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ORIGINAL RESEARCH

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## EFFECT OF COMBINATION OF HYPNOBREASTFEEDING AND ACUPRESSURE ON ANXIETY AND WOUND PAIN IN POST-CAESAREAN MOTHERS

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### ABSTRACT

**Background:** Post-cesarean mothers often experience anxiety and discomfort due to long-term pain. The combination of hypnobreastfeeding and acupressure is considered to be effective in reducing anxiety and pain levels.

**Objective:** This study aims to examine the effect of combination of hypnobreastfeeding and acupressure on anxiety and pain levels in post-caesarean mothers.

**Methods:** This study was a true experiment with pretest-posttest control group design, conducted in the Ambarawa Public Hospital Indonesia on 5 November to 9 December 2016. There were 36 participants selected using stratified random sampling, with 18 assigned in the experiment and control group. Data were analyzed using Paired t-test and Wilcoxon test.

**Results:** There were statistically significant differences of anxiety and pain levels before and after intervention in the experiment and control group with p-value 0.001 (<0.05).

**Conclusion:** The combination of hypnobreastfeeding and acupressure has a significant effect in reducing anxiety and pain levels in post-caesarean mothers. This intervention could be applied as an alternative therapy in treating post-caesarean mothers.

**Keywords:** hypnobreastfeeding, acupressure, combination, anxiety, pain

### INTRODUCTION

The high incidence of cesarean section often causes discomfort for the mother.<sup>1</sup>

WHO survey conducted in 2004-2008 in Latin America, Africa and Asia showed

that the highest proportion of c-section incidence was in Asia (China) by 46.2% while c-section incidence in Indonesia in 2011 amounted to 921,000 (22.8%) from 4,039,000 deliveries.<sup>2,3</sup>

According to literatures, anxiety and pain in c-section mothers is higher when compared to normal postpartum.<sup>4,5</sup> Anxiety and pain are emergency signals that increase sympathetic nerves and decrease parasympathetic neural activity that may affect maternal comfort, healing and repair of tissue.<sup>6</sup> Pain at the beginning of post-caesarean section will make the stress responses of mothers increased, which affect the daily activities, thereby the recovery process will be very slow.<sup>7</sup> Thus, the effort to deal with this problem is needed. This study addresses is a combination of hypnobreastfeeding and acupressure as a non-invasive complementary or nonpharmacologic therapy to be applied to the mothers, which has no side effects and affordable.<sup>8</sup>

Hypnobreastfeeding is a suggestive therapy by instilling positive suggestion in the form of emotional control, pain management and mother's role during breastfeeding.<sup>9</sup> This therapy will be incorporated into the mother's subconscious mind and reprogram the memory of pain that has been existed before. Hypnobreastfeeding suggestion will block the signal of emergency pain and stress experienced by the mother, and help the release of endorphin hormones in the body.<sup>10,11</sup>

On the other hand, acupressure has the same function as hypnobreastfeeding. However, the way acupressure works is through the physical through the skin peripheral system and the meridian path of the body to activate the intended organ

to function optimally.<sup>12</sup> Previous research on hypnobreastfeeding and acupressure has been done to reduce anxiety.<sup>10,11</sup> The merging of these two methods is expected to overcome the psychosocial and physical aspects to produce a more significant effect of therapy on pain and stress so that the condition of the mothers physically and psychologically can be resolved properly.<sup>9</sup> However, because of the intervention was just identified to deal with anxiety, the purpose of this study was to examine the effect of combination of hypnobreastfeeding and acupressure on anxiety and pain in post-caesarean section mothers.

## METHODS

### *Design*

This study was a true experiment with pretest-posttest control group design.

### *Setting*

This research was conducted at Ambarawa Public Hospital, Central Java from 5 November to 9 December 2016.

### *Population and sample*

Subjects in this study were post-caesarean mother who fit the inclusion criteria and willing to be the respondent in this research. The study respondents were divided into two groups, namely 1) the combination group of hypnobreastfeeding and acupressure, and 2) the hypnobreastfeeding alone. There were 36 respondents recruited using stratified random sampling, which randomly assigned in the experiment and control group. The population that met the criteria of inclusion was distinguished by the parity characteristics of primigravida, multigravida, and grand multipara. Randomization was performed using 3

envelopes according to the parity classification, each envelope contained a roll of paper consisting of 2 groups (combination group and hypnobreastfeeding), with 12 rolls of paper (6 combined group paper rolls and 6 group hypnobreastfeeding paper rolls) per envelope, so it can be concluded at each level of parity consisting of two intervention groups. However, each level of parity between the two intervention groups should be equal in number, so there was no inequality of respondents between the intervention groups. It was allowed if at parity level there was an increase in one parity group but with the same number of participants between both groups

The inclusion criteria in this study were: 1) age between 15-49 years; 2) Postpartum mothers with cesarean section on the 1st day who were willing to be respondents by signing informed consent; 3) Body weight of born baby  $\geq 2500$  gram (complete months); 4) mother and infant were treated together; 5) Did not consume alcohol, no smoking, no using hormonal contraceptives, and no having anatomical abnormalities of the breast; 6) Pregnancy term (38-40 weeks); 7) Body Mass Index (BMI)  $\geq 18.5$  cm and mid-upper arm circumference  $\geq 23.5$  cm; and 8) A mother who is a Javanese tribe. The exclusion criteria were: 1) no mobilization within 24 hours; 2) could not communicate well; 3) experiencing complications affecting breastfeeding; 4) having severe mental disorders and hearing loss; and 5) consuming herbs or breast milk supplements.

#### *Intervention*

The combination of acupressure and hypnobreastfeeding therapy was given two times a day in the morning and

evening for 3 days, with 60 minutes per session, using hypnobreastfeeding guide created by the researchers themselves and had been validated by the experts. While for the control group (hypnobreastfeeding only group), the intervention was given two times a day in the morning and evening for 3 days, with 40 minutes per session. The interventions were performed by certified therapists in hypnobreastfeeding and acupressure.

The procedure of combination of hypnobreastfeeding and acupressure began by performing a hypnobreastfeeding technique for 40 minutes and followed by acupressure techniques. Initially, each respondent was conditioned to be willing to follow this therapy properly and did a suggestibility test to know the learning channels of each respondent. After that, the induction process was performed by helping clients entered the condition of hypnosis in accordance with the learning channel of each respondent. The next stage was performing a suggestion by including statements related to the current state of the mother, the process of pain control, and good breastfeeding process. The last, the mother was re-awakened by inserting the statement that all the suggestions given would be embedded in the mother's unconscious mind.

After the mothers were fully awake, then acupressure techniques were performed on the breast area, hands and feet. First, acupressure was performed on the left and right-hand area at the meridian point SI 1, precisely at the tip of the little finger as many as 30 times based on the rotation of clockwise. Then continued on the breast by mild massage in the breast area gently and pressing the acupressure point on ST15, ST16, ST18, CV 17 and SP18

for 30-40 rotation of clockwise at each meridian/acupressure point. Tapping was also performed at the point LU4 to avoid the occurrence of side effects on acupressure in the breast area. In the last section, acupressure was performed on the foot, in point of ST 36 for 30 times based on clockwise rotation or direction of the gastric meridian. After all interventions, the patient was observed for 15 minutes to assess any obstacles or disorders after the therapy.

#### *Instrument*

Anxiety was measured using the DASS scale (Depression Anxiety and Stress Scale) from Lovibond and Lovibond.<sup>13</sup> The scale consisted of 42 items of questions including: 14 items measuring depression, 14 items for discomfort, and 14 items for stress measurement. In Lovibond and Lovibond (1995),<sup>14</sup> the DASS scale for anxiety had discriminant validity and reliability value of 0.84 through Cronbach's Alpha. Anxiety was measured on the first and fourth day of post-cesarean section.

The DASS scale was calculated with certain levels, namely: 0 = if the given statement is absent or never, 1 = corresponding to the dialed at a certain level or sometimes, 2 = often, and 3 = very much in accordance with the experience or almost every moment. The level of anxiety was divided into 5 parts: normal (0-7), mild (8-9), moderate (10-14), severe (15-19), and very severe (> 20).<sup>14</sup> The pain variable was measured using the NRS scale (Numeric Rating Scale). NRS is a verbal scale to illustrate how much pain was stressed. Each respondent was shown this scale

consisting of the numbers 0-10, the scale at 0 illustrates no pain and 10 to describe the highest pain. The reliability of the instrument ranged between 0.86 to 0.95.<sup>15</sup> Content validity was also performed for the standard procedure of the intervention. Some items were revised and changed in the language. There were also additional locations of acupressure points based on expert suggestions.

#### *Ethical consideration*

The ethical approval of this study was obtained from the Research Ethics Committees of Poltekkes Kemenkes Semarang with number: 239 / KEPK Poltekkes-SMG / EC / 2016. Prior to the intervention, the researcher explained to the respondent the purpose of the research, the intervention, the rights and responsibilities of the respondents and the benefits obtained from the respondents through this research. Respondents who consent to this action would sign an informed consent sheet.

#### *Data analysis*

Data analysis on anxiety variables used paired t-test due to the type of comparative hypothesis of numerical variables in paired groups (2 groups) and all data on anxiety variables were normally distributed. Paired t-test with p-value <0.05 means there was difference of mean of anxiety before and after intervention.

For the pain variable, Wilcoxon test was used because of non-normal data distribution. Wilcoxon test with p-value <0.05 means that there is a difference of mean of pain before and after intervention.

## RESULTS

**Table 1** Characteristics of respondents

Characteristics	Intervention				Total	%	p
	Experiment group		Control group				
	f	%	f	%			
Age (year)							
< 20	3	16.66	2	11.11	5	13.88	0.881
20-35	12	66.66	15	83.33	27	75	
>35	3	25	1	5.5	4	11.11	
Total	18	100	18	100	36	100	
Education level							
Elementary	6	33.33	4	22.22	10	27.77	0.199
Junior high school	4	22.22	8	44.44	12	33.33	
Senior high school	8	44.44	4	11.11	12	33.33	
Undergraduate	0	0	2	0	0	0	
Total	18	100	18	100	36	100	
Parity							
Primipara	10	55.55	10	55.55	20	55.55	0.132
Multipara	7	38.88	7	38.88	14	38.88	
Grand multipara	1	5.55	1	5.55	2	5.55	
Total	18	100	18	100	36	100	

Table 1 shows that the majority of respondents aged 20-35 years, with 12 respondents (66%) in the experiment group and 15 respondents (83%) in control group. Of all respondents, 8 respondents (44%) had senior high school background in the experiment group and 8 respondents (44%) had junior high

school background in the control group. In addition, 55% of respondents were primipara in both groups. Homogeneity test showed p-value >0.05, which indicated that there were no significant differences of characteristics of respondents in terms of age, education, and parity between both groups.

**Table 2** Anxiety difference before and after intervention between the experiment and control group using paired t-test

Variable	Pretest		Posttest		t	p
	Mean	SD	Mean	SD		
Experiment group	14.22	2.819	7.67	2.376	20.13	0.001
Control group	13.83	2.256	9.39	2.330	9.83	

Table 2 shows the mean of respondents' anxiety before intervention in the experiment group was  $14.22 \pm 2.819$ , and decreased to  $7.67 \pm 2.376$  after intervention. Similar with the anxiety in control group, the mean of anxiety in pretest was  $13.83 \pm 2.256$  and decreased to  $9.39 \pm 2.330$  in posttest. Paired t-test showed p-value 0.001 (<0.05), which

indicated that there was a significant anxiety reduction before and after intervention in the intervention and control group. However, the percentage of anxiety reduction in the experiment group was higher than anxiety levels in the control group, which was 46.06%.

**Table 3** Pain level difference before and after intervention between the experiment and control group using Wilcoxon test

Variable	Pretest		Posttest		p
	Mean	SD	Mean	SD	
Experiment group	6.67	1.372	3.17	1.150	0.001
Control group	7.00	1.372	4.06	1.162	

Table 3 shows that the mean of pain in the experiment group was  $6.67 \pm 1.372$  in pretest and decreased to  $3.17 \pm 1.150$  in posttest, and the mean of pain in the control group was  $7.00 \pm 1.372$  and decreased to  $4.06 \pm 1.162$ . Wilcoxon test showed p-value 0.001 ( $<0.05$ ), which indicated that there was a statistically significant difference of pain level before and after intervention in the experiment and control group.

## DISCUSSION

The purpose of this study was to examine the effect of combination of hypnobreastfeeding and acupressure on anxiety and pain in post-caesarean section mothers. Findings of this study revealed that there was a significant effect of the combination of hypnobreastfeeding and acupressure on anxiety and pain in post-caesarean section mothers. This result is consistent with the Kusmiyati study<sup>16</sup> indicated that hypnobreastfeeding at the onset of birth reduces anxiety in primipara in normal birth. Supported by Butler and Waelde who suggested that hypnosis increases comfort by up to 62% in patients;<sup>11</sup> and Saadat et al<sup>17</sup> stated that hypnosis can lower anxiety levels in preoperative patients by 56%. Thus, it could be said that hypnotherapy could be effective in reducing anxiety in before and after operation.

However, hypnobreastfeeding provides a sedative and relaxation effect that changes the beta brain waves into a teta or gamma (subconscious condition). At the time of the brain waves of teta or gamma, the brain produces the hormone serotonin, endorphins and increases parasympathetic neural activation the body becomes more comfortable and reduces anxiety.<sup>9,11</sup> According to Bryant and Hang, hypnosis stimulates oxytocin in the body, which leads to less anxiety about social situations, behavior and increased confidence. In addition, at the time of hypnobreastfeeding, the body is repaired through cognitive signals sent to the brain to close the door of the pain mechanism in the central system of neurons.<sup>18</sup>

But, if at the time of hypnobreastfeeding, the suggestion entered did not work well then acupressure therapy can help through how it works. Acupressure is able to stimulate the nerve fibers of  $A\beta$ ,  $A\delta$ , and C, at the segmental level stimulates endogenous opioid secretion and serotonin, thus blocking the pain process and reactivating organ function from each stimulated meridian point to produce sufficient energy.<sup>19,20</sup> The results of the Kuo study indicated that by administering auricular acupressure may decrease anxiety in cesarean section by 2.27%.<sup>6</sup>

The results of this study provided the evidence that the combination between hypnotherapy and acupressure is one way of making individuals pay attention to the



psychological and cognitive aspects of their bodies that were previously unacceptable to the subconscious mind.

However, the results of this study can only be applied with the same population thus cannot be generalized at the provincial or national level. In addition, the initial psychological conditions were not investigated in this study that may affect the anxiety and pain. Further study is needed to control initial psychological conditions and with bigger sample size.

## CONCLUSION

Giving a combination of hypno-breastfeeding and acupressure proves to be an effective method in reducing anxiety and labor pain in post-caesarean section mothers. The intervention may serve as an effective non-pharmacological therapy to decrease anxiety and pain without adverse side effects.

### Declaration of Conflicting Interest

None declared.

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### Author contribution

All authors contributed equally in this work.

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