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Hypnotherapy is more effective than acupressure in the production of prolactin hormone and breast milk among women having given birth with caesarean section

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Abstract

This research aimed to analyze the effectiveness of hypnotherapy compared with acupressure toward the prolactin hormone level and the production of breast milk among women giving birth by caesarean section. The research groups were divided into two groups, namely hypnotherapy-receiving women group and acupressure-receiving women group. The hypnotherapy was done in accordance with the standard and guided by the hypnotherapist. The acupressure was done in the meridian of stomach and small intestine, meridian of kidney, and spleen. There was a significant increase in the prolactin hormone level and production of breast milk before and after the therapy ($p < 0.05$) for both treatment groups. In the production of prolactin hormone and breast milk, hypnotherapy technique was significantly more effective than acupressure ($p < 0.05$). It can be concluded that the hypnotherapy is more effective than acupressure in stimulating the production of prolactin hormone and production of breast milk among women giving birth with caesarean section. Thus, hypnotherapy can be the alternative in support of the successful exclusive breast milk feeding.

Keywords: Hypnosis, acupressure, caesarean section, lactation, prolactin

Introduction

Breast-feeding is very fruitful for baby, in particular to provide proper nutrition for its health and development as well as protection against infection. Breast-feeding also aims to build the emotional and biological relationship between mother and the baby [1-7]. Young mothers having little experiences are commonly confused about the duration and initiation in breast-feeding. That's why in many cases, babies are given formula milk in which it is also strengthened by the advertisement. Nutrition is essential for baby and mother must decide whether to breast-feed or give formula milk [8]. In the uncertain times, some mothers are not capable of initiating breast-feeding due to the caesarean section or medical treatment [9,10]. When the onset production of milk is delayed, the breast-feeding is also hampered in which it causes the baby will lose its weight. Then, the baby will also depend on the formula milk supplementation.

Hypnotherapy is an application of hypnotherapy practice (giving positive affirmation) for mother to breast-feed. The hypnotherapy is conducted under the guidance of hypnotherapist for reaching gave positive impact on the successful exclusive breast-feeding 12.21 times better than the control [14]. Hypnotherapy has

deep relaxation. The previous study proved that hypnotherapy significant effect on the optimization of colostrums for postpartum mother on the first day due to the endorphin secretion which in fact is the support hormonal for prolactin secretion [15].

The function of the acupressure is similar to acupuncture which aims to balance the energy of various points spread in human body. These points are called as meridian which is related to specific organs, but without using needle [16]. Various systematic literature reviews and randomized controlled trials show beneficial effect of acupressure, which is in the form of prolactin secretion and breast milk, and the increased endorphin hormone production [17-19]. Until now, there is no research comparing the effectiveness between hypnotherapy and acupressure in helping the production of breast milk in women with caesarean section. Thus, this research aims to analyze the effectiveness of hypnotherapy compared with acupressure related to the prolactin hormone level and the production of breast milk among women giving birth with caesarean section.

Material and Methods

Subjects

The research subjects were postpartum women (first day) having given birth with caesarean section. The inclusion criteria were women aged 15-49 years old, who were willing to be respondents in the research by signing the informed consent, birth weight

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of infant $\geq 2,500$ grams, term infant, did not consume alcohol and smoke, did not use hormonal birth control (KB), did not find any breast anatomic disorders, body mass index ≥ 18.5 kg/cm², upper arm circumference ≥ 23.5 cm, and Javanese. For inclusion criteria included mothers who had 24 hours caesarean section postpartum and did not mobilize to right and left, were not able to communicate well, experienced complication or other circumstances that could not provide breast milk, had high level of mental disorders, hearing disorders, consumed herb drink or breast milk supplementation, and experienced malnutrition. The research groups were divided into two groups, namely hypnotherapy-mother group and acupressure-mother group.

Hypnotherapy

In hypnotherapy, the first thing to do was the preparation of body, mind, and soul in order to be successful in breast-feeding. The environment had to be cozy to support the therapy. The subjects took deep breath, exhaled, closed their eyes, and relaxed the body. The subjects relaxed their muscles from head till feet. Mothers had to have sincere intentions to provide exclusive breast milk to their beloved babies and be sure that all mothers, whether working or not, had the ability to breast-feed the babies. Subjects were guided to get in the relaxation condition of mind, muscles, and deep relaxation. Then, the subjects were given positive belief and the repetition of positive affirmative which given continuously without time limitation and depended on the need. Before finishing the relaxation session, subjects had subconscious promise that the particular activity would make women awake from the relaxation mode and could directly react against it.

Acupressure

The acupressure treatment was given for 15 minutes. The targeted acupressure points were meridians of stomach (stomach-ST) and small intestine (small intestine-SI), kidney, and spleen which aimed to increase prolactin and oxytocin hormone. In this research, the massage was done in accordance with meridian direction in accupoint points named ST 15, 16, 18, 36, CV17, and SI1. The pressure and massage were done in clockwise direction for 30 seconds with strengthening effect where the points were massaged in accordance with meridian direction from each organ in ST 15, 16, 18, 36, the pressure was done by rotating in clockwise direction for 20-30 seconds where the massage was done downward, resulting in tonification effect. For CV17, the pressure was done by rotating in clockwise direction for 20-30 seconds where the massage was done upwards in line with the kidney's meridian, resulting in tonification effect. For SI17, the pressure was done by rotating in clockwise direction for 20-30 seconds where the massage was done upward in accordance with the small intestine's meridian, resulting in tonification effect. For SP18, the pressure was done by rotating in clockwise direction for 20-30 seconds where the massage was done upwards in accordance with spleen's meridian resulting in tonification effect.

Production of breast milk

The production of breast milk is defined as the continuity of breast milk produced and can be received by the babies with the weight as the indicator.

Analysis of prolactin level

The prolactin level was analyzed using the detection kit of Immunochemiluminescent human- prolactine. The procedures

were done based on instructions of the kit.

Ethics

In this research, the ethical approval has been obtained from the Health Research Ethics Committee of Health Polytechnic Semarang.

Statistical Analysis

The data were presented as mean \pm SD and the difference between treatment groups was analyzed using t-student test. The analysis was done using SPSS 23.0 statistical package program for Windows. The probability value ($p < 0.05$) was stated as significant difference.

Results

Subjects' characteristics are presented in table 1. There was no significant difference for age, level of education, parity, and breast care treatment during pregnancy between groups who were treated with hypnotherapy and acupressure ($p > 0.05$).

Before giving the treatment, prolactin level and breast milk production of the two treatment groups were analyzed. There was no significant difference in the level of prolactin between the groups treated with hypnotherapy and acupressure ($p > 0.05$). There was significant increase in prolactin hormone level and breast milk production before and after the therapy ($p < 0.05$) in the hypnotherapy group (Figure 1). The same case was found in acupressure group. Breast milk production increased significantly before and after the therapy ($p < 0.05$), as shown in Figure 2. The difference in prolactin hormone level and breast milk production was significantly higher in the hypnotherapy group than acupressure group ($p < 0.05$).

Table 1. Demographic and clinical characteristics of the groups

Variables	Hypnotherapy group n = 18	Acupressure group n = 18	p value
Age			$p > 0.05$
< 20 years	2 (11.11 %)	4 (5.56 %)	
20– 35 years	15 (83.33 %)	17 (94.44 %)	
>35 years	1 (5.55 %)	0 (0 %)	
Educational degree			$p > 0.05$
Elementary school	4 (22.22 %)	5 (27.77 %)	
Junior high school	8 (44.44 %)	7 (38.88 %)	
Senior high school	4 (22.22 %)	6 (33.33 %)	
Postgraduate	2 (11.11 %)	0 (0 %)	
Parity			$p > 0.05$
Nullipara	10 (55.55 %)	10 (55.55 %)	
Multipara	7 (38.88 %)	7 (38.88 %)	
Grandemultipara	1 (5.55 %)	1 (5.55 %)	
Breast care			$p > 0.05$
Present	7 (38.88 %)	6 (33.33 %)	
Absent	11 (61.11 %)	12 (66.66 %)	
Prolactin (ng/ml)	118.66	175.39	$p > 0.05$
Body weight (gram)	3082.17	2910.78	$p > 0.05$

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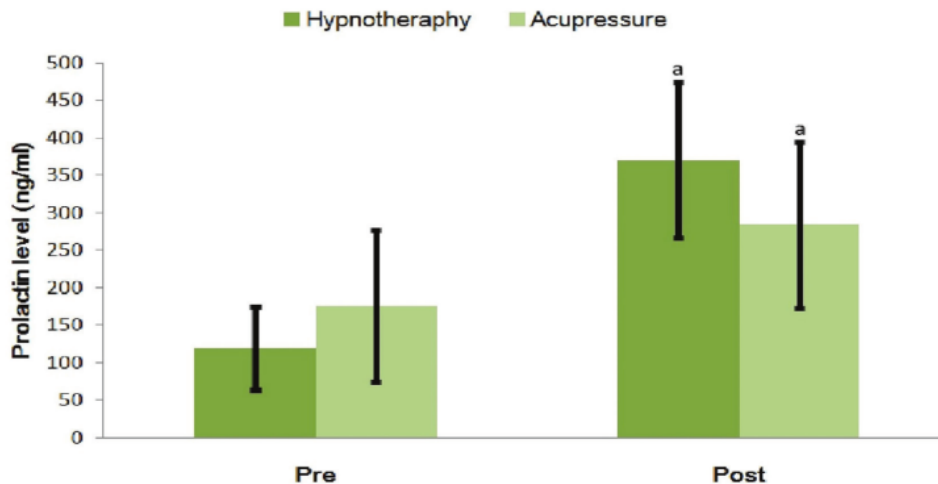


Figure 1. Mean prolactin level of various research groups. Note: Data are presented in mean \pm standard deviation; $ap < 0.05$ compared to hypnotherapy group; ng/ml: nanogram/milliliter.

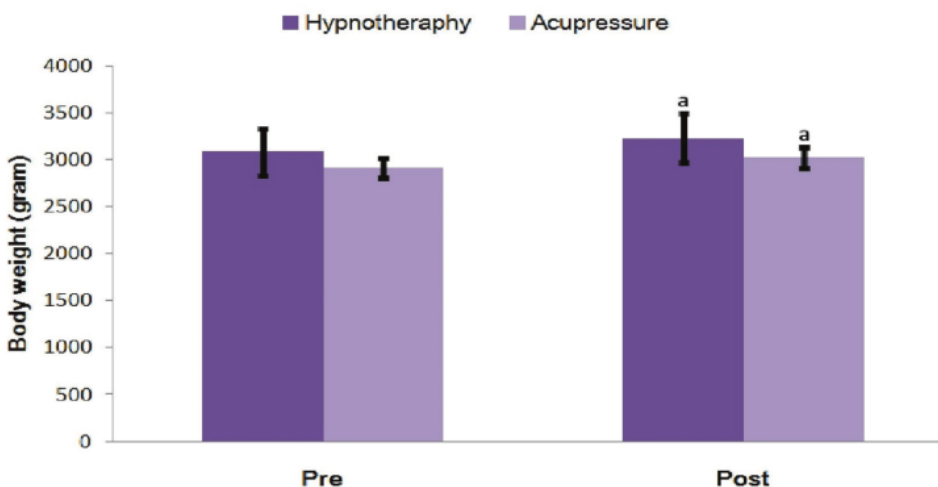


Figure 2. Mean body weight of various research groups. Note: Data are presented in mean \pm standard deviation; $ap < 0.05$ compared to hypnotherapy group.

Discussion

Endometrial hyperplasia is defined as abnormal and non-invasive proliferation of endometrial glands. Similar to endometrium carcinoma, EH is also estrogen dependent [6]. Although there is very little data on incidence, this range for EH has been reported to be 56 / 100,000 with atypia, 213 / 100,000 with complex cases and 142 / 100,000 with simple ones. The incidence is seen in the range of 50-60 years [7]. Clinically, it is important due to causing abnormal uterine bleeding or coexisting with simultaneous endometrium cancer. Cytological atypia constitutes the most important prognostic factor in cancer progression [8]. In non-

atypical EH cases, conservative treatments may be sufficient for young, fertile women or women who want to protect the uterus [9].

Because EH is an estrogen-dependent disease, progestins are used in the treatment. Apoptosis is stimulated by progestins, the glandular cells in these lesions decrease and the endometrium becomes atrophic. Simple atypical EH is usually successfully treated with adequate dosing and ongoing oral progesterone therapy. However, when taken orally for systemic treatment, it creates significant side effects and disrupts the compliance of the treatment. On the other hand, recurrences can occur when treatment is discontinued [10].

In the literature, medroxyprogesterone acetate (MPA), gestagen, didrogestosterone, NETA and megestrol acetate are among the most commonly used oral progesterone agents in different doses and regimen in simple atypical EH treatment [11]. Reed et al. reported that oral progesterone had no superiority in the treatment of EH [12]. Özdeğirmenci et al. investigated the efficacy of MPA, lineterol and NETA from oral progestins in simple atypical EH treatment. After 10 days of cyclic therapy, all three regimens had similar efficacy in treatment at the end of the third month [13]. In our study, the most commonly used oral progesterone agents in our gynecology clinic were lineterol and NETA, and most of the patients (93%) were found to have regression.

In a retrospective study by Vereide et al, oral treatment with LNG-IUD and oral MPA was compared for EH treatment. After 3 months of treatment, all patients in the LNG-IUD group were found to have regression and 43% of patients who received oral MPA treatment still had EH persistence. The authors emphasized the superiority of LNG-IUD in the treatment of EH [14]. Gallos and colleagues compared the rates of EH treatment regression with LNG-IUD and oral progesterone in systemic review and meta-analysis. In simple EH cases, they found regression rates of oral progesterone and LNG-IUD treatment as 89% to 96%, respectively [15]. Orbo et al. compared continuous low-dose oral MPA treatment with LNG-IUD for 6 months in multicenter randomized controlled studies. Statistically significant higher regression was found in EH with LNG-IUD treatment (100% against 96%) [16]. In our study, the regression rates were 100% in the LNG-IUD group and 93% in the oral progesterone group, and are similar to literature.

The fact that the regression rates were higher and the recurrence rates were lower in the LNG-IUD group can be explained by the difference in the route the progesterone is administered. When progesterone is given by intrauterine device, the effect on uterine mucosa is several times higher than that of oral ingestion [17]. In our study, endometrial thickness was significantly reduced in both groups, while endometrial thinning in the LNG-IUD group was more prominent (4.1 mm vs. 6.3 mm).

In terms of patient compliance and side effect, oral intake limits total efficacy. LNG-IUD is associated with higher patient satisfaction, thus ensuring that patients receive longer treatment. In addition, the duration of treatment plays an important role in regulating the disease and avoiding hysterectomy [18]. In a study conducted by El Hehery et al., LNG-IUD and oral dydrogesterone were compared for atypical EH treatment and after 6 months, EH rates of recurrence (0% vs 12.5%) and hysterectomy in LNG-IUD group were significantly lower. In our study, the recurrence rates were similar in both groups (0% vs 2%) [19]. Although no hysterectomy was required for any of the patients receiving LNG-IUD, hysterectomy was performed on 5 (10%) of patients receiving oral progesterone, even though this was not statistically significant.

When studied in terms of menstrual bleeding patterns, one study compared the use of atypical EH with those of patients who used LNG-IUD and dydrogesterone for 6 months and found 26% of patients using LNG-IUD (0% in patients using dydrogesterone). In our study, this rate was found to be 21%. On the other hand, a greater increase of Hb levels in the LNG-IUD group could be

explained by the fact that this group had a greater number of amenorrheic patient. In this regard, oral progesterone therapy may be the first choice instead of LNG-IUD in patients who do not want to be amenorrheic.

Conclusion

It can be concluded that **hypnotherapy is more effective than acupuncture in stimulating prolactin hormone production and breast milk production among women giving birth with caesarean section**. Thus, hypnotherapy technique can be used as alternative in the success of providing exclusive breast milk.

Statement of conflict of interest

The author declares that there is no conflict of interest in the publication of this article.

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