THE EFFECT OF THE PROVIDENCE OF DELIVERY COURSE ON THE PROGRESS OF LABOR IN THE ACTIVE PHASE I

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ABSTRACT

Background: First stage of labor is a process in which the baby, placenta and membranes are released from the mother's uterus. The proportion of labor disorders/complications in women aged 10-54 years in Lampung Province based on the 2018 Riskesdas included bleeding as much as 2.63%, convulsions as much as 0.24%, premature rupture of membranes as much as 4.22% and prolonged labor by 3.72%. One of the foods that contain considerable energy is dates which contain fructose and glucose, all of which are sources of energy that are easily absorbed by the body and can help speed up the length of labor.

Purpose: It is known that the effect of giving date palm juice on the duration of the first stage of labor in the active phase in the working area of the Seputih Raman Health Center in 2022.

Research type: Quantitative quasi experiment, with a non-equivalent design approach. The population in this study were primigravida mothers as many as 42 mothers with a sample of 32 respondents of which 16 were in the treatment group and 16 respondents in the control group. Collecting data using observation sheets, data analysis using univariate and bivariate analysis (independent t-test).

Results: It is known that the average duration of labor in the active phase of the intervention group is 196.0 minutes, standard deviation is 27.3 minutes, the minimum value is 150 minutes and the maximum value is 265 minutes and the control group is 246.5 minutes, the standard deviation is 28.2 minutes, the minimum value is 185 minutes and a maximum value of 305 minutes.

Conclusion: There is an effect of giving date palm juice on the duration of active phase I labor at the Seputih Raman Health Center in 2022 (p-value = 0.000).
INTRODUCTION

Labor is the process by which the baby, placenta and membranes are expelled from the mother’s uterus. Labor is considered normal if the process occurs at term (after 37 weeks) without any complications (Winkjosaastro, 2016). It is estimated that 85% of the labor process takes place normally and about 15% has complications. Complications that occur in childbirth can increase the risk of morbidity and mortality for both mother and baby. According to the World Health Organization (WHO) around 75% of maternal deaths are caused by complications, and 99% of complications occur in developing countries (WHO, 2018).

According to Say et al. (2014) the causes of complications that occur globally and in Southeast Asia, caused by direct causes 29.9% (15-51.3%), and indirect causes by 16.8% (7.8%-34.2%) (Say et al., 2014). According to the results of the Household Health Survey (SKRT) as many as 90% of maternal deaths occur during the delivery process with the most types of complications being bleeding (45%) and prolonged labor (41%) of 14,554 deliveries (IDHS, 2017). Based on Riskesdas data (2018), it is known that there are several types of childbirth complications, one of which is prolonged labor at 4.3%, with the highest incidence in DI Yogyakarta Province at 7.9% and the lowest in Central Kalimantan Province 2.2% while Lampung Province at 7.9%. 3.7% (Ministry of Health, 2018).

The proportion of labor disorders/complications in women aged 10-54 in 2018 in Lampung Province based on the 2018 Riskesdas included bleeding as much as 2.63%, convulsions as much as 0.24%, premature rupture of membranes as much as 4.22% and prolonged labor by 3. 72% (Lampung Provincial Health Office, 2018).

Prolonged parturition or parturition cæcups and is often referred to as difficult parturition and is characterized by too slow the duration of active phase I labor caused by several factors such as fetal position, pelvic abnormalities, abnormalities his, his strength and straining (uterine inertia, uncoordinated his, tiredness of the mother pushing, wrong leader of the second stage) (Qonitum, 2019). Adequate contractions (power) to be able to start labor are needed by the mother, especially during the first stage of the active phase, because weakened uterine contractions or inadequate contractions can cause labor to fail (Yunita, 2021). One of the causes of inadequate uterine contractions is due to the lack of fluid entering before delivery, causing the energy in the body to decrease so that the mother's power/energy progressively weakens as a result of being unable to push (Susilawati, 2019).

Efforts that can be made to increase and maintain maternal power during labor and delivery can run smoothly by providing adequate and adequate nutritional intake. Nutrition for maternity mothers, especially in the first stage of labor, can be obtained from foods that contain a high enough energy source (Kamaruddin, Jusni, et al., 2019). One of the foods that contain considerable energy is dates which contain fructose and glucose, all of which are energy sources that are easily absorbed by the body (Kamaruddin, Hasrawati, et al., 2019).

Kordi et al. (2014) in their research showed that dates are rich in carbohydrates as a source of energy, affecting the length of labor, spontaneity in labor and reducing postpartum hemorrhage. Carbohydrates as these reinforcers are sugars that are absorbed and used by the body's cells shortly after consumption. Dates also contain vitamins B1, B6, B12, minerals, iron, calcium, magnesium, potassium, saturated fatty acids and unsaturated fatty acids. Fatty acids in addition to producing energy also help provide prostaglandins. Fatty acids can help store energy and strengthen the uterine muscles. Dates also contain hormones that can stretch the uterus before the birth of the baby (JMRH, 2014).

Dates (Phoenix Dactylifera) contain very good nutrition, the sugar content in dates can be directly absorbed by the body. Dates can launch labor in pregnant women, it will be useful including greater cervical dilatation compared to those who do not consume dates (3.52 cm vs 2.02 cm) making it easier for babies to come out during childbirth, 96% of spontaneous births occur in pregnant women who consume dates compared to 79% of pregnant women who did not consume dates, the incidence of using oxytocin to induce childbirth was less in those who consumed dates (28%), compared to those who did not consume dates (47%), the latency period (early opening of the birth canal) was shorter in pregnant women who consume dates (Astari 2019).
The empirical experience of researchers in the practice of childbirth care services in independent midwifery practice as well as in hospital service units and maternity practices that the nutrition provided is in the form of solid food in the form of rice, side dishes and vegetables, plus one glass of sweet tea, but due to pain due to the often causing mothers childbirth does not want to eat these solid foods (Kurniarum, 2016). So as a midwife to improve health services for mothers, especially for maternity mothers, innovations are made in providing nutrition, one of which is by providing dates that are already in the form of date juice.

Dates also contain vitamin B1 which can help provide energy and strengthen the uterine muscles because in labor prostaglandins function in stimulating contractions and assisting in increasing cervical dilation. Date palm juice contains fructose and glucose as a substitute for energy sources needed by mothers to overcome fatigue due to contractions in the first stage of labor, besides date palm juice contains the hormone oxytocin which is not available in tea (Jayanti, 2018).

The results of Lestari's research (2018) the average length of the first stage of labor for the control group is 253.67 minutes and for the intervention group is 233.00 minutes. The acceleration of opening in the first stage of primiparous mothers is obtained faster than not given date palm juice, in this case the date palm juice contains a stimulant that strengthens the uterine muscles in the last few months of pregnancy.

Research conducted by Kusmiwijati & Triningsih (2018) shows that there is a difference in the effect of giving date juice and tea in accelerating the first stage, where mothers who are given date juice have a faster time when compared to mothers who are given tea water. During labor, the mother will need a lot of energy, such as carbohydrates, sugar and vitamin B1, to help regulate the rate of uterine movement and increase systole. Date palm juice also contains iron and calcium which can easily replace the exhausted mother's energy during childbirth (Kamaruddin, Hasrawati, et al., 2018; Lothian, 2019).

Fulfillment of nutrition for pregnant women during childbirth can be done by giving liquid food (Erniawati & Kamaruddin, 2020). Liquid food is a type of food that has a liquid to thick consistency. Foods that provide liquid and easily digestible foods such as tea and sugar water (Hendarti, 2019). The entire digestion process can take several hours. Food generally stays in the stomach between 40 and 120 minutes more. Then add another 40 to 120 minutes for the time spent in the small intestine. Simple carbohydrates, such as white rice, pasta or simple sugar, average between 30 and 60 minutes on the stomach. Fluids leave the stomach faster because less can be broken down like plain water 10 to 20 minutes, Simple liquids (clear juices, tea, soda) about 20 to 40 minutes and complex liquids (smoothies, protein shakes, bone broth): 40 to 60 minutes (Lee, 2021). So it can be concluded that date palm juice can be absorbed into the body in about 60-90 minutes.

The sugar content in dates juice is very high. "Sukkari" dates contain 78.32% sugar (dry weight). The sugars contained in "sukkari" dates are glucose (51.80%), fructose (47.50%), while sucrose, fucose and galacturonic acid are present in very small amounts. Potassium, calcium and magnesium are also dominantly contained in "sukkari" dates and the rest is fiber, protein, fat and other minerals. The antioxidants contained in "sukkari" dates are also high so they can be a good source of nutrition. The sugar content in date juice is different from sugar in other fruits such as cane sugar or granulated sugar which usually contains high sucrose, the sugar in date juice does not require such a long process to be directly absorbed into the body (Azhari et al, 2018).

According to a report from the Seputh Raman Health Center, during January to December 2021, there were 521 deliveries regardless of parity. And 113 of them were mothers who gave birth with complications consisting of 29% of mothers with pre-eclampsia, 25% of mothers with prolonged labor, 18% of mothers who gave birth with anemia, and the rest with a history of comorbidities in pregnancy.

**RESEARCH METHOD**

This type of research is a quantitative quasi-experimental, with a non-equivalent design approach. The population in this study were primigravida mothers as many as 42 mothers with a sample of 32 respondents of which 16 were in the treatment group and 16 respondents in the control group. The research was carried out at the Midwives Independent Practice in the working area of the Seputh Raman Health Center on June 1-30, 2022. Data collection used observation sheets, data analysis used univariate and bivariate analysis (independent t-test).

Dates juice is given as much as 90 ml in 3 doses, which means as much as 30 ml in 1 administration. Performed every 2 hours since the opening of 4 cm.
RESEARCH RESULTS AND DISCUSSION

Characteristics of Respondents

Based on the table, it is known that in the intervention group of 16 respondents there were 7 (43.8%) respondents with elementary-junior high school education, high school education as many as 7 (43.8%) respondents, Bachelor education as many as 2 (12.5%) respondents. In the age variable in the intervention group of 16 respondents there were 14 (87.5%) respondents aged 20-35 years and aged <20 and >35 years as many as 2 (12.5%) respondents. Based on table 1, it is known that in the control group of 16 respondents there are 7 (43.8%) respondents with elementary-junior high school education, high school education as many as 7 (43.8%) respondents, Bachelor education as many as 2 (12.5%) respondents. In the age variable in the control group, from 16 respondents there were 15 (93.8%) respondents aged 20-35 years and aged <20 and >35 years as many as 1 (6.3%) respondents.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Education</td>
<td>Elementary-Junior</td>
<td>7</td>
<td>43.8</td>
</tr>
<tr>
<td></td>
<td>High School</td>
<td>7</td>
<td>43.8</td>
</tr>
<tr>
<td></td>
<td>Bachelor</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>Age</td>
<td>20-35 years old</td>
<td>14</td>
<td>87.5</td>
</tr>
<tr>
<td></td>
<td>&lt;20 and &gt;35 years</td>
<td>2</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Univariate Analysis

Table 1

Average length of labor in the active phase of the intervention group in the Seputih Raman Health Center Working Area

<table>
<thead>
<tr>
<th>Length of labor</th>
<th>mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery time</td>
<td>196.0</td>
<td>27.3</td>
<td>150</td>
<td>265</td>
<td>16</td>
</tr>
</tbody>
</table>

Based on table 1, it is known that the average duration of labor in the first active phase of the active phase of the intervention group is 196.0 minutes with a standard deviation value (the statistical value used to determine how close the data from a statistical sample is) of 27.3 minutes, the minimum value is 150 minutes and the maximum value is 265 minutes.

Table 2

The duration of the first stage of labor in the active phase of the control group in the Working Area of the Seputih Raman Health Center

<table>
<thead>
<tr>
<th>Length of labor</th>
<th>mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery time</td>
<td>246.5</td>
<td>28.2</td>
<td>185</td>
<td>305</td>
<td>16</td>
</tr>
</tbody>
</table>

Based on table 2 above, it is known that the average duration of active phase I labor in the active phase I in the control group is 246.5 minutes with a standard deviation value of 28.2 minutes, a minimum value of 185 minutes and a maximum value of 305 minutes.

Table 3

Research Data Normality Test

<table>
<thead>
<tr>
<th>Length of Labor</th>
<th>Shapiro-Wilk</th>
<th>Note:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>0.412</td>
<td>Normal</td>
</tr>
<tr>
<td>Control</td>
<td>0.765</td>
<td>Normal</td>
</tr>
</tbody>
</table>

Based on table 3, above the data normality test using the Shapiro-Wilk for variables in both the intervention group and control group obtained a significant value > 0.05 which means the data is normal.
Bivariate Analysis

Based on table 4, above, it is known that in the intervention group the average length of the first stage of labor was 196 minutes, while in the control group the average length of labor in the active phase of the 1st stage was 246.5 minutes, from the two groups it was known that there was a difference in the length of the first stage of labor. 1 50.5 minutes with a standard deviation of 8.0. The results of the T test assuming the variances of the two groups are the same (equal variances assumed) and the T test assuming the variances of the two groups are not the same (equal variances not assumed). It can be seen the variance similarity test through Levene’s test.

Look at the p value of the Levene test, p value < alpha (0.05) then there is a significant difference and if the p value > alpha (0.05) then the variance is equal (equal). The Levene test above produces a p value = 0.919 so it can be concluded that at 5% alpha, there is no difference in variance (the variance of the two groups is the same). Next, look for the p value of the t test in the equal variances section in the sig (2 tailed) column, which is equal to p = 0.000, meaning that there is a significant difference in the duration of labor in the active phase of the 1st stage of the group that was given date palm juice with the group that was not given juice.

Table 4
The effect of giving date palm juice on the duration of the active phase of the first stage of labor in the Work Area of the Seputh Raman Health Center

<table>
<thead>
<tr>
<th>The effect of giving date juice</th>
<th>mean</th>
<th>Different Mean</th>
<th>SD</th>
<th>P- Value</th>
<th>Levene test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>196.0</td>
<td>50.5</td>
<td>8.0</td>
<td>0.000</td>
<td>0.919</td>
</tr>
<tr>
<td>Control</td>
<td>246.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION

The effect of giving date palm juice on the progress of the first stage of labor in the active phase in the Work Area of the Seputh Raman Health Center

Based on the results of statistical tests, p-value = 0.000 (p-value < 0.05 ) which means that there is an effect of giving date palm juice on the duration of active phase I labor in the working area of the Seputh Raman Health Center in 2022, with a difference of 50, 5 minutes.

This is in line with several studies which revealed that there were significant differences in the control group and the intervention group for the duration of the active phase of the first stage of labor (Megawati, 2022; Triannaninsi, 2021). Dates juice can be absorbed into the body in about 60-90 minutes (Lee, 2021).

During childbirth, mothers need excellent condition and good stamina. The energy the mother gets comes from nutrition and hydration. Efforts to reduce the occurrence of prolonged labor by giving date juice. The reason is that date palm juice contains carbohydrates as a source of energy, affecting the duration of the active phase of the first stage of labor and reducing postpartum bleeding. Dates juice also contains minerals, iron, vitamin B1, calcium, potassium, magnesium, saturated fatty acids and unsaturated fatty acids. Vitamin B1 can help provide prostaglandins and can help store energy and strengthen the uterine muscles because in labor prostaglandins function in stimulating contractions and assisting in increasing cervical dilation. While carbohydrates serve as reinforcement, namely the sugar content that is absorbed and used by the body’s cells immediately after consumption. (Kordi et.al, 2014).

By giving date palm juice to the intervention group, it seemed to be able to speed up the delivery process. According to researchers, the duration of the first stage of labor in the active phase of each woman will be different, because there are many factors that cause the length of labor to occur. Prolongation of the first stage of the active phase is also often experienced by women with primiparous parity because the cervix is stiffer than grandmultipara. Low parity does not always experience a smooth delivery process because the delivery process is also influenced by many factors, such as the condition of the birth canal and the fetus.

Based on the results of the study, it was found that the mean difference between the groups given the intervention and not being given the intervention was 50.5 minutes. It means that the difference in the duration of labor in the group given dates was 50.5 minutes faster than the duration of the first stage of labor in the group that was not given the intervention. Consumption of dates has a good effect on the first stage of labor compared to mothers giving birth without consuming dates.

Based on the results of the study in the control group, the average length of labor in the control group was 246.5 minutes with a minimum time of 185 minutes or a maximum time of 305 minutes. From the
results of the study, there were several respondents who needed a longer time in the labor process, this according to the researcher could be due to other factors so that the delivery time became hampered such as the strength of the respondent, or the psychological support from the companion during the delivery process, or it could be due to the mother is tired so that the delivery process does not take place optimally. In addition, there are several factors that cannot be controlled by researchers during the research process, including maternal psychology and maternal nutritional intake.

Based on the results of the field, it was found that the maternity mothers had differences in the length of time for delivery where the mothers gave birth in the first stage with an average delivery time of 196.0 minutes, the fastest time was 150 minutes and the longest time was 265 minutes, meaning that in the intervention group the process was labor that went very well because the time required by the respondent was faster than the delivery process without any intervention. This could happen because the date palm juice given to the intervention group contained vitamin B1 which can help provide prostaglandins and can help store energy and strengthen muscles, uterine muscle because in labor prostaglandins function in stimulating contractions and assisting in increasing cervical dilatation. In addition, the potuchin hormone produced by date palm juice functions to bind the uterus and uterine muscles so that it can help reduce postpartum bleeding. There is also the hormone oxytocin which can help stimulate contractions in the uterine muscles, so from this process it can be seen that the intervention group has a faster time than the control group. This shows that the factors that influence the length of labor are numerous and have separate effects outside of the intervention.

CONCLUSION
It is known that the average duration of labor in the first active phase of the active phase of the intervention group is 196.0 minutes with a standard deviation value of 27.3 minutes, a minimum value of 150 minutes and a maximum value of 265 minutes. It is known that the average duration of active phase I labor in the active phase of the control group is 246.5 minutes with a standard deviation value of 28.2 minutes, a minimum value of 285 minutes and a maximum value of 305 minutes. There is an effect of giving date palm juice on the duration of the active phase of the first stage of labor in the working area of the Seputh Raman Health Center in 2022 (p-value = 0.000).

SUGGESTION
For Puskesmas, it can be used as a reference in providing therapy in the duration of the active phase of the first stage of labor by consuming date palm juice. In addition, the results of this study can be used as an evaluation material in providing maternal care, such as by making standard operating procedures (SOPs) related to the provision of date palm juice into a fixed SOP in the working area of the Puskesmas, for future researchers it would be better if they also conduct research. can control factors that can affect research results, for example maternal psychological factors and nutritional intake during the research process, and for campuses it can be used as one of the complementary learning that can be applied and re-examined to get more benefits.

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