

Comparing the Outcomes of Physiologic Delivery with Non-Physiologic Delivery Group

Nasrin Soufizadeh, Farnaz Zandvakili, Fariba Farhadifar, Fariba Seyedoshohadaie

Department of Gynecology, Kurdistan University of Medical Sciences, Kurdistan, Iran

Correspondence to:

Dr. Farnaz Zandvakili,
Department of Gynecology, Besat
Hospital, Keshavarz Ave, Kurdistan, Iran.
E-mail: dr.fzandvakili@gmail.com

Date of Submission: Jul 9, 2012

Date of Acceptance: Feb 5, 2013

How to cite this article: Soufizadeh N, Zandvakili F, Farhadifar F, Seyedoshohadaie F. Comparing the outcomes of physiologic delivery with non-physiologic delivery group. *Int J Prev Med* 2013;4:607-10.

ABSTRACT

Background: The main purpose of physiologic delivery is to rely on mother's body for childbirth. In physiologic delivery method pregnant women attend delivery preparation classes and they learn how to overcome fear and pain. This study compares delivery outcomes among women who participated in physiologic delivery with those who had undergone non-physiologic delivery.

Methods: All patients referred for physiologic delivery were assessed. Exclusion criteria were lack of PROM, post date, cephalopelvic disproportion, multi-fetal pregnancy, Meconium stain, blood pressure above 90/140, placenta previa and previous record of cesarean. Data was entered in SPSS 16 software and Fisher and Chi-square tests were used to compare vaginal laceration, episiotomy and Apgar score between two groups.

Results: Twelve out of 73 pregnant women (16.4%) in physiologic delivery group and 27 out of 69 pregnant women (39.1%) in non-physiologic delivery group needed episiotomy ($P = 0.002$). Ten patients (13.7%) in physiologic delivery group and seven persons (10.1%) in the non-physiologic delivery group were suffering from vaginal laceration ($P = 0.51$). There was no significant statistical difference between newborns' Apgar score in two groups.

Conclusions: Physiologic delivery can reduce the need for episiotomy without any further complications.

Keywords: Episiotomy, natural vaginal delivery, physiologic delivery

INTRODUCTION

Physiologic delivery is the vaginal delivery with minimal intervention. The main purpose of physiologic delivery is to rely on the mother's body for childbirth. The pregnant women attend childbirth preparation classes. They learn how to overcome their fears and how to minimize the delivery side effects. The classes are nine sessions, held at the 21st to 37th week of pregnancy. Each session contains 45 min theoretical lessons, 15 min question and answers, 30 min practical exercises and 15 min visiting the delivery ward. The physical practices are used to achieve practical relaxation without any medicine. In physiologic delivery having

a companion reduces the stress and facilitates the delivery process.^[1]

One of the main advantages of physiologic delivery is avoiding interference in delivery process. These interferences can include simple actions such as shaving, enema, serums, hourly vaginal touch, and obligatory bed rest.^[2-8] In physiologic delivery, vaginal massages, perineal wet and warm exercise can be used instead of episiotomy.^[9-12] Concerning the mentioned facts and advantages of physiologic delivery, it is necessary to study the outcomes of this program.

METHODS

In this field trial, all pregnant women who were involved in physiologic delivery program in Besat hospital (Sanandaj) were evaluated during 2010-2011. The informed consent forms were signed by all participants. The inclusion criterion was willingness to participate in physiologic labor program and exclusion criteria included: absence of PROM, fetal post date, cephalopelvic disproportion, multi-fetal pregnancy, induction, meconium stain, blood pressure above 140/90, placenta previa, and history of cesarean.

First, women received the necessary trainings that had been standardized according to the national guidelines. Then, pregnant women entering labor blocks were enrolled in the study as non-physiologic delivery group. An assistant midwife conducted some interviews and examinations and helped the women to fill out a questionnaire that included demographic information, questions about the physiologic labor, their satisfaction and delivery outcomes. Subjects had been then followed up until their baby was born. Apgar score and babies' status were recorded. In order to eliminate any ethical conflict in the study, in case of any indication for cesarean, cesarean section was performed.

The data was then entered into SPSS 16 software. For comparing vaginal laceration, episiotomy and Apgar score between two groups Chi-square test and Fisher exact test were used. Significant level was considered as 0.05.

RESULTS

There were 73 persons in physiologic delivery group and 69 in the non-physiologic delivery

group. Mean age was 27.3 (± 4.9) years, median of gravity was one (1 to 5) and median of parity was 0 (0 to 4). One hundred twenty eight patients (90.1%) were urban. The median education level was high school. No difference in age, residency, and educational level was observed between two groups. Median of parity was higher in physiologic delivery group than non-physiologic delivery group ($P = 0.013$).

Twelve persons (16.4%) in physiologic delivery group and 27 persons (39.1%) in non-physiologic delivery group needed episiotomy ($P = 0.002$). Ten patients (13.7%) in physiologic delivery group and seven persons (10.1%) in non-physiologic delivery group suffered from vaginal laceration ($P = 0.51$) [Table 1]. No statistically significant difference was found between the Apgar scores of the two groups.

After delivery, 95.5% of women were immediately satisfied with physiologic labor and had no delivery complication. This figure rose to 100% on the tenth day after delivery. Fortieth day after delivery, 68.9% were very satisfied [Figure 1].

Table 1: Comparing the non-physiologic and physiologic delivery group regarding the demographic features and the outcomes of the delivery

Variable	Non-physiologic delivery group	Physiologic delivery group	P value
Age (years; median)	27 (20-44)	26.5 (19-41)	0.04
Gravidity (median)	1 (1-3)	1 (1-5)	0.008
Parity (median)	0 (0-2)	1 (0-4)	0.013
Education (years; median)	4 (2-5)	4 (1-5)	0.11
Residency (%)			
Urban	63 (91.3)	65 (89)	0.65
Rural	6 (8.7)	8 (11)	
Type of pregnancy (%)			
Planned	65 (94.2)	67 (91.8)	0.57
Unplanned	4 (5.8)	6 (8.2)	
Episiotomy (%)			
No	42 (60.9)	61 (83.6)	0.002
Yes	27 (39.1)	12 (16.4)	
Vaginal laceration			
No (%)	62 (89.9)	63 (86.3)	0.514
Yes (%)	7 (10.1)	10 (13.7)	
Apgar	9.1 (6.9-9.1)	9.1 (9.1-9.1)	0.08

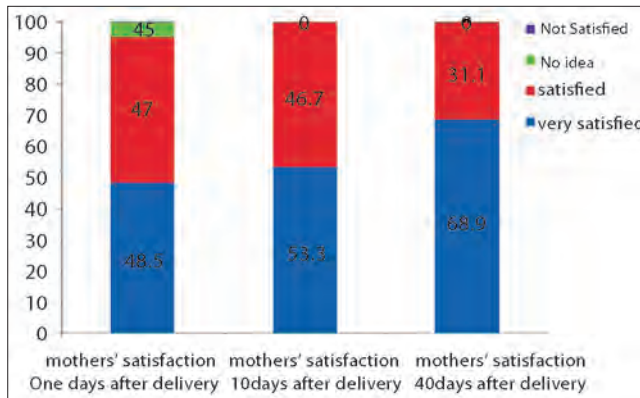


Figure 1: The percentage of mothers' satisfaction in physiologic delivery group at the time of delivery, 10 days and 40 days after delivery

DISCUSSION

Based on the results of this study, a lower percentage of participants in physiologic delivery group, compared with non-physiologic delivery group, need episiotomy; nevertheless, the vaginal laceration was the same in both groups. Moreover, women were highly satisfied with the physiologic delivery and their satisfaction increased in the later days following delivery.

Much attention has recently been paid to physiologic delivery in developing countries. It is more important in Iran because the number of caesarean section cases is very high in this country and it even reaches up to 50% in some regions of the country. Apparently, it is a good alternative for pregnant women and they may be motivated to practice physiologic delivery.

The main purpose of physiologic delivery is to relay on the mother's body for delivery with minimal intervention. Pregnant women learn how to overcome fear and pain; consequently they will suffer less from negative aspects of vaginal delivery. The relaxation techniques are functionally practiced there.^[1] One of the main advantages of physiologic delivery is the lack of additional procedures such as shaving, enema, serums, and obligatory bed rest.^[2-7] The hourly vaginal touch for controlling the patient and the fetus is not required and the examinations are done once every four hours.^[8] Routine application of lithotomy position which is used in non-physiologic delivery group, may increase the chance of trauma and the duration of bed rest and it is only essential when delivery assisted tools are used.^[13] Fundal pressure

is not acceptable because it does not shorten the second stage.^[14] Based on the conducted studies, in classic delivery the episiotomy which is conducted for nullipara pregnancies does not make any particular advantage in exiting the fetus. In physiologic delivery, vaginal massages and perineal wet and warm exercise can be used instead of episiotomy.^[9-11]

Very few studies have been done in the field of physiologic delivery and the first study in this field was published in Iran. In a few number of studies some of its components have been investigated. In a survey conducted by Mehdizadeh *et al.*,^[15] eight sessions of theoretical and neural-muscle exercises reduced the pelvic pain and fatigue during pregnancy and increased daily activities. Cesarean in the control group was 16% higher than the other group. The active phase and the second step of delivery were shorter in trail group; however, the level of prescribed drugs or oxytosin, anti spasm, pain killers, perineal laceration, the weight at birth, and Apgar scores were similar in both groups.^[15] In another study by Hosseini *et al.*, the effect of prenatal education on anxiety, pain and duration of labor was evaluated. They held 10 to 12 sessions of theoretical and practical training for 70 mothers. The two groups, then, were examined. Based on the results, the anxiety, the labor pain, and duration of pain in the intervention group were significantly less than other groups ($P < 0.001$).^[16]

Taavoni *et al.*,^[17] investigated how exercising with birth ball can affect the pain, duration of active phase, and contractions during delivery. According to the study, average pain score on ball group was significantly lower than the control group ($P < 0.05$). The mean duration of uterine contractions, the contractions interval and the duration of active phase in the two groups were not significantly different.^[17] However, our study had some limitations. We did not evaluate duration of labor phase and we have focused on vaginal laceration, episiotomy and Apgar score. Due to the shortage of research in this area, more research is needed.

CONCLUSIONS

The use of physiologic delivery can reduce the need for episiotomy without further complications.

ACKNOWLEDGMENTS

We thank all those who assisted us in the implementation of the research, and those who cooperated in performing the task are also appreciated. This study supported financially by deputy of research of Kurdistan University of Medical Sciences (no: 12/89).

REFERENCES

1. Full training manual preparation for delivery. Tehran: Ministry of Health and Medical Education; 2004.
2. Basevi V, Lavender T. Routine perineal shaving on admission in labour. *Cochrane Database Syst Rev* 2001 (1):CD001236.
3. Chen CY, Wang KG. Are routine interventions necessary in normal birth? *Taiwan J Obstet Gynecol* 2006;45:302-6.
4. Tzeng YL, Shih YJ, Teng YK, Chiu CY, Huang MY. Enema prior to labor: A controversial routine in Taiwan. *J Nurs Res* 2005;13:263-70.
5. Cuervo LG, Rodriguez MN, Delgado MB. Enemas during labor. *Cochrane Database Syst Rev* 2000 (2):CD000330.
6. Sleutel M, Golden SS. Fasting in labor: Relic or requirement. *J Obstet Gynecol Neonatal Nurs* 1999;28:507-12.
7. Roberts J, Hanson L. Best practices in second stage labor care: Maternal bearing down and positioning. *J Midwifery Womens Health* 2007;52:238-45.
8. Care in normal birth: A practical guide. Technical Working Group, World Health Organization. *Birth* 1997;24:121-3.
9. Dannecker C, Hillemanns P, Strauss A, Hasbargen U, Hepp H, Anthuber C. Episiotomy and perineal tears presumed to be imminent: Randomized controlled trial. *Acta Obstet Gynecol Scand* 2004;83:364-8.
10. Hastings-Tolsma M, Vincent D, Emeis C, Francisco T. Getting through birth in one piece: Protecting the perineum. *MCN Am J Matern Child Nurs* 2007;32:158-64.
11. Mayerhofer K, Bodner-Adler B, Bodner K, Rabl M, Kaider A, Wagenbichler P, *et al.* Traditional care of the perineum during birth. A prospective, randomized, multicenter study of 1,076 women. *J Reprod Med* 2002;47:477-82.
12. Simpson KR, James DC. Effects of immediate versus delayed pushing during second-stage labor on fetal well-being: A randomized clinical trial. *Nurs Res* 2005;54:149-57.
13. Nasir A, Korejo R, Noorani KJ. Child birth in squatting position. *J Pak Med Assoc* 2007;57:19-22.
14. Verheijen EC, Raven JH, Hofmeyr J. Fundal pressure for shortening the second stage of labour. *Cochrane Database Sys Rev* 2009;(4):CD006067.
15. Mehdizadeh A, Roosta F, Kamali Z, Khoshgoo N. Evaluation of the effectiveness of antenatal preparation for childbirth courses on the health of the mother and the newborn. *Razi J Med Sci* 2003;10:462-55.
16. Hosseininasab SD, Taghavi S. The Effectiveness of Prenatal Education in Decreasing the Childbirth Pain and Anxiety. *Med J Tabriz Univ Med Sci Health Ser* 2010;31:24-30.
17. Taavoni S, Abdollahian S, Haghan H. Effect of birth ball on pain severity during the active phase of physiologic labor. *Arak Med Univ J (Rahavard Danesh)* 2010;13:25-31.

Source of Support: Kurdistan University of Medical Sciences,
Conflict of Interest: None declared.