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CORRELATION BETWEEN PRENATAL YOGA AND DELIVERY PROCESS AMONG MOTHERS IN INDEPENDENT MIDWIFE CLINIC “HARTI MUSTAQIM SUMOWONO”, SEMARANG, INDONESIA

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ABSTRACT

Background: Childbirth is the culmination of a human pregnancy with the emergence of a newborn infant from its mother's uterus. Factors that may extend or influence the duration of labor are uterine contraction, pelvic bone, pelvimetry, and presentation. Focusing on muscle control, breathing techniques, relaxation, and peace of mind, yoga played a key role in preparing the delivery process.

Aims: The purpose of this study is to determine the relationship of prenatal yoga with the delivery process among mothers at Independent Midwife Clinic “Harti Mustaqim Suwono”, Semarang, Indonesia.

Methods: The research method was correlative analytical with cross sectional approach. A total of 43 mothers who follow prenatal yoga in Independent Midwife Clinic “Harti Mustaqim Suwono” was involved in this study. Respondents were asked to fill the registration book for their visiting at the prenatal yoga facility, and their delivery process. The collected data was then analyzed statically using the Chi-square test.

Result: Among the 43 pregnant mothers who registered yoga class at Harti Mustaqim Suwono clinic, the majority (81.4%) attended the class regularly, and 38 mothers experienced normal delivery. Among the mothers who join the class routinely, only 2.9% mothers were giving birth by cesarean section. The data shown the possibility requiring C-sections for delivery increased when the pregnant mothers skipped the class. From 8 mothers who not regularly presented in the prenatal yoga class, only 50% of them experienced normal delivery. The Chi-square test shows that the correlation between prenatal yoga and delivery process among mothers in Independent Midwife Clinic “Harti Mustaqim Sumowono”, Semarang, Indonesia, was significant (p value = 0.003).

Conclusion: The results highlight that attending yoga class routinely will affect significantly to the delivery process. Mothers who practiced prenatal yoga are more likely to experience normal labor. The study suggested the needs of yoga practice during the pregnancy and childbirth.

Keywords: Pregnancy, Prenatal Yoga, Childbirth Process

INTRODUCTION

Labor is the culmination of a human pregnancy with the emergence of a newborn infant from the mother's uterus .[1] Each delivery has risks to both mother and fetus, in the form of pain until death threat. If the mother and fetus are under threatening conditions that may lead to complications of childbirth, then rescue action of vaginal delivery with certain tools, such as with forceps, vacuum extraction, or action protagonist i.e. Caesarean section shall be performed immediately[2].

Based on Demographic and Health Survey Indonesia (IDHS) in 2012 and the Health Profile of Indonesia (2014) reported that from all deliveries 64% of women do not experience complications during labor, prolonged labor by 31%, excessive bleeding by 7%, abortion 5%, and infection by 5%. Women who gave birth via cesarean surgery were more likely to report complications of 59%, which are largely a prolonged labor 42%, 12% excessive bleeding and infection by 10% [3]. Factor that may extend or influence the duration of labor are uterine contraction, pelvic bone and pelvimetry, presentation, etc. [1, 4]. There are several ways of precautions during pregnancy so that mother and fetus are healthy and normal delivery process occurs later one of them is a prenatal yoga. [5, 6] Yoga is an effective way to prepare for childbirth because this training technique focuses on muscle control, breathing techniques, relaxation, and peace of mind. Yoga plays a key role in preparing for the birth of pregnant women due to physical changes and psychological changes they experienced. [7]

Prenatal yoga focuses on poses for pregnant women, in order to increase strength and flexibility. Yoga is also beneficial in training and mastering breathing techniques that play a major role during pregnancy and childbirth. Usefulness of basic breathing exercise is tantamount to train the tension, accelerate blood circulation and supply sufficient oxygen to both mother and fetus. The benefits are not less important to strengthen and maintain the elasticity of the abdominal wall muscles, ligaments, muscles panel base and inner thigh muscles, thus the birth process can be mastered. The process of relaxation is suitable to be performed during the contraction where relaxation is needed to cope with the strain or pain during labor. Pelvic floor muscles flexing is one of the exercises that strengthens and maintains its elasticity. Its usefulness comes at the time of straining, where the muscle will relax actively so that the baby's head could come out easily. This will expedite the delivery process.[8]

Based on the Independent Midwife Clinic Harti Mustaqim Sumowono District Semarang data, it is known that from January-December of 2013 there were 92 pregnant women in Semarang and 30 of them followed prenatal yoga regularly. Of the 30 mothers who followed prenatal yoga, there are four (13.3%) who had abnormal labor and there are 26 (86.7%) who had normal births. From the 62 mothers who did not follow the prenatal yoga there are 14 (22.6%) who experienced normal labor and 48 people (77.4%) who had normal deliveries. In 2014, out of 106 women giving birth, there are as many as 47 (44.3%) who followed prenatal yoga and 59 (55.6%) who did not follow. Of the 47 mothers who followed prenatal yoga in the delivery process, 38 (80.9%) mothers had normal maternity and 7 (19.1%) experienced abnormal birth. From 59 mothers who did not follow the prenatal yoga there are 43 (72.9%) who went through normal birth and 16 (27.1%) whose maternity is not normal.

METHODS

Type of research used in this research is analytical correlative with cross sectional approach. The research was conducted on 20 August 2015. Population in this study were 47 mothers who gave birth and registered for prenatal yoga program during the period of January to December 2014 at Independent Midwife's Clinic Semarang district.

The sample in this study were 43, the number crunched by utilizing a sample criteria of inclusion and exclusion criteria. The inclusion criteria were birthing mothers who followed the yoga program and recorded in the register book. The exclusion criteria were mothers with preeclampsia, placenta preview, hypertension, and a history of bleeding or recurrent miscarriage in previous pregnancies, narrow pelvis, preform delivery, congenital anomalies. The data analysis used was bivariate statistical test Chi Square Test.

RESULTS

Table 1 Univariate Analysis Results

Characteristics	N	%
Prenatal Yoga		
Routine	35	81.4
No Routine	8	18.6
Total	43	100
Delivery Process		
Normal	38	88.4
Abnormal	5	11.6
Total	43	100

Table 1 shows that the majority of respondents followed prenatal yoga (35 or 81.4%), while respondents who did not routinely follow the program were eight (18.6%). Respondents who followed the maternal prenatal yoga, the majority of them experienced normal birth (38 or 88.4%) compared to five respondents (11.6%) who went through abnormal delivery process.

Table 2 Cross Tabulation Relationship between Prenatal Yoga with Labor in Independent Midwife's Clinic Semarang District

Prenatal Yoga	Process Delivery				Total		<i>p.value</i>
	Normal		Not Normal				
	n	%	N	%	N	%	
Routine	34	97.1	1	2.9	35	100	0.003
No Routine	4	50	4	50	8	100	
Total	38	84.8	5	11.6	43	100	

Table 2 shows that out of 43 respondents, 34 (97.1%) mothers who followed prenatal yoga regularly gave birth normally, compared to the one (2.9%) mother who experience abnormal childbirth. In women who did not routinely follow prenatal yoga, four (50%) of them were having normal delivery, and is comparable to the four (50%) whose childbirth was not normal. From the Chi square test, the p-value obtained is 0.003. Therefore, $p\text{-value} = 0.003 < \alpha (0.05)$. It was concluded that there is a relationship between prenatal yoga with the delivery process in Independent Midwife's Clinic Semarang regency.

DISCUSSION

Using the Chi Square test, the *p-value* of 0.003 ($p < 0.05$) has been obtained. Therefore, H_0 is rejected and H_a is received. It can be concluded that there is a relationship between prenatal yoga and the delivery process in Independent Midwife's Clinic Semarang regency.

The physical and psychological changes that occur during pregnancy may affect mothers negatively. For instances, shortness of breath along with the fetal growth, erratic mood swing, craving and anxiety during labor will make an expectant mother feel uncomfortable and less confident. Practicing yoga during this period is one useful solution as a medium of self-help in order to reduce discomfort during pregnancy, help the delivery process, and prepare for the early post-natal.[9].

Prenatal yoga is helpful in training and mastering breathing techniques that play a major role during pregnancy and childbirth. The benefits of basic breathing exercise are to relief the tension, accelerate blood circulation and supply ample oxygen to both mother and fetus. The not less important benefits also include strengthening and maintaining the elasticity of the abdominal wall muscles, ligaments,

muscles panel base and inner thigh muscles. This relaxation process is suitable to be performed during the contraction where relaxation is needed to cope with the strain or pain during labor. Pelvic floor muscles flexing is one of the exercises that strengthens and maintains its elasticity. Its usefulness comes at the time of straining, where the muscle will relax actively so that the baby's head could come out easily [8] .

The research that was conducted in Independent Midwife's Clinic Semarang shows that out of 43 respondents, 34 (97.1%) mothers who followed prenatal yoga regularly gave birth normally compared to the one (2.9%) mother who experience abnormal childbirth. In women who did not routinely follow prenatal yoga, four (50%) of them were having normal delivery, and is comparable to the four (50%) whose childbirth was not normal. It showed that spontaneous labor process are more likely to occur in women who exercised prenatal yoga regularly than those who did it on irregular basis.

The normal child delivery among women who do not routinely do prenatal yoga could have been caused by other factors. Musbikin (2008) proposed that the more physically active a woman, the easier will be the laboring process due to an increase in muscle strength and increase in immune system. On the other hand, the mother who routinely perform the yoga but suffer the abnormal delivery process may be attributed to other external factors uncontrollable by doing prenatal yoga.

A study by Agustiana (2013) in BPS Pritchard Salatiga shows that pregnant women who follow yoga exercises on average 2-3 times during pregnancy and the second stage of labor longer on average 43.88 minutes, value p of 0.0001 meaning there is a yoga exercise pregnant women with a long second stage of labor on maternal primigravidae, and $r = -0.0685$, which means exercisers also had a strong correlation with the second stage of labor is a long process with negative correlation direction where more and more doing gymnastics, yoga shorter second stage of labor time.[10] Other research also states that Yoga during pregnancy may contribute to labor pain reduction and improve adequacy of childbirth.[11] A study titled Pregnant Yoga Shorten the First and Second Stage of Prolong Labor in Primigravidae also showed that pregnant women who perform prenatal yoga will accelerate the delivery process.[12]

Based on the results of research also shows that prenatal yoga Exercise helped reduce anxiety related to labor, increased self – efficacy for childbirth, and reduced physical uncomfortableness.[13-15] Other than that, by doing yoga on a regular basis, the expecting mother is better prepared psychologically to face the birth process. This include reduction in anxiety, stress and fear in upon laboring.[16-18]. Psychological unpreparedness may cause complications in pregnancy and childbirth as opposed to the psychologically ready mothers who are calmed, relaxed, and confident. Relaxation helps the mother to breathe deeply, keeping the fetus calm and getting plenty of oxygen. Happiness can also increase the expecting mothers' confidence level. In order to achieve the state of relaxation, midwives who are providing the labor care should pay attention to and inspire the patience with such forbearance to ease up the delivery process.[19]

It is also consistent with the theory put forward by Wiadnyana (2008) which says that pregnant women who do yoga regularly will gain the advantage of expediting labor process, reducing the need for caesarian section, and reducing the occurrence of fetal distress during labor.[20]

CONCLUSION

There is a correlation between prenatal yoga with the delivery process in Independent Midwife's Clinic Semarang district where the results test Chi-Square obtained p-value 0.003 whereas mothers who follow prenatal yoga routinely are more likely to have normal labor. The local health practitioners are recommended to extend the prenatal yoga practices in their target areas. Meanwhile, presently pregnant women are encouraged to join prenatal yoga activity for easy labor process.

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