

REVIEW ARTICLE

THE EFFECTIVENESS OF ACUYOGA POSTPARTUM ON PRIMIPAROUS POSTPARTUM PAIN WITH PERINEAL TRAUMA

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ABSTRACT

Perineal trauma commonly impacts on childbirth women due to laceration or intentional because of an episiotomy. The study aimed to examine the effect of AcuYoga postpartum on decreasing the pain among primiparous postpartum with perineal trauma. A quasi-experimental, pre-test, and post-test design with a non-equivalent control group were applied in this study. Thirty-four samples were allocated to the experimental and control groups. The experimental group received the AcuYoga postpartum, and the control group received the general postnatal exercises. The findings showed that there are significant differences in pain levels among the experimental group who received the program than a control group who receive routine care (p -value <0.05). There are significant differences in pain levels among the experimental group before and after program implementation ($p<0.05$). Further studies need to examine Acuyoga on other variables such as duration of perineal wound healing, the process of elimination, and clinical biomarkers

Keywords: Acuyoga, exercise, primipara, pain, perineal trauma.

International Journal of Nursing and Health Services (IJNHS), December 2019, Volume 2, Issue 4; Page 375-381

Received: 01 June 2019; Revised: 15 July April 2019; Accepted: 30 July 2019

DOI [10.35654/ijnhs.v2i4.165](https://doi.org/10.35654/ijnhs.v2i4.165)

INTRODUCTION

Perineal trauma is a common event among women during the childbirth period (1). About 60-70% of them with first childbirths need to suturing (2). This condition impacts pain and continuously in the puerperium period that affects the quality of life (3-4). The perineum is a path passed during labor. This perineal case often occurred among mothers with the first time of or primipara. Bleeding from a perineal tear need to intensive care to prevent more blood loss (4, 5).

Data showed that 85% of spontaneous labor with 32-33% have perineal trauma, and 52% come from lacerations that occur spontaneously (6). From the number, 32% of them have a moderate to severe pain level (7). The pain depended on the caused of pain, tolerance to pain, psychological, and environmental factors.

Pain among postpartum mothers was significantly affected on the quality of life, stress, anxiety, and lack of ability to taking care for babies (8). Moreover, less mobilization, bonding attachments, fatigue, sleep disturbances, and persistent pain also impact on the recovery process in taking-in stage among mothers (9).

Individuals would different pain perceived depend on how the impression of threats and challenges occurred. Mothers with perineum trauma were considered to have wound injury. It was indicated to have severe pain and impact on the elimination process as well as the disruption of uterine contractions.

Several studies described effective strategies to reduce pain, including applying interaction between body, mind, and spirit (10, 11), analgesic drugs (12), and acupuncture/ acupressure, and yoga (8). Physical activity and yoga-based interventions were also considered as an effective non-pharmacological intervention on reducing postpartum maternal pain (12). Yoga is a practical effort to harmonize body, mind, and spirit, which is truly the best for building strong posture, and flexible and strong muscles, and the central nervous system (13).

Proper physical activity and training improved the regression of body changes (14). Postpartum Acuyoga (Combination of Acupressure & Yoga) is a combination of acupressure and yoga techniques, where both of these techniques will be combined as a unified relaxation technique so that it can regulate vital energy flow. Some of the benefits of acuyoga are increasing the body's resistance, muscles becoming supple, strengthening bones, preventing and treating pain. On the body's acuyoga as a whole in physical, emotional, and spiritual not only focuses on the disease (15).

Acupressure and yoga with breathing techniques exercise the pelvic floor muscles and improves focus (16). Acuyoga was first developed by Michael Reed Gach, the founder of Acupuncture Institute Berkeley, California. Acu-yoga is traditional Chinese medicine, yoga, and hatha yoga therapy, which naturally stimulates specific meridians in healing (17).

Even though the intervention was sufficient, however, the limited study was conducted in the postpartum period in Indonesia. Therefore, this study focused on "Effectiveness of Postpartum Acuyoga (Combination of Acupressure & Yoga) on primiparous postpartum pain with perineal trauma."

OBJECTIVE

The study aimed to examine the effect of Postpartum Acuyoga on decreasing postpartum pain among primiparous postpartum.

METHODS

Research Design

We conduct a quasi-experimental, pre-test and post-test design with non-equivalent control group

The setting, samples, and sampling

Samples in this study were normal maternal with a perineal trauma of twenty-four hours. Thirty-four total was allocated in the experimental and control groups. The method of sampling in this study used a simple random sample. This study was divided into two groups. Group one was given Postpartum Acuyoga intervention; the second group was general postpartum exercise.

Instrument

Three main instruments were used in this study as follows; 1) Observation sheet consisted of respondents' code, age, education, occupation, observation sheet of postpartum pain intensity to measure postpartum pain; 3) Pain measurement scale

questionnaire using the Visual Analogue Scale (VAS), and 3) AcuYoga postpartum guidelines. Those questionnaires have been validated by three experts

Ethical Consideration

This study has been approved by Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Gigi Universitas Islam Sultan Agung Semarang Number 072/B.1-KEPK/SA-FKG/IV/2019.

Data Analysis

Descriptive analysis was used to describe the characteristics of each variable in the percentage, frequency of education, employment and anxiety. Data were tested for normality distribution. Mann Whitney test were used to examine the pain level before and after receiving the intervention. ANCOVA was performed to determine the effect of an intervention on pain level after adjusting the covariance such as age and anxiety.

RESULT

Characteristic of respondents

Table 1 showed that this study described the characteristic of respondents. The findings showed the majority of respondents, both the experiment group (82.4%) and the control group (76%), were between 20 to 35 years old. Most respondents also have middle education levels in both the experiment group (70.6%) and the control group (52.9%). More than half of the respondents in the experimental group have employment (52.9%), while 64.7% of respondents in the control group were unemployment (64.7%). Regarding the anxiety level, both the experimental group and the control group were a moderate level of anxiety. There are no significant differences between the experimental and control group ($p\text{-value} > 0.05$). Details explanation were summarized in table 1.

Table 1: Characteristics of Respondents

| Characteristics | Group | | | | Total | p-value | | |
|-----------------|-----------------|---------|------|----|-------|---------|------|--------|
| | Experiment | Control | | | | | | |
| | n=17 | n=17 | n | % | n | % | | |
| Age | <20 years old | 2 | 11.8 | 4 | 23.5 | 6 | 17.6 | 0.595* |
| | 20-35 years old | 14 | 82.4 | 12 | 70.6 | 26 | 76.5 | |
| | >35 years old | 1 | 5.9 | 1 | 5.9 | 2 | 5.9 | |
| | Total | 17 | | 17 | | 34 | 100 | |
| Education | Low | 2 | 11.8 | 5 | 29.4 | 7 | 20.6 | 0.424* |
| | Middle | 12 | 70.6 | 9 | 52.9 | 21 | 61.8 | |
| | High | 3 | 17.6 | 3 | 17.6 | 6 | 17.6 | |
| | Total | 17 | | 17 | | 34 | 100 | |
| Employment | Unemployment | 8 | 47.1 | 11 | 64.7 | 19 | 55.9 | 0.300* |
| | Employment | 9 | 52.9 | 6 | 35.3 | 15 | 44.1 | |
| | Total | 17 | | 17 | | 34 | 100 | |
| Anxiety | Mild | 4 | 23.5 | 4 | 23.5 | 8 | 23.5 | 0.924* |
| | Moderate | 8 | 47.1 | 7 | 41.2 | 15 | 44.1 | |
| | Severity | 5 | 29.4 | 6 | 35.3 | 11 | 32.4 | |
| | Total | 17 | | 17 | | 34 | 100 | |

a chi-square test

*level of significance $\alpha > 0.05$

Mean differences scores of pain level within the experimental group and the control group

Table 2 described the mean differences scores of pain before and after receiving the program. The findings showed that there are significant differences in pain levels among the experimental group before and after program implementation ($p < 0.05$). Contrary, no significant differences among the control group before and after program implementation ($p\text{-value} > 0.05$). Details explanation were summarized in table 2

Table 2. Mean differences scores of pain level within the experimental group and the control group

| Group | | Mean±SD | <i>p-value</i> |
|------------|-----------------|--------------|----------------|
| Experiment | <i>Pretest-</i> | 74.71±8.745 | 0.000 |
| | <i>Posttest</i> | 10.59±9.663 | |
| Control | <i>Pretest-</i> | 71.76±8.828 | 0.085 |
| | <i>Posttest</i> | 37.06±16.111 | |

Mean differences scores of pain level between the experimental group and the control group

Table 3 described the mean differences scores of pain before and after program implementation between the experimental group and the control group. The findings showed that there are significant differences in pain levels among the experimental group who received the program than a control group who receive routine care ($p\text{-value} < 0.05$). Details explanation were summarized in table 3.

Table 3. Mean differences scores of pain level between the experimental group and the control group

| Group | | n | Mean Rank | Mean±SD | <i>p-value^a</i> |
|------------|--------------|----|-----------|--------------|----------------------------|
| Experiment | Pretest | 17 | 19.21 | 73.24±8.780 | 0.266 |
| Control | | 17 | 15.79 | | |
| Experiment | Posttest | 17 | 10.62 | 23,82±18,75 | 0.000* |
| Control | | 17 | 24.38 | | |
| Experiment | <i>Gain</i> | 17 | 10.97 | -4.677±2.567 | 0.000* |
| Control | <i>Score</i> | 17 | 24.03 | | |

a Mann-Whitney test

*level of significance $\alpha < 0.005$

The effect program on Pain Intensity after adjusted covariance

Table 4 described the effect program on Pain Intensity after adjusted covariance such as age and anxiety. The results showed that there is a relationship between anxiety with postpartum pain intensity among the experimental group ($p\text{-value} < 0.05$).

However, no correlation between postpartum pain intensity after adjusted age (p-value>0.05) with R-Square value 0.502. Therefore 50.2% of anxiety influenced the severity of postpartum pain.

Table 4 The effect program on Pain Intensity after adjusted covariate

| Variable | | <i>p-value</i> ^a | <i>R Square</i> | <i>p-value</i> ^b |
|--|---------|-----------------------------|-----------------|-----------------------------|
| Pain Intensity | Age | 0,024* | 0.502 | 0,108* |
| | Anxiety | 0,749* | | 0,000* |
| | Group | | | 0.001* |
| <i>a. Correlation test</i> | | | | |
| <i>b. ANCOVA test</i> | | | | |
| * <i>Level of significance</i> $\alpha < 0.05$ | | | | |

Discussion

Pain is a condition and an unpleasant feeling. This pain was subjective due to the people experiencing (18). In this study, postpartum pain of patients after receiving the intervention showed a significant different than before receiving the yoga intervention. It was consistent with previous study showed that yoga application with mind body therapy has a positive effect on decreasing pain level, mental health and psychological aspects of pain. Mind-body therapy involves a physical posture, breathing exercises, and meditation to improve overall well-being. Yoga is one of the strategies used to trigger muscle strengthening, flexibility, and balance activities indirectly modulate pain perception and improve overall emotional function (19).

The combination of acupressure and yoga are combination of body, soul and mind exercises as well as relaxation. This method could greatly reduce primipara postpartum pain with perineal trauma (20, 21). The underlying mechanisms from this combination of acupressure and yoga including: 1) stimulating afferent nerves of type I and II or A-delta fibers in the muscle that send impulses to the anterolateral tract in the spinal cord. 2) Acupressure stimulates midbrain structures that release monoamine norepinephrine and serotonin in the spinal cord. 3) stimulation of systemic release from beta-endorphins into the bloodstream from the pituitary gland along with adrenocorticotrophic hormones (22, 23,24).

In this study concluded that postpartum AcuYoga (a combination of acupressure and yoga) was effectively to reduce primipara postpartum pain. An acupressure method with yoga poses also proved a positive effect on decreasing local pain by stimulating the nervous system reflex mechanism and mechanical stimulation of producing release of bradykinin, prostaglandins, substances P changes.

Conclusion

The combination between two methods of acupressure and yoga have strong positive effect on reducing postpartum pain with perineal trauma. This also has positive impact on feelings of pleasure and happy that data stimulates immunity or immunity.

Limitation

The limitations of the study only examined the variable intensity of pain. The researcher was unable to fully control the external variables that could affect the experiment, for example, the tradition of massage after giving birth and maternal nutrition. Evaluation is still limited to 2 times before and after the intervention.

Recommendation

Further study need to examine the effect of acuyoga on other variables, for example length of perineal wound healing or elimination process after childbirth. Moreover, this study also need to test the biomarkers improvement such as norepinephrine, or immunoglobulin A.

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