Research Article

Progress of Labor Onset with Combination of Pregnancy Massage and Acupressure

Kemajuan Awal Persalinan dengan Kombinasi Pijat Kehamilan dan Akupresur

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Abstract

Objective: To investigate effectiveness of complementary therapy combination pregnancy massage and acupressure on the onset of labor in primigravida pregnant women.

Methods: The population was pregnant women in all regions of Pekalongan Regency at more than 39 weeks' gestation, using random cluster sampling. Data collect use an observation sheet to measure the start time of labor and also check the implementation of massage and acupressure in pregnancy. Treatment was carried out every 2-3 days from 39 weeks of gestation until labor occurs. This study was quantitative quasi-experimental with control group design with a cohort approach.

Result: The results of the bivariate analysis showed that there were significant differences in the onset of childbirth in the intervention group with the control group (p-value; 0.003; CI -8.59 - (- 2.07)). It was concluded that complementary therapy combined therapy of pregnancy massage and acupressure could be used as an alternative therapy to prevent overdue pregnancy.

Conclusion: These findings confirm that complementary therapy combination pregnancy massage and acupressure could faster the onset of labor.

Keywords: acupressure, complementary therapy, onset labor, pregnancy massage.

Abstrak

Tujuan: *Untuk mengetahui efektivitas terapi komplementer kombinasi pijat kehamilan dan akupresur pada permulaan persalinan pada ibu hamil primigravida.*

Metode: *Populasi dalam penelitian ini adalah ibu hamil di seluruh wilayah Kabupaten Pekalongan dengan usia kehamilan lebih dari 39 minggu, dengan menggunakan sampel cluster random. Pengumpulan data menggunakan lembar observasi untuk mengukur waktu mulai persalinan serta memeriksa pelaksanaan pijat dan akupresur pada kehamilan. Pengobatan dilakukan setiap 2-3 hari dari usia kehamilan 39 minggu sampai terjadi persalinan. Penelitian ini merupakan penelitian kuasi eksperimental kuantitatif dengan desain kelompok kontrol dengan pendekatan kohort.*

Hasil: *analisis bivariat menunjukkan terdapat perbedaan yang signifikan timbulnya persalinan pada kelompok intervensi dengan kelompok kontrol (p-value; 0,003; CI -8,59 - (- 2,07)). Disimpulkan bahwa terapi komplementer terapi kombinasi pijat kehamilan dan akupresur dapat digunakan sebagai terapi alternatif untuk mencegah terjadinya kehamilan terlambat.*

Kesimpulan: *Temuan ini mengkonfirmasi bahwa terapi komplementer kombinasi pijat kehamilan dan akupresur dapat mempercepat terjadinya persalinan.*

Kata kunci: *akupresur; awalan persalinan, pijat kehamilan, terapi komplementer.*

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INTRODUCTION

Postterm pregnancy is one of the high-risk pregnancies. This is closely related to mortality, perinatal morbidity, or macrosomia. The risk for mothers with postterm pregnancies can be in the form of postpartum bleeding or increased obstetric procedures.[1] There were 24 mothers with serotinous pregnancies of 87 (28%) women giving birth, of 24 women with pregnancies serotinus, 18 (75%) infants had asphyxia.[2] A relationship between late pregnancy and severe preeclampsia with asphyxia incident.[3] Women in the post-term had a significantly higher rate of caesarean section and operative vaginal delivery. Post-term pregnancy versus full-term pregnancy was associated with an increased risk of NICU admission, respiratory morbidity, and infectious morbidity. Post-term pregnancy versus late-term pregnancy was similarly associated with an increased risk of NICU admission, respiratory morbidity, and infectious morbidity (and with hypoglycemia).[4]

Labor induction is a measure to stimulate uterine contraction using any medical procedure or by attempting any mechanical alteration prior to normal uterine contraction for labor. One is mechanical using membrane pressure manipulation, and the other is pharmaceutical using prostaglandin and oxytocin hormone stimulation. However, these pharmaceuticals pose some risks. Among those risks is that the administration of synthetic oxytocin may reach its maximum level that the body can tolerate, which in turn increases the likelihood of cesarean section and hence, greater risk of bleeding. A latest research finds that the risk of uterine tear due to labor induction is 77% among patients undergoing cesarean section.[5] In Indonesia, the SC number in the last five years reached 15.3% of 20.591 deliveries, while the target of the World Health Organization (WHO) SC number was 5-15%. SC labor will have an impact on the length of the healing process of the post-partum, the risk of infection with SC wounds, disruption of the breastfeeding process, and affect the low degree of maternal and child health.[6]

Currently, the services needed by the community are not only for healing, but the highest hope of the community is the comfort that is obtained in the services they receive so that side effects are not felt by the client on treatment and also become a pain prevention measure that will be accepted. This is proven by using Complementary and Alternative Medicine (CAM) by women about 48.9% compared with men 37.8%. Can be concluded that the use of alternative complementary therapies in women can be used as indicators of use alternative complementary therapies at a time when will come. This includes the use of complementary therapies in problems of pregnancy, childbirth and breastfeeding.[7]

The presence of this complementary therapy is expected to be able to provide alternative measures in the prevention of labor complications in preventing late pregnancy and the impact of late pregnancy. Complementary care in childbirth includes: endorphin massage, oxytocin massage, giving dates, birth ball therapy, giving aromatherapy, therapy Murottal Al-Qur'an provides significant results on client comfort, maximizes the role of the midwife, minimizes trauma, increases energy in maternal labor and shorter time of delivery.[8]

One of the massages that is known to increase hormones that help the birth process namely the hormone oxytocin is a massage in the back area. The massage in question is an oxytocin massage. Oxytocin can increase the influx of calcium ions into the intracellular. With the release of the hormone oxytocin will strengthen actin and myosin bonds. This will make the uterine contractions stronger. This is in accordance with the theory that oxytocin massage carried out on inpartum mothers has an effect on his frequency and his duration in pregnant women.[9] Another massage used in labor is endorphin massage which makes reduced labor pain. Endorphin massage can stimulate the body releases endorphins which are pain reliever so feel reduced labor pain. Touch and massage can make mothers feel calm and comfortable during childbirth. Massage endorphins do not cause side effects which harms the mother. Endorphin massage too can reduce anxiety so that pain that the mother feels during childbirth can be reduced.[8] In the results of the study it was stated that massage endorphins affect the decrease intensity of labor pain in primiparous mothers.[10] As post-term pregnancy is an important factor in perinatal mortality and has undesirable maternal and neonatal results, this study was conducted to identify the effect of combination pregnancy massage and acupressure inducing labor in primigravida with 39-40 weeks of pregnancy in 2018.

METHODS

Study design in this research was using quasi experimental with control group design with a cohort approach. The sample was determined from the population of primigravida pregnant women with gestational age ≥39 weeks taken at random with the Cluster random sampling technique. After the random cluster, three public health centers working were selected as research locations, including Buaran, Kedungwuni I, and Kedungwuni II public health center. A population of 212 primigravida pregnant women was obtained in ones years at random to participate in the study.

Determination of the sample size is calculated using the Stata 12 software based on the proportion approach with 80% power and a degree of significance (α) 0.05. The proposed sample size in this study is 50 for the intervention group and 50 for the control group. However, until this July, there are 4 respondents in the intervention group were lost to follow-up, 8 not finished the intervention, and 13 respondents who had given birth before the target intervention has been completed. So, Big of sample in intervention group just 25 until the finish of study.

This study was endorsed by the institutional Ethics and Research Committee. All volunteers signed a consent form to declare a voluntary agreement with all procedures implicated in this project. Participants were informed that they participation could be voluntarily terminated at any time without any consequence. Procedure In this study, researchers conducted an initial meeting of the first trimester pregnant women in the class of pregnant women in three public health centers. Researchers explain the preparation of labor and explain the flow of research on prospective clients. Clients who are willing to take part in the research are welcome to write down their address and contact number. The researcher randomized the group of pregnant women who were willing to participate in the study in two groups, namely, the intervention group and the randomized control group. In the intervention group, the combination of Pregnancy, Massage, and Acupressure was given to the treatment group, once every 2-3 days since 39 weeks of gestation until the time of delivery. The control group was given standard pregnancy care with antenatal care services and classes of pregnant women with the main theme of labor preparation in the third trimester of pregnancy, The intervention was carried out by a certified acupressure therapist in a standardized antenatal care room. Before and after the intervention, check the fetal heart rate and blood pressure of the client. After three interventions, the client is asked to inform the date of delivery.

The data was collected through three instruments. The first instrument was a general data collection sheet that was used as an instrument for recording general client data. The second instrument was an observation sheet of vital signs and signs of labor that were measured by the therapist before and after the intervention. The third instrument checks the implementation of pregnancy, massage, and acupressure as a time recording and scheduling of subsequent therapy. These three instruments were arranged by the researcher and the team and conducted a common perception of the therapist as an enumerator and executor of the intervention. The intervention was carried out according to standard operational procedures that the research team had compiled. The intervention was carried out every 2-3 days starting at 39 weeks' gestation until delivery.

The first instrument examines general data such as client biographical data including name, age of last education, and occupation. in the second part of this instrument asks client knowledge about labor preparation, which contains twenty question items with yes and no answer choices. The third part of this instrument explores the preparation of childbirth that the client and family have planned in accordance with the birth planning and complications prevention program known in Indonesia as P4K. This section asks about planned birth attendants, where the place of delivery is planned, what vehicles are planned to go to, where birth attendants are planned, and whether there was an insurance preparation and or delivery cost. At the end of this instrument, there is an instrument to assess client anxiety using the Halminton Ranting Scale and current pregnancy history.

The second instrument was a checklist for recording the results of antenatal care carried out before and after the implementation of the intervention. A pregnancy check-up involves asking for complaints related to the signs of labor that the client may experience and measuring blood pressure, fetal heart rate, and uterine contractions.

The third instrument was a checklist for recording the date the client arrived and the

intervention carried out, which was accompanied by the signature of the client and therapist and recording the date of the next intervention agreed by the client and therapist. Data collection using three instruments that have been prepared to measure the prefix time of delivery, also using a checklist for pregnancy massage and accupressure. The treatment is carried out every 2-3 days starting at 39 weeks of gestation until delivery occurs. Analysis of respondent characteristics was performed in frequency distribution of age, educational background, working status, and onset of labor. The data were analyzed using t-test independent to see differences labor onset in intervention and control group. The level of significance used in this test is p-value <0.05 in the 95% confidence interventions. Statistical analysis was conducted via Stata 12 software.

RESULTS

The findings indicated there was significant statistical differences between the two groups (25 pregnant women receiving pregnancy massage, acupressure and antenatal visit versus 25 receiving antenatal visit only) in terms of demographic data such as age, BMI, education levels, employment, knowledge of labour preparation, preparation of labor and gestational age at enrollment (Table 1).

Table 1. Demographic Data

Groups	Intervention	Controls	*P-value*
Age, y o	25.32(4.488)	27.16(4.525)	0.152
BMI, kg/m^2	23.28(2.137)	22.43(4.351)	0.356
Education			0.341
Elementary School	4(16)	4(16)	
Middle school	6(24)	11(44)	
High School diploma	12(48)	7(28)	
University	3(12)	3(12)	
Employment			0.022
Home work	15(60)	19(76)	
Employed	10(40)	6(24)	
Knowladge of Labor Preparation			0.073
Good	13(52)	12(48)	
Lacking	12(48)	13(52)	
Preparation of Labour			0.299
Already	22(88)	19(76)	
Not Yet	3(12)	6(24)	
Gestasional Age at enrollment	273.68(4.347)	280.20(5.431)	0.000

*Categorical data describe by numbers and percentages, Numeric data describe by mean and deviation standard

Tabel 2. Fetal Heart Rate and Blood Pressure in the Intervention Group

Variable	Mean ± SD		*P-value*	mean	CI 95%
	Pre	Post			
Fetal Heart rate Intervention I	138.28 ±6.419	135.28 ± 7.817	0.209	2.4	-1.445 to 6. 245
Fetal Heart rate Intervention II	139.24 ± 5.783	135.64 ± 8.036	0.029	3.6	0.392 to-6.808
Fetal Heart rate Intervention III	137.32 ± 6.644	132.48 ± 6.165	0.000	4.84	2.512 to-7.158
Sitole blood pressure I	108.8 ± 13.013	102.24 ± 13.371	0.000	6.56	3.976 to-9.144
Sitole blood pressure II	108.8 ± 12.356	102.24 ± 14.347	0.000	4.84	3.909 to-9.211
Sitole blood pressure III	108.8 ± 12.355	102.04 ± 12.888	0.000	6.76	4.165 to-9.355
Diastole blood pressure I	71.92 ± 9.6	67.2 ± 9.473	0.000	4.72	2.253 to-7.187
Diastole blood pressure II	72.32 ± 8.826	68 ± 10.408	0.001	4.32	1.940 to-6.699
Diastole blood pressure III	72.32 ± 8.826	67.8 ± 9.691	0.000	4.52	2.095 to-6.944

At each time the intervention was examined, fetal heart rate and blood pressure, which can be observed in table 2 that there was a change in the mean value of interventions I, II and III. In the first intervention, there were insignificant changes in fetal heart rate (p-value; 0.209; CI -1.445 – 6.245), but there were significant changes in systolic (p-value; 0.000; CI 3.976 – 9.144) and diastolic blood pressure (p-value; 0.000; CI 2.253 - (7.187). In the second intervention there were significant changes in fetal heart rate (p-value; 0.029; CI 0.392 – 6.808), and systolic (p-value; 0.000; CI 3.909 – 9.211), and diastolic blood pressure(p-value; 0.001; CI 1.940 – 6.699). In the second intervention there were significant changes in fetal heart rate.

Table 3. Effectiveness of Complementary Combination Therapy Pregnancy Massage with Acupressure with Labor Onset

Variable	Mean ± SD		*P-value*	mean	CI 95%
	Control	Intervention			
Labor onset (Days)	280.20 ±5.431	273 ± 4.347	0.000	-6.52	-9.541 to -3.498
Long active phase of labor (Hour)	11.66 ± 5.503	6.52 ± 5.876	0.016	-5.14	-9.220 to-1.059

Table 3 showed that the combination of pregnancy massage and acupressure therapy is effective in increasing the onset of labor. The findings showed that mean labor started in intervention group 273 days (p-value; 0.000; CI -9.541 - (- 3.498).

DISCUSSION

This research was done to study the effect pregnancy, massage, and acupressure therapy with labor onset. The findings showed that mean labor started in intervention group 273 days (p-value; 0.000; CI -9.541 - (- 3.498) after third treatment. Research conducted by giving massage interventions for 20 minutes every week for a period of 16 weeks, showed a significant decrease in the decrease in cortisol levels, anxiety, and depression. Massage can reduce anxiety so that pain What mothers feel during childbirth can be reduced.[8]

Research conducted on women who have entered the onset of labor with the opening of the first 3-4 cm does not have an impact on shortening the duration of the period I. In addition to the incidence of labor onset, the study also observed that the average distance of labor with the last treatment in the intervention group was 4 days. 26.67% of them respond less than 24 hours to spontaneous labor. Research conducted on first-stage maternity showed that acupressure on SP6 for 30 minutes when contractions appear can significantly reduce pain and shorten the duration of time I. The location of SP6 is located on the inner leg of approximately four fingers above the ankle. Emphasis was carried out using the thumb, given with the strength of 2150 mmHg by the right finger and 1911 mmHg by the left thumb.[11,12]

This study also showed an effect on changes in fetal anther, pulse, and blood pressure in the group receiving pregnancy massage therapy and acupressure before and after therapy. Pregnancy massage provides a sense of relaxation and dilation of blood vessels in maternal patients pregnant so that indirectly there is a blood pressure that influences the hormone endorphin that comes out when the patient feels relaxed will help dilate blood vessels and lower the patient's blood pressure. Massage therapy has the advantage that it can reduce levels of the stress hormone cortisol, and depression levels, anxiety decreases, decreases the risk of heart attack, kidney failure, and stroke, and smooth blood flow. Thus, pregnancy massage can be used in therapy reducing the blood pressure of a pregnant patient.[13]

The results also showed that by providing pregnancy, massage therapy and acupressure on an ongoing basis can prepare the pregnant woman's physical health more optimally so that the readiness to face childbirth is getting better. This is indicated by the results of shortening the active phase of labor during its shorter time compared to the control group. The average score for the group receiving pregnancy, massage, and acupressure therapy was 6.52 hours (p-value; 0.016; CI -9.220 - (-1.059. This is in line which results that maternity mothers who are given counter pressure massage experience the first stage of active phase which is faster than the control group who were not given counter pressure massage. Massage sends neurotransmitter impulses to the limbic system, and then to the amygdala. The hypothalamus is then relayed to the anterior pituitary. With this massage, the pituitary anterior produces higher amounts of endorphins. Endorphins other than helps reduce labor pain, it also enhances the action of endogenous oxytocin in helps stimulate myometrial contractions in the process of cervical dilatation. This causes the first stage of the active phase to be shorter.[14] Eight respondents who were given prenatal massage, as many as 7 respondents (87.5%). Of the 8 respondents who were not given prenatal massage, some with delivery experienced dystocia, namely 4 respondents (50%). There is an effect of prenatal massage on the delivery process with a significant value of 0.006.[15]

Therefore that, Induction of labor with non-pharmacological techniques is not without its risks and may well contribute to prevent complications when used more widely and in

normal, unwarranted cases. As in other procedures or treatments used within conventional medicine for complex/abnormal cases, there is a tendency for them to be incorporated as routine practice. In contrast, there also needs to be a change in society's expectations of 'the expected date' and 'being overdue' so that it is not viewed as abnormal. The role of self-help techniques and the safe use of complementary therapies is critically explored within a model of enhanced hormonal activity and reduction of stress hormones during the postdates period, in conjunction with a more conservative approach of care for uncomplicated postdates pregnancy.

CONCLUSIONS

There was a significant difference in the onset and long active phase of labor between groups that were given complementary therapy with a combination of pregnancy massage and acupressure. Complementary therapy for combination pregnancy, massage, and acupressure can be an alternative in preventing pregnancy over time.

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