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The effectiveness of acupressure and moksibusi on decreasing blood in first 24 hours of postpartum

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ABSTRACT

Background

Active management of Kala III can reduce the incidence of bleeding due to uterine atony, reduce the duration and volume of blood loss, but the facts showed that 8 of 14 mothers who received MAK III standard care experienced lost their blood > 500 mL in the first 24 hours of postpartum due to the oxytocin administration has a relatively short half-life, that is only about 4-10 minutes, so sustainably intervention is needed to keep the uterus contracting effectively in a non-pharmacological manner with acupressure and moxibustion.

Objective

To prove the effect of acupressure and moxibustion in points of BL 60, BL 67, SP 6 and LI 4 on decreasing bleeding in the first 24 hour of postpartum

Method

This reseach used a quasy experiment study with pre-test and post-test only with control group design

Results

The respondents of this research were housewives and multiparas with aterm gestational age, birth spacing ranged from 2-10 years, maternal ages were 31.33 years and 30.8 years. different tests on the acupressure group and the moksibusi by using independent t-test and mann whitney u-test, the total of bleeding volume was not significantly different from $P = 0.633$

Conclusion

Administration of acupressure and moxibustion can reduce the volume of postpartum bleeding because it is able to keep the uterus contracting effectively.

Keywords: Bleeding, Acupressure, Moxibustion

INTRODUCTION

In 2015, AKI in Indonesia was 305 maternal deaths of 100,000 live births, whereas 30% were caused by bleeding. [1, 2] While in Central Java, AKI in 2016 reached 109.65 of 100,000 live births and 30.37% among them caused by bleeding. [3] In 2017, bleeding was the second largest cause of maternal death in Brebes Regency (12.90%). [4]

In Indonesia, bleeding is no longer the main cause of maternal death. In other words, it indicates that bleeding management is now well done.³ However, it should be realized that the impact of bleeding is not only the threat of death, but also the fatal morbidity effects such as hysterectomy, increased risk of infection, postpartum anemia, and Sheehan Syndrome that cause premature aging and lactation failure. [5-7]

To prevent the bleeding during labor using Active Management III, this is in line with government recommendations and the World Health Organization (WHO) for developing countries including Indonesia. [8, 9] Applying MAK III can reduce the incidence of bleeding because of uterine atony, reduce duration and lost blood volume. Some actions include in MAK III are administration of uterotonic after the birth, controlled cord tension and uterine fundal massage. The standard of uterotonic administration in helping of normal labor is administration of 10 IU oxytocin. The fact showed that 8 of 14 maternal mothers who received MAK III standard care has had lost their blood > 500 mL in the first 24 hour of postpartum. [10] The phenomena happened because oxytocin has a relatively short half-life, it is about 4-10 minutes, so intervention needs to be held continuous to keep the uterus contracting effectively. [8, 11-13]

Efforts to prevent postpartum haemorrhage can be done by non-pharmacological methods namely acupressure and moxibustion by activating specific energy points in the body to facilitate healing.

Thus, it is necessary to examine the effectiveness of the combination of acupressure and moxibustion in decreasing the bleeding in the first 24 hour of postpartum to find further interventions that are safe in preventing postpartum haemorrhage.

METHODS

This research has been approved by the Health Research Ethics Commission of the Dentistry Faculty of Sultan Agung Islamic University with Number 034 / B.1-KEPK / SA-FKG / III / 2019. The research was a quasi experiment with pre-test and post-test only with control group design. The populations were all vaginal delivery mothers in Brebes Central Java Hospital in number of 39 respondents whereas 9 respondents were excluded because returning home before 24 hours and then as many as 6 respondents and 3 sanitary respondents were discarded before weighing, so the number of samples were 30 respondents consists of 15 respondents for each group obtained through accidental sampling and grouping techniques based on the order of arrival, the odd sequence of the control group, the even number of experiment groups. Samples were selected based on inclusion criteria namely vaginal delivery mothers, and then they did not have allergies to underpad material and sanitary napkins provided by the researcher. The research instrument used questionnaires, observation sheets, digital scales, underpads of size 60 x 90 cm, parturition in size 45 cm and lotions as lubricants to perform acupressure and moxa.

The research procedure was informed consent - Weighing the dry weight of the blood absorbing media - Immediately after the baby was born, the underpad was placed under the mother's buttocks - Weighing the wet weight of the blood absorbing media as soon as the delivery was complete - The mother was cleaned and applied by giving absorbing - experiment group gave moxibustion at the meridian point BL 60, BL 67, SP 6 and LI 4 on the left and right side with the duration of 1 minute for each point. In opposite for the control group, the researcher gave acupressure at the meridian points of BL 60, BL 67, SP 6 and LI 4 on the left and right side with a duration of 1 minute for each point - Weighing the wet weight of blood absorbing media at 2 hours postpartum, 6 hours postpartum, and every 6 hours till the first 24 hours postpartum. After the data was collected, they were analyzed using *independent t-test* on normally distributed data and *mann whitney u-test* on abnormal data distributed.

RESULT AND DISCUSSION

Tabel 1 Characteristic of Respondent

Characteristics	Freuencies (%) or Mean (SD)		P
	Experiment Group	Control Group	
Age (year)	30.80 (6.43)	31.33 (7.53)	0.299*
Occupation			0.309**
Job	1 (6.7)	0 (0.0)	
Jobless	14 (93.3)	15 (100.0)	
Parities			0.381**
Primipara	5 (33.3)	3 (20.0)	
Multipara	9 (60.0)	12 (80.0)	
Grandemultipara	1 (6.7)	0 (0.0)	
Gestational age			0.766**
<37 Weeks	2 (13.3)	3 (20.0)	
37 – 40 Weeks	11 (73.3)	11 (73.3)	
>40 Weeks	2 (13.3)	1 (6.7)	
Pregnancy Space			0.372**
<2 Year	5 (33.3)	5 (33.3)	
2–10 Year	8 (83.3)	5 (33.3)	
>10 Year	2 (13.3)	5 (33.3)	

*Levene test

** Chi square

Based on table 1, the respondents characteristics of the two study groups were homogeneous. It can be seen by the P value that was more than 0.05. Furthermore, the control group and the intervention of the average of housewife and multiparous with atterm gestational age, pregnancy space ranged in 2-10 years and maternal age in the control group 31.33 years and intervention group 30.8 years.

Age, occupation, parity, gestational age and pregnancy space are some factors that influence hemoglobin levels in pregnant women then for the next it will cause anemia and have a negative impact on labor, namely postpartum bleeding because anemia is a factor that causes postpartum bleeding. [14, 15]

Table 2 Comparison of total bleeding volume in the first 24 hours postpartum between experimental and control group.

No.	Bleeding Volume (ml)				P
	Experiment Group		Control Group		
	Mean	SD	Mean	SD	
1	362.27	278.48	429.09	344.17	0.604*
2	58.00	34.49	74.45	62.45	0.468*
3	36.53	15.72	34.20	12.32	0.654**
4	25.93	10.02	27.34	11.19	0.720**
5	17.40	7.22	19.65	8.56	0.444**
6	9.66	5.21	11.91	5.20	0.198*
Total	509.80	317.92	596.65	403.78	0.633*

*Mann whitney u-test

**Independen t-test

Comparison of the total bleeding volume in the first 24 hours postpartum between experiment and control group can be seen in table 2 Based on the results of different tests using independent t-test and mann whitney u-test, the total bleeding volume between experiment and control group was not significantly different (P = 0.633). Similarly, the volume of bleeding in each time interval between experiment and the control group did not show a significant difference, that was P>0.05.

Bleeding process for the first measurement cannot be controlled because the respondent has not yet received intervention in the form of acupressure or moxibustion. The bleeding source was not only from the placental implantation site which is associated with uterine contraction but also from the birth canal lacerations. While for second measurement and so on, the bleeding volume can be controlled because the placental implantation mark closed due to the effective uterine contractions and laceration of the birth canal has been treated by suturing. Although the acupressure and moxibustion cannot prevent bleeding when the

respondent has had lost blood >350 mL in the first measurement, the number of respondents who bleed in the intervention group was less than the control group.

The amount of bleeding volume in each observation time interval for experiment group was less if it is compared with the control group even though statistically did not show a significant difference. This insignificant difference can be caused because both the groups are equally given acupressure treatment which can make the uterus contract effectively. The administration of moxibustion for experiment group did not create a significant difference in volume of bleeding between them can be caused by several factors. Decreasing the bleeding volume is already within the optimal range, mugwat that is contained in moxibustion is biphasic by means of increasing or decreasing muscle contractility in accordance with the need so is will not cause iatrogenic effects. [16] and respondents who are unfamiliar with moxibustion often pull their hands or legs so that the moxibustion temperature less of stability.

Table 3 Comparison of trends in decreasing bleeding volume in first 24 hours postpartum between experiment and the control group

Number of Comparison	Bleeding Volume (ml)				P
	Expriment group		Control group		
	Mean	SD	Mean	SD	
1 dan 2	304.26	253.09	354.64	298.14	0.694*
2 dan 3	21.47	26.88	40.25	58.93	0.191*
3 dan 4	10.60	9.94	6.86	5.08	0.443*
4 dan 5	8.53	5.19	7.69	7.22	0.395*
5 dan 6	7.74	4.14	7.73	4.72	0.997**

*Mann whitney u-test

**Independen t-test

Bleeding volume in both groups had a tendency to get a significant decrease in 2 hours postpartum and get decrease till the first 24 hours postpartum. The results of different test using independent t-test and Mann Whitney U-test as shown in Table 3 showed that the tendency to decrease bleeding volume between experiment and control group was not significantly different. It can be seen from the P value of the difference bleeding volume measurement for each time interval between groups which is greater than 0.05.

Source of bleeding in the normal labor process comes from the former site of placental implantation and birth canal laceration. In the

first measurement, the volume of bleeding was relatively more compared than subsequent measurements because the blood vessels as source of bleeding have been being opened. However in the second measurement, the open blood vessels have closed because of the uterine contractions and also suturing the tear of the birth canal. As the result, there was a significant reduction in bleeding volume in second measurement.

Naturally, the uterus will run a process called uterine involution in which the size of uterus will gradually shrink close to its original size before pregnant. The process of involution occurs by making the uterus contracted So the opened blood

vessels due to the release of the placenta gradually close and finally bleeding become decrease. [17] The effectiveness of this uterine contraction needs to be maintained because bleeding can occur in any time.

In subsequent measurements, the bleeding volume tends to decrease consistently. Neither of the respondents in experiment nor the control group got an increasing bleeding volume in the first 24 hours postpartum. In contrast to the results of the study by Fauziah et al. (2018) which showed an increasing bleeding volume for maternal mothers who received standard care in certain time intervals, eventhough it was not significant. [18] It indicates that administration of acupressure and moxibustion can reduce postpartum bleeding volume because it can keep the uterus contracts effectively as same as the result of study by Wu et al (2014) which stated that stimulation of meridian points through the administration of acupressure and moxibustion can make the uterus contracted

effectively, so the volume of bleeding can be decreased. [18]

CONCLUSIONS AND SUGGESTIONS

This study proves that administration of acupressure and moxibustion can reduce the volume of postpartum bleeding because it is able to keep the uterus contracting effectively. Acupressure and moxibustion can be used as non-pharmacological therapies as an effort to prevent the postpartum bleeding.

From the results of this study midwives are expected to make bleeding observations as much as 6 times in first 24 hours postpartum with ongoing documentation because bleeding can occur in any time within current time period.

CONFLICT OF INTEREST

There is no conflict of interest

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