ARTÍCULO ORIGINAL

Gac Méd Caracas 2022;130(Supl 1):S119-S124
DOI: 10.47307/GMC.2022.130.s1.22

The Effect of Yophytta Exercise for Shortening the Second Stage of Labor in Primigravidas

El efecto del ejercicio Yophytta para acortar la segunda etapa del parto en primigrávidas

Supatmi Supatmi[1a*], Intan Permatasari[2a], Fathiya Luthfil Yumni[3a], Aryunani Aryunani[4a]

SUMMARY

Introduction: *The prolonged labor in the second stage has a dangerous effect on the fetus and mother. Yophytta exercise trains to regulate the breath during labor. In addition, the muscles are more elastic, which also makes it easier to deliver the baby process. The purpose of this study aims to investigate the effect of yophytta exercise on shortening the second stage of labor in primigravidas.*
Methods: *This paper was a retrospective comparative research design. The population was 100 primigravidas with spontaneous birth in the maternity ward from August 2017- to January 2018. Meanwhile, there were 46 samples with simple random sampling, divided into 23 samples in the intervention group (with yophytta exercise) and 23 in the control group (without yophytta exercise). This research was conducted in February 2018 at the Mother and Child Hospital, Surabaya. The independent variable was yophytta exercise, while the dependent variable was the duration of the second stage of labor. Data collection was secondary data from the patient's medical records and maternity room registers to assess mothers who performed yophytta exercises for three consecutive weeks and participated two times a week with a duration of 60 minutes each time. The statistical analysis study used the Mann-Whitney test with a significance value of 0.05.*
Results: *Most respondents in the experiment group experienced the second stage of labor less than 1.5 hours (71 %), while the control group experienced more than 2 hours (53.3 %). In addition, the Mann-Whitney test between both groups obtained p=0.00 (p<0.05), indicating a significant difference between the groups.*
Conclusion: *This study concludes that yophytta exercise shortens the duration of the second stage labor in primigravidas. Yophytta exercise could be an intervention in antenatal care services to prevent the prolonged second stage of labor. However, further study should involve more participants and control confounding factors to minimize bias.*

Keywords: *Primigravidas, second stage of labor, Yophytta gymnastics*

DOI: https://doi.org/10.47307/GMC.2022.130.s1.22

ORCID ID: 0000-0002-8013-1961[1]
ORCID ID: 0000-0002-5067-0489[2]
ORCID ID: 0000-0001-6988-2329[3]
ORCID ID: 0000-0002-6833-3915[4]

[a]Universitas Muhammadiyah Surabaya, Indonesia
*Corresponding Author: Supatmi Supatmi
E-mail: supatmioppi@gmail.com

Recibido: 1 de mayo 2022
Aceptado: 6 de mayo 2022

RESUMEN

Introducción: *El trabajo de parto prolongado en la segunda etapa tiene un efecto peligroso para el feto y la madre. Tren de ejercicios Yophytta para regular la respiración durante el parto. Además, los músculos son más elásticos, lo que también facilita el parto del bebé. El propósito de este estudio tiene como objetivo investigar el efecto del ejercicio de yophytta para acortar la segunda etapa del trabajo de parto en primigrávidas.*

Métodos: *Este artículo fue un diseño de investigación comparativo retrospectivo. La población fue de 100 primigestas con parto espontáneo en la sala de maternidad de agosto de 2017 a enero de 2018. Por su parte, se contó con 46 muestras con muestreo aleatorio simple, divididas en 23 muestras en el grupo intervención (con ejercicio de yophytta) y 23 en el grupo control (sin ejercicio de yophytta). Esta investigación se realizó en febrero de 2018 en el Hospital Maternoinfantil de Surabaya. La variable independiente fue el ejercicio de yophytta, mientras que la variable dependiente fue la duración de la segunda etapa del trabajo de parto. La recolección de datos fue de datos secundarios de las historias clínicas de las pacientes y registros de la sala de maternidad para evaluar a las madres que realizaron ejercicios de yophytta durante tres semanas consecutivas y participaron dos veces por semana con una duración de 60 minutos cada vez. El estudio de análisis estadístico utilizó la prueba de Mann-Whitney con un valor de significación de 0,05.*
Resultados: *La mayoría de las encuestadas en el grupo experimental experimentó la segunda etapa del trabajo de parto en menos de 1,5 horas (71 %), mientras que el grupo de control experimentó más de 2 horas (53,3 %). Además, la prueba de Mann-Whitney entre ambos grupos obtuvo p=0,00 (p<0,05), indicando una diferencia significativa entre grupos.*
Conclusión: *Este estudio concluye que el ejercicio de yophytta acorta la duración de la segunda etapa del trabajo de parto en primigrávidas. El ejercicio Yophytta podría ser una intervención en los servicios de atención prenatal para prevenir la segunda etapa prolongada del trabajo de parto. Sin embargo, un estudio adicional debería involucrar a más participantes y controlar los factores de confusión para minimizar el sesgo.*

Palabras clave: *Primigravidas, segunda etapa del trabajo de parto, Gimnasia Yophytta.*

INTRODUCTION

Labor is one of the critical events in women's life. Adverse outcomes of this event lead to negative psychological effects for the woman and her family (1,2). Labor duration is one of the influence factors on pregnancy outcomes and maternal and neonatal complications (3,4). Severe labor pain leads to psychological disorders as a long-term consequence of disturbing a mother's mental health. In addition, it also negatively affects the mother-infant relationship (1,5,6).

Primigravida defines as a pregnant woman for the first time. Primigravida is a pregnant woman for the first time. The labor duration in primigravida can occur quite long. The duration of first stage labor – the onset of labor until the cervix dilatation is ten centimeters – is 12 hours. In addition, the second stage duration – the cervix is fully dilated, and the baby's head moves down out of the uterus and into the birth canal – is 1.5 - 2 hours (7). The prolonged second stage of labor has harmful effects on both mother and fetus. Mothers can have uterine atony, laceration, bleeding, infection, maternal fatigue, and shock. In addition, the longer the delivery, the higher the risk of fetal morbidity and mortality by asphyxia, cerebral trauma caused by suppression of the fetal head, injury due to extraction, and death (8). A study conducted by Cheng et al. (2010) revealed that prolonged labor increased the risk of postpartum hemorrhage, chorioamnionitis, and neonatal intensive care increased (9).

Cause 99 % of maternal deaths in developing countries are childbirth or birth problems (10). The duration of labor involves three factors: maternal efforts and uterine contractions, fetal characteristics, and birth canal. Pregnancy exercise can increase the mother's power. It positively affects cervical dilatation and uterine contraction during labor. Furthermore, a study revealed earlier onset and shorter duration of labor in pregnant women with pregnancy exercise than without pregnancy exercise. Pregnancy exercise could shorten the length of labor, especially in the second stage or complete cervix dilatation (11).

Yophytta exercise is one pregnancy exercise that has more advantages compared to other pregnancy exercises. It is focused on physical movements and combines physical, mental, and spiritual training in pregnant women. The relaxation in yophytta gymnastics focuses on the body's comfort and sleeping position during pregnancy. So, the sleep quality in pregnant women remains good and comfortable. Yophytta gymnastics is one of the exercises intended for pregnant women. It is a combination of yoga, Pilates, hypnobirthing, and Tai Chi (12,13). Studies reported that yophytta exercise reduced spinal pain (low back pain) during pregnancy, anxiety, and duration of labor (14,15). As a result, it increases the chance of normal delivery in pregnant women. Hamilton (2004) explains that pregnancy exercises provide a better pregnancy and delivery outcome than without pregnancy

exercises. Pregnancy exercises reduce stress and pain during labor, increase the number baby born with normal weight, and decrease the risk of preeclampsia (16).

Preparation for natural birth is the primary goal of the pregnancy for the future mothers, their families, and the health care system. In recent years, prenatal physical activity during labor and delivery is increasingly recommended as perinatal care by health-promoting organizations worldwide (17-19). However, previous studies showed that most pregnant women were inactive or insufficiently active. Moreover, they limited their physical activity during pregnancy (20-22). Pregnancy exercises can shorten the second stage of labor because there is breathing training in the exercise. In addition, it makes the muscles more elastic to facilitate the baby's expulsion process in the second stage of labor. So, it is recommended for primigravida's to do pregnancy exercises to shorten the second stage of labor. Pregnancy exercises are not only body fitness oriented. In addition, they also strengthen the muscles, flex the joints, exercise the breath, and practice the distraction technique. The distraction can minimize pain during childbirth. Pregnancy exercises are proved to be quite successful efforts to help ease the labor process (23). The purpose of this study aims to investigate the effect of yophytta exercise on shortening the second stage of labor in primigravidas.

METHODS

This paper was a retrospective comparative research design. The population was 100 primigravidas with spontaneous birth in the maternity ward from August 2017- January 2018. Meanwhile, there were 46 samples with simple random sampling, divided into 23 samples in the intervention group (with yophytta exercise) and 23 in the control group (without yophytta exercise). This research was conducted in February 2018 at the Mother and Child Hospital, Surabaya. This paper met the ethical principles of research. The independent variable was yophytta exercise, while the dependent variable was the duration of the second stage of labor. Data collection was secondary data from the patient's medical records and maternity room registers to assess mothers who performed Yophytta exercises for three consecutive weeks and participated two times a week with a duration of 60 minutes each time. The statistical analysis study used the Mann-Whitney test with a significance value of 0.05.

RESULTS

Most respondents in this paper were aged 27-29 years (35.48 % in the experiment group and 33.33 % in the control group) and housewives (64.54 % in the experiment group and 66.67 % in the control group). In addition, most of them had tertiary education (80.7 % in the experiment group and 86.7 % in the control group). The characteristics of respondents could be seen in table 1 in detail.

Table 2 reveals that most respondents in the experiment group experienced the second stage of labor less than 1.5 hours (71 %), while the control group experienced more than 2 hours (53.3 %). In addition, the Mann-Whitney test between both groups obtains $p=0.001$ ($p<0.05$), indicating a significant difference between the groups. Yophytta exercises shortened the second stage of labor in primigravidas.

Table 1

Characteristics of respondents in the experimental (with yophytta exercise) and the control group

Characteristics of respondents	Experimental Group f (%)	Control Group f (%)
Age (Years old)		
21-23	5 (16.1)	5 (33.3)
24-26	10 (32.3)	2 (13.3)
27-29	11 (35.5)	2 (13.3)
30-32	2 (6.5)	2 (13.3)
33-35	3 (9.7)	4 (26.7)
Education		
Secondary (High School)	6 (19.4)	2 (13.3)
Tertiary (college)	25 (80.7)	13 (86.7)
Occupation		
Worker	11 (35.5)	5 (33.3)
Housewife	20 (64.5)	10 (66.7)

Table 2

Duration of the second stage labor in the experimental (yophytta exercise) and the control group

Duration of the second stage of labor	Experimental group	Control group
<1.5 hours	22 (71 %)	2 (13.3 %)
1.5-2 hours	8 (25.8 %)	5 (33.3 %)
>2 hours	1 (3.2 %)	8 (53.3 %)

Mann Whitney Test $p = 0.001$ ($p<0.05$)

DISCUSSION

Previous research reported structured antepartum exercise programs affected pregnancy and labor outcomes in primipara (24). There were no adverse effects on fetal well-being in the experiment group. In addition, respondents in the experiment groups significantly had shorter the first and second stages of labor (mean duration, 7.55 and 1.33 hours, sequentially) than in the control group (mean duration, 14.46 and 2.47 hours, sequentially). There was a significant difference between both groups ($p=0.001$). Hence, the study suggested antenatal exercise for pregnant women and recommended future research on exercise during pregnancy.

Yophytta exercise is a combination of Yoga, Pilates, Hypnotherapy, and Tai Chi. Regular yophytta exercise will make a pregnant woman's body healthier and facilitate delivery (25). It increases positive thinking, relieves stress, maintains emotional stability, and reduces complaints during pregnancy – such as joint pain, back pain, and morning sickness. In addition, its benefit is to strengthen the elasticity of the pelvic floor muscles and the stomach during pregnancy and childbirth. Yophytta exercise draws more positive energy into the pregnant woman's body through breathing and stored in the body. In contrast, negative energy will be expelled through expiration during breathing (12).

The Centers for Disease Control and Prevention and the American College of Sports Medicine (CDC/ACSM) recommend 30 minutes or more of moderate-intensity physical activity every day or at least four times a week. Moderate-intensity physical activity has an energy requirement of 3-5 metabolic equivalents (METS). It is equivalent to brisk walking at 3-4 miles per hour (mph) for most healthy adults. The CDC/ACSM also states that more intense exercise performed in 20-60 minutes three to five days a week results in higher physical fitness levels. Meanwhile, pregnancy causes anatomical and physiological changes. Some conditions prevent pregnant women from complying with those recommendations (26).

Pregnancy exercise is crucial to maintain or improve the physical balance of pregnant women. It is a workout given to pregnant women to have fast, easy, and safe labor (27). In this paper, most respondents in the experimental group experienced the second stage of labor in less than 1.5 hours, while the control group experienced more than 2 hours. It is in line with research that reported that women who performed physical activities during the pregnancy presented a shorter duration of labor than those who did not. The difference was primarily in the duration of the first and second stages of labor (28).

A physical exercise program during pregnancy prepares women for childbirth. It is not associated with any risk to the mother or the fetus. It may help reduce medical interventions during labor, improve the condition of the mother and the child, and reduce the cost of prenatal care. There is a recommendation that regular physical activity in pregnant women is a necessary part of a lifestyle. The recommendation should be included in the planning and implementation of health promotion programs, especially in physical activity during pregnancy and childbirth (17).

Generally, prenatal exercise is recommended as the primary need of physiological pregnancy and birth. Pregnant women without contraindication should exercise at least three exercise sessions with 15 min per session, gradually up to 30 min per day, preferably all days of the week (29). Prenatal exercises are useful for both mother and fetus during pregnancy. Maternal benefits involve enhanced cardiovascular function, confined weight gain during pregnancy, reduced musculoskeletal injury, decreased occurrence of muscle spasm and lower limb edema, psychological support, and less complicated labor (30).

The prolonged second stage of labor is undesirable conditions during childbirth. This paper revealed that yophytta exercise shortened the duration of the second stage of labor in primigravidas. The exercise improves muscle flexibility, breathing technique, posture, and strength for labor. A factor affecting the time of the second stage of labor is the mother's age. Most primigravidas in this study are aged 21-29 years old. At this age, they have enough energy and good muscle elasticity. Yophytta exercise plays a role in the second stage of labor by improving muscle strength and elasticity. Without prenatal exercise, energy and muscles will not be well-coordinated during labor.

The study limitation was a relatively small sample size. In addition, there were no confounding factors controlled to determine the impact of yophytta exercise. The confounding factors may be related to pregnant women's psychological and physical conditions, including their lifestyle, diet, family support, professional obligations, economic status, and many others (31).

CONCLUSION

This study concludes that yophytta exercise shortens the duration of the second stage labor in primigravidas. Yophytta exercise could be an alternative intervention in antenatal care services to prevent the prolonged second stage of labor. However, further study should involve more participants and control confounding factors to minimize bias.

REFERENCES

1. Hanjani SM, Tourzani ZM, Shoghi M. The effect of foot reflexology on anxiety, pain, and outcomes of the labor in primigravida women. Acta Medica Iranica. 2015;53(8):507-511.
2. Safrizal HBA, Eliyana A, Febriyanti KL. The effect of double role conflict (work-family conflict) on female worker's performance with work stress as the intervening variable. Syst Rev Pharm. 2020;11(10):418-428.
3. Cunningham GF, Leveno KJ, Bloom SL, Hauth JC, Rouse DJ, Spong CY. Eds., Williams Obstetrics. 23rd edition. New York: McGraw-Hill; 2010;143.
4. Aditiawarman, Ernawati, Joewono HT, Akbar MIA, Zulhijayanti NA, Suryawan IGR. Maternal cardiovascular risk in five years after labor with early- and late-onset of severe preeclampsia. Int J Pharm Res. 2020;12(4):1401-1407.
5. Wahyuni S, ANIES AS, Soejoenoes A, Putra ST, Syukur MA. Spiritual dhikr reduces stress and depression symptoms on primigravidas. Pakistan J Med Heal Sci. 2018;12(3):1368-1371.
6. Shodiqoh ER, Syahrul F. Anxiety Level Differences Between The Face Of Labour And Multigravida Primigravida. J Berk Epidemiol. 2014;2(1):141-150.
7. Mochtar R. Sinopsis Obstetri Fisiologi dan Patologi. 2nd ed. Jakarta: EGC; 2013.
8. Oxorn H. Patologi dan Fisiologi Persalinan. Jakarta: Yayasan Essentia Media; 2010.
9. Vr M, Gs A, Shivalingaiah N. Partogram : Clinical study to assess the role of Partogram in primigravidae in labor. 2016;5(4):1014-1025.
10. WHO. Meeting to develop a global consensus on preconception care to reduce maternal and childhood mortality and morbidity. In: Metting Report. 2013.
11. May LE, Knowlton J, Hanson J, Suminski R, Paynter C, Fang X, et al. Effects of Exercise During Pregnancy on Maternal Heart Rate and Heart Rate Variability. PM&R. 2016;8(7):611-617.
12. Susanti. Gerakan senam yophytta untuk ibu hamil. Bunda. 2014.
13. Meinawati L, Supriyanto S. Differences in Pain Intensity Changes in Postpartum Nursing Care 2 Hours Post-Partum Between Mother Nifas Using Effleurage Massage and Relaxation Technique Study in Independent Midwife Practice Work Area in East Java. Pakistan J Med Heal Sci. 2020;14(3):513-518.
14. Bariyah. Pengaruh senam hamil yophytta terhadap tingkat kecemasan dalam menghadapi persalinan pada ibu primigravida trimester III. Universitas Airlangga; 2010.
15. Aulia P. Pengaruh senam hamil yophytta terhadap skala nyeri punggung bawah (low back pain) pada ibu hamil trimester II dan III. Universitas Airlangga; 2010.
16. Hamilton. Dasar-dasar Keperawatan Maternitas. Jakarta: EGC; 2004.
17. Szumilewicz A, Wojtyla A, Zarębska A, Drobnik-Kozakiewicz I, Sawczyn M, Kwitniewska A. Influence of prenatal physical activity on the course of labor and delivery according to the new Polish standard for perinatal care. Ann Agric Environ Med. 2013;20(2):380-389.

18. Ramda SH, Arief YS, Krisnana I. Maternal behavioral factors of mothers with neonatal death in the perinatal period. Int J Pharm Res. 2020;12(4):1735-1740.
19. Surjaningrum ER, Jorm AF, Minas H, Kakuma R. Personal attributes and competencies required by community health workers for a role in integrated mental health care for perinatal depression: Voices of primary health care stakeholders from Surabaya, Indonesia. Int J Ment Health Syst. 2018;12(1).
20. Mottola MF, Campbell MK. Activity patterns during pregnancy. Can J Appl Physiol. 2003;28(4):642-653.
21. Haakstad LAH, Voldner N, Henriksen T, Bø K. Why do pregnant women stop exercising in the third trimester? Acta Obstet Gynecol Scand. 2009;88(11):1267-1275.
22. Wojtyła A, Kapka-Skrzypczak L, Paprzycki P, Skrzypczak M, Biliński P. Epidemiological studies in Poland on effect of physical activity of pregnant women on the health of offspring and future generations - adaptation of the hypothesis Development Origin of Health and Diseases. Ann Agric Environ Med. 2012;19(2):315-326.
23. Anggraini P. Serba-serbi Senam Hamil. Jakarta: Intan Medika; 2010.
24. Beckmann CR. Effect of a structured antepartum exercise program on pregnancy and labor outcome in primiparas. J Reprod Med. 1990;7:704-707.
25. Farida Umamah. Senam hamil yophytta menurunkan tingkat kecemasan menjelang persalinan pada ibu primigravida di Rumah Sakit Ibu dan Anak Kendangsari. Universitas Airlangga; 2011.
26. Artal R, O'Toole M. Guidelines of the American College of Obstetricians and Gynecologists for exercise during pregnancy and the postpartum period. Br J Sports Med. 2003;37(1):6-12.
27. Maryunani. Senam Hamil, Senam Nifas dan Terapi Musik. Jakarta: Trans Info Media; 2014.
28. Rodríguez-Blanque R, Sánchez-García JC, Sánchez-López AM, Aguilar-Cordero MJ. Physical activity during pregnancy and its influence on delivery time: A randomized clinical trial. PeerJ. 2019;2019(2):1-14.
29. American College of Sport Medicine (ACSN). ASCM,s Guidelines for Exercise Testing and Prescription. 8th edition. Baltimore: Lippincott Williams and Wilkins; 2010.
30. El-Shamy FF, Abd El Fatah E. Effect of Antenatal Pelvic Floor Muscle Exercise on Mode of Delivery: A Randomized Controlled Trial. Integr Med Int. 2018;4(3-4):187-197.
31. Bungum TJ, Peaslee DL, Jackson AW, Perez MA. Exercise during pregnancy and type of delivery in nulliparae. J Obstet Gynecol Neonatal Nurs. 2000;29(3):258-264.