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EFFECT OF HYPNOBIRTHING ON THE PROGRESS OF THE LATENT PHASE OF LABOR IN PRIMIGRAVIDA

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Abstract

Background: The first stage of labor is a tiring moment for mothers, which may cause exhaustion, dehydration, risk of infection, uterine atony, and postpartum hemorrhage. Hypnobirthing is considered effective to speed up early labor process.

Objective: This study aimed to examine the effect of hypnobirthing on the progress of the latent phase of labor.

Methods: This study was a quasi-experiment with posttest only control group design. Thirty-two primigravida mothers in the latent phase of labor were selected using purposive sampling, with 16 assigned in the experiment group and the control group. The progress of labor was measured by four indicators recorded in partograph, namely frequency and duration of uterine contraction, cervical dilatation, and descent of the fetal head. Independent t-test was used for data analysis.

Results: There was a significant difference in the frequency of uterine contraction ($p=0.001$), duration of contraction ($p=0.001$), cervical dilatation ($p=0.007$), and descent of the fetal head ($p=0.001$) between the experiment group and the control group.

Conclusion: Hypnobirthing technique is significant in accelerating the progress of the latent phase of labor in primigravida mothers.

Keywords: hypnobirthing; latent phase; labor; primigravida

INTRODUCTION

The duration of labor is influenced by several factors, such as uterine strength, abdominal muscle contraction, diaphragm contraction and ligament action. The other factors are the fetal factor (passanger) and the factor of the birth passage (Karo, Pramono, Wahyuni, Mashoedi, & Latifah, 2017). Labor is divided into 4 stages, namely (i) the opening stage, (ii) the expenditure stage, (iii) the stage that the placenta is released from the uterine wall and is born, and (iv) the stage from the birth of the

placenta up to the next 2 hours (Wahyuni, Pramono, Suherni, & Widayawati, 2017).

The progression of labor in the first stage is a tiring moment, which a mother begins to feel pain because the activity of the uterus begins to be more active. The first stage of labor may cause exhaustion, dehydration, risk of infection, uterine atony, and postpartum hemorrhage. If this stage is not well-managed, the safety of mothers and fetus may be affected (Khomsah, Suwandono, & Ariyanti, 2017).

In Indonesia, Maternal Mortality Rate (MMR) during childbirth remains high as the third highest rank in South Asia and Southeast Asia. There were 228 maternal deaths per 100,000 live births in 2007, increased to 359 maternal deaths per 100,000 live births in 2012, and decreased slightly to 305 maternal deaths per 100,000 live births in 2015 ([World Health & Unicef, 2014](#)). On the other hand, the complications during labor are common in Indonesia, such as postpartum hemorrhage, trapped placenta, prolonged pregnancy and infection. The prolonged labor accounted for 11% of maternal deaths in Indonesia ([MOH, 2014](#)).

Based on preliminary study in 4 midwives on November 2016 in Midwifery Center in Lamongan regency, it is found that primigravida mothers often experienced problems in the first stage of labor, with the average of > 13 hours. The first stage of labor refers to the time required to deal with labor begins with regular uterine contractions until the cervix opens completely. Normally, the length of first stage of primigravida is 13 hours, and multipara is 7 hours. Thus, the efforts to maintain uterine contraction in the first stage of labor is needed.

One of the efforts is by using hypnobirthing technique. This technique is a combination of a natural birth process with hypnosis to build positive perceptions and self-esteem and decrease fear, anxiety, tension and panic before, during and after childbirth ([Kuswandi, 2014](#)). The hypnobirthing method is either autohypnosis (self-hypnosis) in facing and undergoing pregnancy and childbirth preparation in order to be able to go through their pregnancy and childbirth in a natural, fluent, and comfortable (painless) way ([Kuswandi, 2014](#)).

Hypnobirthing combines breathing technique, relaxation, affirmation and visualization, as well as deepening. In breathing techniques, the mother can save energy during the depletion phase during cervical dilatation. In addition, the slow breathing that is taught can dilute and open the cervix that can shorten the

duration of labor. While relaxation, visualization, and affirmations help mothers cope with tension, stress, and discomfort during childbirth ([Mongan, 2016](#)).

Previous studies have been studied have been conducted about the effect of hypnobirthing in labor process ([Astuti & Noviyanti, 2016](#); [Madden, Middleton, Cyna, Matthewson, & Jones, 2012](#)), but lack of study related to the its effect on the progress of the latent phase of labor. Thus, the aim of this study was to examine the effect of hypnobirthing on the progress of the latent phase of labor.

METHODS

Study design

This study employed a quasi-experimental study with posttest only control group design.

Setting

The research was conducted in four Independent Midwifery Practice Centers in Lamongan Regency on January 8, 2016 until February 2, 2017.

Sample

Thirty-two primigravida mothers in the latent phase of labor were selected using purposive sampling, which 16 assigned in the experiment and control group.

Intervention

Hypnobirthing was implemented by the researchers who have been trained and certified. Hypnobirthing was done 30-45 minutes with lemon test and suggestibility test assisted by midwives in the location of the study.

Instrument

Demographic instrument was used to collect the demographic data of the respondent, such as age, education, occupation/activity, and parity). To measure the effect of hypnobirthing on the progress of the latent phase of labor, partograph was used with four indicators: frequency and duration of

contraction, cervical dilatation, and descent of the fetal head.

Ethical consideration

The research has met the ethical requirements of the Ethics Research Commission of Politeknik Kesehatan Kemenkes Semarang with approval number: 049 / KEPK / Poltekkes-Smg / EC / 2017. The study permission was also obtained from four Independent Midwifery Practice Centers. Informed consent was signed by each respondent. All of the respondents were given explanation about the research objectives, procedures, risks and benefits, confidentiality and willingness.

Data analysis

Descriptive statistics was used to describe mean and frequency distribution of characteristics of the respondents. Independent t-test was used to see the

difference in both experiment and control group.

RESULTS

Table 1 shows that majority of the respondents aged 21-30 years, with 10 respondents in the experiment group and 13 respondents in the control group. There was no difference of the age between the two groups with $p=0.433$. While the respondent's education in the control group was mostly senior high school (10 respondents) and the experiment group was senior high school (6 respondents) and university level (6 respondents). However, there was no difference of educational level between both groups with $p= 0.343$. And majority of the respondents in both groups worked as a housewife ($p=0.559$)

Table 1 Characteristics of the respondents

Category	Experiment (n = 16)	Control (n=16)	Homogeneity test	P-value (Chi Square)
Mother's age (year)				
≤ 20	6	3	0.165	0.433
21 - 30	10	13		
Mother's Education				
Junior high school	4	3	0.100	0.343
Senior high school	6	10		
University level	6	3		
Mother's occupation				
Housewife	9	11	0.142	0.559
Entrepreneur	2	3		
Teacher	4	2		
Farmer	1	0		

Table 2 Frequency and duration of contraction, cervical dilatation, and descent of the fetal head

Variables	Mean	SD
Frequency of contraction (per 10 min)		
Experiment group	3.929	0.534
Control group	3.000	0.549
Contraction duration (second/contraction)		
Experiment group	39.335	2.863
Control group	35.539	2.708
The progress of cervix dilatation (cm)		
Experiment group	3.563	1.750
Control group	2.125	0.957
Descent of fetal head		
Experiment group	1.125	0.500
Control group	0.125	0.342

Table 2 shows that the mean of frequency of contraction evaluated in 10 minutes in the experimental group was 3.929 times with standard of deviation of 0.534. While the mean of frequency of contraction in the control group was 3.000 times, and a standard deviation of 0.549. It is also known that the mean of duration of contraction in each time of contraction in the experimental group was 39.335 seconds with standard of deviation of 2.863. While the mean of duration of contraction in each time of contraction in the control group was 35.539 seconds with

standard of deviation of 2.708. The mean of the progress of cervical dilatation in the experimental group was 3.563 cm with standard deviation of 1.750. While the mean of the progress of cervical dilatation in the control group was 2.125 cm with standard deviation of 0.957. Table 2 also shows that the mean of descent of fetal head in the experimental group was 1.125 with standard deviation of 0.500; while the mean of descent of fetal head in the control group was 0.125 with standard deviation of 0.342.

Table 3 Contingency coefficient test on confounding variables

<i>Confounding variables</i>	<i>p-value</i>			
	Frequency of contraction	Duration of contraction	Cervix dilatation	Descent of fetal head
Age				
Experiment group	0.441	0.354	0.153	0.411
Control group	0.114	0.169	0.046	0.468
Education				
Experiment group	0.395	0.285	0.227	0.336
Control group	0.785	0.120	0.382	0.504
Occupation				
Experiment group	0.839	0.726	0.823	0.854
Control group	0.658	0.546	0.488	0.451

Table 3 shows that there were no significant effects of confounding variables on frequency and duration of contraction, cervical

dilatation, and descent of the fetal head, only age variable had a significant effect on cervix dilatation.

Table 4 Difference of frequency and duration of contraction, cervical dilatation, and descent of the fetal head between the experiment and control group using Independent t-test

Variable	Experiment		Control		t	p-value
	Mean	SD	Mean	SD		
Frequency of contraction	3.929	0.534	3.000	0.549	4.851	0.001
Duration of contraction	39.335	2.863	35.539	2.708	2.853	0.001
Cervix dilatation	3.563	1.750	2.125	0.957	2.883	0.007
Descent of fetal head	1.125	0.500	0.125	0.342	6.606	0.001

Table 4 shows that there was a significant difference in the frequency of contraction ($p=0.001$), duration of contraction ($p=0.001$), cervical dilatation ($p=0.007$), and descent of the fetal head ($p=0.001$) between the experiment and control group.

The result of effect size calculation in this study was 1.69 for frequency of contraction, 1.401 for duration of contraction, 1.502 for cervical dilatation, and 2.92 for descent of

fetal head, which indicated that there was a very strong influence of hypnobirthing on the progress of labor.

DISCUSSION

Findings of this study indicated that there was significant effect of hypnobirthing on the latent phase of labor, which specifically on the frequency and duration of contraction,

cervical dilatation, and descent of the fetal head. In this study, the average of frequency of contraction in 10 minutes in the experimental group was 3.929 times and its duration in each time of contraction was 39.335 seconds. This shows that the frequency and duration of contraction in the experimental group were good enough, as stated by previous study that contraction in the latent phase of labor is adequate if its contraction is > 2 times and duration is closely to 40 seconds ([Sumapraja, 2002](#)).

The results of this study also showed that the average of cervical dilatation in the experimental group in the first 4 hours of the first stage was 3.563 cm and some of them had the progress of descent of fetal head. It suggests that the cervical dilatation in the experimental group was quite effective, as previous study says that the normal cervical dilatation size in the latent phase of labor is about 3 cm ([Varney, Kriebs, & Geger, 2007](#)).

While the fetal head descent in the latent phase rarely shows a progress. In the experimental group, the progress of fetal head descent was very good, as most have progressed from Hodge 1 to Hodge 2 and Hodge 3. According to literature, in normal labor, the advancement of cervical dilatation is always followed by a decrease in the lower part of the fetus or fetal head descent. Usually the fetal head descent occurs after the cervical dilatation reaches 7 cm or after the first 4 hours of the first stage, but if the descent of head can be achieved before that, then the process of delivery is faster than normal ([Farrer, 1990](#)).

The progress of labor achieved by the experimental group cannot be separated from the influence of hypnobirthing technique given for 60 minutes. The hypnobirthing used relaxation techniques, including breathing exercises, relaxation and visualization with positive suggestion. According to literature, hypnobirthing aims for the mother to be able to give birth comfortably, quickly and smoothly and eliminate the pain of childbirth without any anesthetic aid. This method also

emphasizes more on giving birth in a positive, gentle, secure way and how to achieve it easily ([Aprillia, 2010](#)). In this study, respondents were very cooperative following the guidance of hypnobirthing technique to obtain useful results.

Hypnobirthing is a natural method used to eliminate fear, panic, tension and other stresses of mothers in labor. Therefore, it is said that hypnobirthing refers more to hypnotherapy, namely the exercise of subconscious suggestion to support the conscious mind that controls the mother's action in undergoing labor process ([Mongan, 2016](#)). Hypnobirthing is intended to prepare and train the muscles that play an optimal role in the process of delivery through breathing exercises, relaxation, visualization, and affirmations and deepening. These exercises can affect mother's power, passage, passanger, psychology, and helpers ([Mongan, 2016](#)).

The breathing technique helps the mother save energy during labor phases. Breathing slowly maximizes waves of vertical muscles to work more efficiently in pulling up the lower circular muscles, as well as diluting and opening the cervix. Hypnobirthing teaches a deeper level of relaxation to eliminate stress as well as fear and anxiety ahead of birth ([Mongan, 2016](#)).

On the fetus factors, hypnobirthing teaches the mother to communicate with the fetus. Relaxation methods were used for communication to tell the fetus that the mother and the fetus will pass the labor process together comfortably and smoothly. The calm and peaceful vibration will be felt by the fetus which is the basis of the development of the soul. Fetal growth is healthier because calm conditions will provide balance hormones to the fetus through the placenta. Hypnobirthing also reduces the risk of birth trauma that can affect the mental and psychological child in the future ([Madden et al., 2012](#)).

The results of this study were in line with previous study showed there was a significant influence of deep breathing exercises on the progress of labor (Astuti & Noviyanti, 2016; Yulidaningsih, 2006). The practice of relaxation is an important part of the hypnobirthing technique, but the difference is that relaxation technique performed by previous study was a progressive muscle relaxation technique (Yulidaningsih, 2006), while the relaxation technique in hypnobirthing in this study was deep breath relaxation.

However, the method of hypnobirthing can provide mental support that positively impacts the mother's psychological state, which affects the smoothness of the labor process. At the time of delivery, stress hormones, such as adrenaline, interact with beta-receptors in the uterine muscle and inhibit contraction and delay labor, therefore mothers require relaxed and comfortable conditions (Mongan, 2016). When the condition is calm and relaxed, the subconscious mother will adjust the body's harmony and produce anesthesia or natural anesthesia in the mother, the endorphin hormone. Hypnobirthing is proven effective in providing comfort at the time of delivery.

Limitation of the study

The obstacles and limitations encountered during the implementation of this intervention are the presence of the family of the respondents that await the delivery process, which affected the concentration of the respondents. On the other hand, theoretically, the implementation of hypnobirthing should start from the first trimester of pregnancy, but in this study the implementation of hypnobirthing was only given at the latent phase, so the result might be less than the maximum.

CONCLUSION

Based on the results of this study, it can be concluded that hypnobirthing has a significant effect on frequency and duration of contraction, cervical dilatation, and descent of

the fetal head. Thus, primipara mothers are suggested to develop hypnobirthing technique independently from the beginning of pregnancy until the labor process to speed up the progress of normal labor. Midwives are also recommended to apply hypnobirthing technique in antenatal care services. The technique is expected to assist midwives in reducing the risk of obstacles and complications in normal labor.

Declaration of Conflicting Interest

None declared.

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Author Contribution

All authors contributed equally in this study.

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