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THE EFFECTIVENESS OF GIVING HONEY DRINK DURING LABOR

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ABSTRACT

Prolonged labor progress can lead to prolonged labor that can caused by the amount of maternal food intake during labor. Intake of oral food and beverages is needed by the mother during labor, and one source of food that contains high calories is honey.

The purpose of this study was to learn the effectiveness of giving honey drink and sugar drink to mothers.

This research was conducted at Bunda Clinic in Temanggung. This study used a quasi-experimental design with Posttest Only Control Group Design. The population of this study was all mothers giving birth at Bunda Clinic in Parakan and they were expected to give birth in August-November 2018 with the number of samples were 60 women that gave birth, it used a purposive sampling technique.

Based on the normality test obtained the value of the first stage duration of honey drink Sig 0.530 (> 0.05) and on the sugar drink Sig. 0.764 (> 0.05) and the duration of second stage of honey drink Sig 0.291 (> 0.05) and sugar drink Sig. 0.374 (> 0.05) both show abnormal data, according to statistics it qualifid the requirement of T Test and obtained the value of first stage duration Sig.0.003 and second stage Sig.0.022 which show that there was a relationship between giving honey drink and sugar drink at first stage and secon stage. So that it can be concluded giving honey drink is very effective to accelerate first stage and second stage of labor.

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Suggestion: Every midwife during birth attendant and maternity mother who are in the process of giving birth, they are recommended to use honey drink to increase energy in accelerating labor and prevent the occurrence of prolonged labor that can prevent maternal and infant mortality.

Introduction

In 2017, Maternal Mortality Rate (MMR) was in the range of 259 to 305 per 100 thousand of births. This figure is far from the target of 102 per 100,000 births. AKI (Maternal Mortality Rate) is one indicator that is sensitive to the quality and accessibility of health care facilities. Based on the 2012 Indonesian Demographic and Health Survey (IDHS), MMR (related to pregnancy, labor, and puerperal) of 359 per 100,000 live births with the highest cause of death was bleeding at 30.3% (Ministry of RI, 2017). Number of deliveries in the Clinic Bunda Parakan, Temanggung in 2017 there were 412 deliveries with 36 (8.73%) labor had a prolonged second birth and experienced primary bleeding, and of 36 cases there were referral as many as 15 (41.7%) cases were referred to the hospital and 21 (58.3%) cases could be handled.

Labor or give birth is a normal process in women of childbearing age. Childbirth is an important event that is highly awaited by every married couple (Maryunani, 2010). Normal labor is influenced by 5 important factors known as 5 P, passenger (fetus and placenta), passageway (birth canal), power (force pushing the fetus out which includes his / uterus strength, abdominal wall muscle contraction, diaphragm contraction and ligament action, position (maternal position) and psychologic (psychological maternity mother). The balance of 5P factor can help create a normal delivery that runs smoothly. Disorders of the 5P factor can cause mothers to experience labor difficulties which can occur at stage I, II, III, and IV with the most occurring at stage II (Saifuddin, 2007). The length of labor is the length of time needed by the mother in the process of opening and thinning of the cervix and the fetus descends into the birth canal. The median duration of stage II is 50 minutes for nulliparous and at each opening 1 cm per hour, in general, stage II which is longer than 2 hours for primigravida or 1 hour for multipara is considered abnormal (Varney, 2008).

The length of labor that occurs in stage II is the last phase of labor that lasts too long so that symptoms such as dehydration, infection, maternal fatigue and asphyxia and fetal death in the womb / Intra-Uterine Fetal Death (Saifuddin, 2010). Prolonged labor can cause prolonged parturition. Prolonged parturition is labor that lasts more than 24 hours starting from the signs of labor (Oxorn, 2010). During labor, aerobic or anaerobic carbohydrate metabolism will increase continuously. This increase is largely due to anxiety and muscular activity of the body. This is reflected by an increase in body temperature, heart rate, breathing, cardiac output and fluid loss. Increased cardiac output and fluid loss will affect renal function, so attention and action are needed to prevent dehydration (Rohani, Saswita and Marisah, 2011).

Oral intake of food and drinks is needed by maternity mothers to get energy and overcome fatigue that can result in dehydration. In addition, nutrient intake makes contractions and the whole process of childbirth more efficient (Soegeng, 2004). According to Fraser (2007) there was a shift in care from not being able to provide food and drinks to the mother during labor, changing to being able to give food and drinks that are easily digested and in accordance with the maternal energy needs of mothers, one of which is a food that contains calories ie honey and sugar that can given in the form of drinks.

Sugar is a carbohydrate that is a source of energy and causes sweet taste, and by consuming sugar water in the morning, it can increase energy quickly(Anonymous, 2016). When we consume sugar, stomachuse enzymes to break down these molecules, before the body uses its energy (Amazine, 2015). Honey consists of only 1.5%

sucrose. The remaining content of honey is fructose and glucose which is a type of monosaccharide. Monosaccharides / simple sugars can enter the bloodstream directly, so it does not need to be metabolized into simple sugars and is a source of instant energy and nutrients for the body (Amazine, 2015).

Honey is a natural sweet substance produced by bees that comes from the raw material of flower nectar. The substances contained in honey are glucose, fructose, maltose, sucrose, carbohydrates, diastase enzymes, invertase enzymes, and various dyes, depending on flower nectar (Purbaya, 2007). One tablespoon of sugar or sucrose contains 46 calories, while one tablespoon of natural sweetener honey has 64 calories (Gosyen, 2015). Glucose in honey has the ability to restore body fluids quickly. Fructose can reduce liver damage. (Purbaya, 2007)

Honey has the main components of glucose and fructose (Rostita, 2007), so honey is a supplement to increase energy and endurance during pregnancy and at the time of the birth of a baby (Anonymous, 2015). Pure honey contains prostaglandin which can accelerate the contraction of muscles in the uterus and make the cervical space widen to facilitate the acceleration of labor (Alif, 2014). The phenomenon that has been seen by writers in the practice of the Midwife in Parakan Temanggung in maternal women is by fulfilling their calorie intake with sugar water which is usually mixed with tea or milk and has never been tested by giving honey to mothers who will give birth.

The purpose of this study was to find out the influence of honey delivery on the duration of second stages of labor.

Method

Research method which is used in this study is quasi experiment with Post test Only Control Group Design. The purpose of this study was to determine the effectiveness of the provision of honey and sugar water for the length of the first and second stages of labor. The population of this study were all maternal woman in Clinic Bunda, Parakan Temanggung who were expected to give birth in August-November 2017 with a sample of 58 women giving birth using purposive sampling technique. Data collection techniques for labor monitoring are performed using data analysis using the T test.

Results and Discussion

The results showed the age of mothers giving birth at least 21 years to both mothers who were given honey and those who were given sugar, while the maximum age of the mother is 38 years old from the group who were given honey which showed older than the age of mothers who were given sugar. This shows that mothers who were given honey water even though they were still above the age of 35 years, but the delivery process was achieved normally, while for mothers giving sugar liquid even though the age was still in healthy reproduction there were still 2 respondents with 75 minutes of delivery and 80 minutes exceeds the normal length of time the second stage of labor is 60 minutes.

The mothers in a healthy reproductive age condition, most of the 17 respondents (65.4%) experienced the duration of first stage of labor faster than the average length of delivery time. On the other hand, the majority of 17 respondents (60.7%) had given sugar water, experience slower than the average length of time of first labor stages at each 1 cm opening. The duration of the second stage of labor in a healthy reproductive age, most of the respondents experience faster duration of the second stages of labor was 16 respondents (61.53%). Likewise, the provision of sugar water, the majority also experienced a slower delivery time than the average length of second stages time at each 1 cm opening as many as 15 respondents (60.7%). This shows that the prolonged duration of the second stage of labor was more experienced at the age of healthy reproductive mothers compared to sugar water administration. On the other hand, the slow duration of

second stage of labor is more experienced in healthy reproductive mothers who are given sugar water compared to healthy reproductive mothers who are given honey water. This shows that honey water has a more effective role than sugar water.

Parity of mothers gave birth to at least 2 children both to mothers who were given honey and those who were given sugar, while higher parity the group of honey with a parity of 5 children which showed more compared to mothers who were given sugar. Higher parity was more in mothers who gave birth both in the honey giving group by 15 respondents (53.6%) and in the control group for giving sugar liquid as many as 22 respondents (78.6%). Mothers who gave birth 3 became the second order of 10 respondents (35.7%) in the intervention group giving honey liquid more than the control group giving sugar liquid as much as 6 respondents (21.4%). Whereas for mothers who gave birth 4 and 5 only experienced in the intervention group giving sugar liquid as much as 1 respondent (3.6%) who gave birth to 4 and 2 respondents (7.1%) gave birth to 4.

The duration of the first labor stages in maternity mothers who were given honey liquid at the opening of 1 cm was most quickly achieved for 5 minutes while for respondents who were given the fastest sugar water it reached 15 minutes slower than the administration of sugar water. This is reinforced by the results of the average achievement of opening per cm in the first stage of labor in group with administration of honey for 15.5710 minutes which shows faster than the administration of sugar water with an average of 40 minutes each opening 1 cm. The duration from complete opening (10 cm) of seconds stages of labor until the baby is born in the administration of honey is at a minimum of 3 minutes while the mother who is given sugar water is 15 minutes faster than the administration of sugar water. This is reinforced by the results of the average opening of the second stage of labor in group with administration of honey water for 21,1886 minutes which shows faster than in the group with the administration of sugar water with an average of 34.25 minutes. Likewise, the maximum achievement of the second stage of opening until the baby born in group with administration of honey water is 50 minutes, showing faster duration compared to the standard achievement of opening for 60 minutes, also faster than the group with administration of sugar water for 80 less

The second stage of labor in group that were given honey water is maximum at 50 minutes but still within the normal time limit, while in the administration of sugar water still found 2 maternity mothers who exceeded the time of normal achievement, namely 1 respondent for 75 minutes and 1 respondent for 80 minutes. This happens because because the mother feels pain during childbirth so that the mother is not cooperative. This shows that mothers who were given sugar liquid during the second stage of labor still experienced labor with a long time of 80 minutes exceeding the standard time of achievement for 60 minutes.Second stage of labor can be caused by several factors, one of which is the power factor in the form of his strength and straining, all of which is greatly influenced by the body's intake of glucose (Saifuddin: 2007). Second stages of labor which is longer than 1 hour for multiparas is considered abnormal. Prolonged second stages of labor will cause symptoms such as dehydration, infection, and fatigue in the mother (Varney, 2008). In this condition the mother requires food intake that can increase energy quickly. These foods are mostly contained in sweet foods such as sugar and honey.

Sugar is a carbohydrate which is a source of energy and causes sweet taste, and by consuming sugar water in the morning, can increase energy quickly, because sugar that enters the body will turn into glucose and absorbed by the body and then produce energy (Anonymous, 2016).Sugar contains 100% sucrose. Sucrose in sugar consists of 2 molecules that are bound together. When we consume sugar, stomach use it enzymes to break

down these molecules, before the body uses its as energy (Amazine, 2015).

The content of glucose in sugar can be beneficial for the brain and nerves that affect the labor process. This is reinforced by the theory of Aswani (2010) in the journal of blood sugar levels which states that the brain and nerve tissue are very dependent on glucose to meet energy needs. Neural networks oxidize glucose into carbon dioxide and water to produce ATP (Adenosine Tri-Phosphate). If glucose falls below normal, the head will feel dizzy and the head feels light. Adequate glucose intake for the brain can help speed up the delivery process because the brain can immediately rule for the mother to do the pushing process.

Glucose can be beneficial for increasing red blood cells (Aswani, 2010). Red blood cells can only use glucose as the glucose content in honey or sugar. Red blood cells do not have mitochondria, where most of the oxidation reactions of materials such as fatty acids and other fuels occur. Red blood cells obtain energy through the process of glycolysis, namely the conversion of glucose into pyruvate acid. Pyruvate is released directly into the blood or converted to lactate and then released. Red blood cells cannot survive without glucose. Without red blood cells, most of the body's tissues will suffer from lack of energy because the tissues need oxygen to be able to perfectly convert fuel into CO2 and H2O, so that the increase in red blood cells that can increase fuel can be beneficial for maternity because the mother requires a lot of energy during labor. The results of this study are strengthened by the results of Ahmad's research entitled "Effects of Post-Exercise Honey Drin KIngestionon Blood Glucose and Subsequent Running Performance in the Heat" with the results of running distance in Run-2 covered by subjects that drink honey (3420 ± 350 m) is significantly (P <0.01) longer than the subjects that drink normal water (3120 ± 340 m). In general, plasma glucose, serum insulin and osmolality were significantly (P <0.05) higher in honey drinks compared to normal water during the rehydration and Run-2 phases. These findings indicate that rehydration with honey drinks increases running performance and glucose metabolism compared to normal water in the heat. Thus, honey drinks can be recommended for rehydration purposes for athletes who compete in the heat.These results are in line with this study, giving fluids with glucose content in honey liquid is expected to accelerate the duration of labor, both in stage 1 and stage 2, to prevent the occurrence of prolonged labor. The results of this study were proven by the T test by first testing the normality of the data, as follows:

Picture 1 : Effectiveness of Honey and Sugar water in Labor

	Kala 1			Kala 2		
	Normality test		Uji T	Normality test		Uji T
	Sig	Normality test		Sig	Normality test	
Honey Water	0.530	Normal	0.003	0,291	Norma	0.022
Sugar Water	0.764	Normal		0.374	Norma	

Based on Fig 1. normality test results obtained the value of prolonged first stage of labor on the administration of honey water Sig 0.530 (> 0.05) and on the sugar water Sig. 0.764 (> 0.05) and in second stage of labor the administration of Sig honey water 0.291 (> 0.05) and sugar water Sig. 0.374 (> 0.05) both of which show abnormal data so that statistically meet the T Test requirements with the value of the 1st stage Sig.0.003 and 2nd Sig.0.022 which shows that there is a difference between honey and sugar water in the 1st and second stage. So it can be concluded that the administration of honey is very effective in accelerating the opening in the first stage and second stage of labor.

The results of this study are supported by the results of the length of the first stage of labor by providing honey water, most of the 17 respondents (65.4%) are faster than the average length of labor. In contrast, the majority of 17 respondents (60.7%) had sugar water delivery which was slower than the average length of time 1 at each 1 cm opening at a healthy reproductive age. Likewise, the length of labor in the second stage of mothers giving birth at a healthy reproductive age mostly experienced faster than the average length of time in the second stage of labor of 16 respondents (61.53%).

In the provision of sugar water, most of them also experienced a slower delivery time than the average length of time of the first stage of labor at each 1 cm opening as many as 15 respondents (60.7%). This shows that the prolonged duration of first and second stages of labor was more experienced at the age of healthy reproductive mothers who are given honey water compared to sugar water administration. On the other hand, the slow duration of second stage of labor is more experienced in healthy reproductive mothers who are given sugar water compared to healthy reproductive mothers who are given honey water. This shows that honey water has a more effective role than sugar water.

The results of this study are in line with the results of research by Zuliyanti (2009). The giving of milk and honey to intranatal mothers significantly influences the duration of second stage of labor. Prolong duration of labor can cause prolonged labor (Oxorn, 2010). During labor, aerobic or anaerobic carbohydrate metabolism will increase continuously. This increase is largely due to anxiety and muscular activity of the body. This is reflected by an increase in body temperature, heart rate, breathing, cardiac output and fluid loss. Increased cardiac output and fluid loss will affect renal function, so attention and action are needed to prevent dehydration (Rohani, Saswita and Marisah, 2011).

The incidence of prolonged second stage of labor in this study that occurred in multiparous mothers was due to mothers having experienced repeated labor, so that the work of the uterine muscles had also begun to decrease. Under these conditions the mother needs strong energy for the process of pushing, and in this incident the mother only consumes sugar water to meet her nutritional needs. Laboratory test results from UGM every 0.1 gram of sugar contains 46.88 glucose. Based on the research results, the use of honey is more effective compared to the use of sugar. Other factors that influence the occurrence of prolonged second stage labor due to calorie intake given in this study with the same amount, so that the second stage of labor occurred in different lengths, so that maternal mothers should get more calorie intake for stronger pushing compared with maternity mothers in first stages of labor.

The results of this study are strengthened by the Solihian study at all, effects of natural honey supplementation on plasma cytokine levels during 10 weeks of treadmill training in trained athletes showing reduced inflammatory cytokine such as IL-6 and TNF-α with a corresponding increase in anti-inflammatory cytokines like IL1ra. The mechanism for the effects of inflammation triggers hypoglycemia, low glycogen muscle, muscle damage, oxidative (OS), or stimulation of immune cells.

Giving honey water in this study shows that honey can increase energy so that it can accelerate the labor

process. According to Purbaya (2007) honey is a natural sweet substance produced by bees derived from the raw material of flower nectar. The substances contained in honey are glucose, fructose, maltose, sucrose, carbohydrates, diatase enzymes, invertase enzymes, and various dyes, depending on flower nectar. One tablespoon of sugar or sucrose contains 46 calories, while one tablespoon of natural sweetener honey has 64 calories (Gosyen, 2015). Glucose in honey has the ability to restore body fluids quickly. Fructose can reduce liver damage. Diatase and invertase enzymes reduce starch, protein, and excessive glycosides in the body (Purbaya, 2007).

Honey has the main components of glucose and fructose (Rostita, 2007). The content of honey from bee coffee flowers in this research is based on laboratory test results from UGM every 0.1 gram containing 31.25 glucose and 47.76 fructose fructose. 5 ml of honey is equivalent to 6.8 grams. Honey is a supplement to increase energy and endurance during pregnancy and just before the baby's birth (Anonymous, 2015). Pure honey contains Prostaglandine which can accelerate the contraction of muscles in the uterus and make the cervical space widen so as to facilitate the acceleration of labor (Alif, 2014).The benefits of honey is because honey contains glucose and a number of calcium, potassium and minerals. Honey is a source of energy for the heart muscle and can overcome stomach pain and digestion. Sugar molecules in honey can be turned into other sugars so that honey is easily digested in the digestive system and can make the brain function better (Zulianti, 2009). The results of this study were supported by the study of Anggreni AD, (2013) found a non significant decrease of 1.89 ± 34.17 mg / dl between blood glucose levels before and after the simulation of the match in the treatment of honey drinks (p = 0.817). There was a significant decrease of 11.22 ± 0.013 mg / dl between blood glucose levels before and after the simulation of the match in the treatment of water (p = 0.013). These results conclude that honey drinks are more effective in maintaining blood glucose levels during a competition simulation than water (placebo). The results of this study are in line with this study which concluded that honey is very effective in accelerating the delivery process, so that labor can occur normally.

Conclusion

1. Mothers who gave birth at a healthy reproductive age by giving honey water mostly experienced faster delivery times by 17 respondents (65.4%) in the first stage and 16 respondents (61.5%) in the second stage, while the administration of sugar water mostly experienced a slower time of deliveries of 17 respondents (60.7%) and 15 respondents (60.7%)

2. The parity of respondents who experienced faster opening was mostly experienced in parity 2 by giving honey water by 11 respondents (64.7%) at the first stages of labor and 9 respondents (50.0%) at the second stages of labor. In other hand, mother with administration of sugar water at parity 2 mostly experienced a slower delivery time by 15 respondents (88.2%) at first stages of labor and 10 respondents (76.9%) at second stages of labor.

3. The duration of first stage of labor for each opening at least 1 cm is achieved for 5 minutes on the provision of honey water, while the respondents who were given the sugar water reached 15 minutes later than the administration of honey water.

4. The duration of second stage of labor from the complete opening (10 cm) until the baby is born is achieved for at least 3 minutes on the provision of honey water, while the respondent who is given sugar water is 15 minutes.

5. Giving honey water is very effective in accelerating the opening of stage 1 and stage 2 compared to the

administration of sugar water with a P value: 0.003 (<0.05) at stage 1 and P: 0.022 (<0.05) at stage 2.

Suggestion

1. It is expected that midwives use honey as a sugar substitute in accelerating labor in stages 1 and 2 when helping with labor to prevent the occurrence number of prolonged labor that can reduce maternal and infant mortality

2. It is expected that mothers give honey as a sugar substitute to accelerate the first and second stage of labor when helping with labor

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