 60 minutes, while the solid form lasts 3 to 4 hours. Soy milk contains carbohydrates that are useful as a source of energy in labor, vitamins that maintain maternal health conditions, and proteins that help the body recover after saline and contain phytoestrogens from the isoplavone class which have estrogenic activity which ultimately increases uterine sensitivity after binding with proliferative estrogens so as to increase the number of myometrial cells and oxytocin receptors in the myometrium, then increase increases myometrial sensitivity to oxytocin and increases the effectiveness of myometrial contractions.

Malin et all 2016 in the journal "Does oral carbohydrate supplementation improve labor outcome? A systematic review and individual patient data meta-analysis" states that the energy needs of women in childbirth have been estimated at 50-100 kcal / hour.16 During labor, maternity women require nutritional intake from food / drinks from outside the body as a source of glucose so as not to use glycogen reserves that is too much in the body. Soymilk is a nutritional supplement for women giving birth to drink at least 2 glasses / 500 ml of milk during the first stage of labor during the latent phase. The smooth delivery process is determined by three main factors which include the birth canal, the condition of the fetus and the condition of the mother. Important maternal conditions that affect the smooth delivery of labor are uterine contractions and straining strength. The mother's condition can be supported by the provision of good nutrition by giving soy milk during the first stage of labor.

CONCLUSION

The average length of delivery for mothers who were given soybean milk was faster than those for mothers who were not given soy milk.

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There was an Effectiveness Of Giving Soy Milk To The Duration Of First Stage Of Labor in PMB in the Work Area of the Puskesmas Bendo, Pare District, Kediri Regency with p value of 0,000. Maternity mothers are strongly encouraged to consume 2 cups of soy milk so that mothers have the energy to push and speed up the delivery process. Health workers are expected to always provide motivation to husbands, families and mothers to encourage mothers to drink soy milk so that maternal nutrition is still fulfilled and increase maternal power, health workers are also expected to provide information on the importance of soy milk for maternity mothers.

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