Effect of Antenatal Education for Better Self-Correct Diagnosis of True Labor: A Randomized Control Study

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Objective: *To compare self-correct diagnosis of true labor between a special education group and routine education group.*
Material and Method: *A randomized controlled study was performed in 200 primigravida attending at antenatal care (ANC) clinic, Rajavithi Hospital between October 1, 2009 and March 31, 2010. They were randomly enrolled and divided into two equal groups, the first hundred cases were the special education group and the other hundred cases were the routine education group. Self-correct diagnosis of true labor onset was defined as coming to the labor room because of true labor pain and delivery in the same visit.*
Results: *There were 85 and 79 pregnant women in the special and routine education groups, respectively. There was no significant difference in mean maternal age, 25.20 years versus 25.54 years). The cesarean section rate was 35.3% versus 26.6%. There was higher significance of self-correct diagnosis of true labor onset between the special and routine education group (91.8% vs. 77.2%), respectively (p = 0.01).*
Conclusion: *The special education group had significantly better self-correct diagnosis of true labor onset, compared with the routine education group.*

Keywords: *Antenatal education, Self-correct diagnosis, True labor*

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Coming to the labor room with false labor pain is an annoying problem for obstetricians and nurses especially at Rajavithi Hospital, the biggest hospital of the Ministry of Public Health because it carries about 6,000 deliveries per year. Mother usually attending in the antenatal care (ANC) clinic received education individually from obstetricians or nurses without standard instruction. However, no specific information about recognition of the onset of true labor was given. Bonivich[1] reported a reduction in the number of patients discharged undelivered in those who received educational intervention compared with routine instruction. Therefore, the present study was designed to compare special with routine education for self-diagnosis of the onset of true labor while attending the ANC clinic at gestational age of 36 weeks or more.

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Material and Method

After approval of the Hospital Ethic Committee, the written informed consent was obtained from the enrolled subjects. A randomized controlled study was performed among pregnant women attending the ANC clinic at Rajavithi Hospital, between October 1, 2009 and March 31, 2010.

The inclusion criteria for enrollment included primigravida, gestational age 36 weeks or more, age of 20 to 35 years old, and desire to deliver at the study hospital. Those with medical and obstetric complications were excluded. The participants were then randomly enrolled and divided into two equal groups, 100 cases of special education group (Group A) and 100 cases of routine education group (Group B). The special education group received the same instruction as the routine education cases and special content for self-diagnosis of true labor onset by one of the authors (TL).

According to weekly fixed date visit, the subjects were randomly selected by attending date, Group A of Monday, Wednesday, and Friday, whereas Group B of Tuesday and Thursday. Group A, the routine education was added on with the recommendation of

hospital visit if 1) the characteristic of true labor pain (cramping begin at the fundus of uterus, and radiated to back, buttock, and pubic area, and 2) characteristic of uterine contraction (more than 3 contractions in 10 minutes, and duration of 45 to 60 seconds). Self-correct diagnosis of true labor onset was defined as coming to the labor room because of true labor pain and delivery in the same visit.

Data of the present study were recorded, analyzed, and demonstrated as percentages, mean, and standard deviation. The comparative variables were analyzed as cross-tabulation with Chi-squared test and Fisher's exact test as appropriate. Statistical significance was set at p-value < 0.05.

Results

By exclusion, the number of the cases was 85 in group A and 79 subjects in group B. The mean age was 25.20 $\pm$ 5.22 years (Group A), and 25.54 $\pm$ 5.02 years (Group B). There were no significant difference in age, race, and level of education. The cesarean section rate of Group A/Group B was 35.3%/ 26.6%.

The correct self-diagnosis of true labor onset was statistically different (p = 0.01) in the special education group (91.8%) compared with the routine education group (77.2%) (Table 1).

Discussion

Error in self-diagnosis of true labor pain is a common problem for the pregnant women especially the primigravida who had no prior experience. The longer average length of labor may produce more number of intrapartum interventions and more diagnosis of complicated labor in pregnant women with mean cervical dilatation of 3 centimeters or less[2]. While the early labor assessment program did not significantly reduce cesarean delivery or operative vaginal delivery, it could significantly reduce duration of labor, oxytocin use to augment labor in the early labor and use of epidural analgesia for pain relief in their study[3]. In addition, the Cochrane review demonstrated that labor assessment program delayed the admission to the labor room[4].

Table 1. Self-correct diagnosis of true labor pain onset in the different group

	Self-correct diagnosis No. (%)	OR	95% CI	p-value
Group A (special education)	78 (91.8)	3.29	1.29, 8.38	0.01*
Group B (routine education)	61 (77.2)			

* Significant difference, p-value < 0.5

In the present study, an additional special antenatal education given to those mothers was designed to decrease the incorrect self-diagnosis of true labor pain. This interested issue brought Bonovich[1] to conduct a research of antenatal educational technique compared with routine instruction in 1989 to recognize the onset of active labor and found that this technique significantly decreased the number of visits to the labor room before onset of active labor. Finally, Lauzon and Hodvett[5] performed a Cochrane review of the same issue with the title of "Antenatal education for self-diagnosis of the onset of active labor at term (review) in 2009". Cases of special and routine education group were randomly enrolled on different visit days, according to avoiding contamination of the subjects. Only the same special education content and same special educator were used in the present study because of the same educator (TL) in the whole study while unclear special education content and number of educators were used in Bonivich's study[1].

The gestation age of 36 weeks or more was used in the present study because at that time more mothers would remember the content and higher motivation to prepare for labor compared with those with lower gestational age[1]. However, if this education is implemented in the future, some cases delivered before 36 weeks will not receive such education. However, Bonovich chose the pregnant women whose gestational age of 30 weeks or more in her study[1]. Giving only one special education is more practically available and comfortable for the healthcare provider compared with many times of education given to the mothers in Bonovich's study[1]. However, there was a similar significant difference of self-diagnosis of the onset of true labor in both studies. Several possible confounders such as, educational level, maternal age and race were similar between groups in the present study.

In ANC clinic at Rajavithi Hospital, pregnant women usually do not meet the same doctors or nurses in each visit and one health care provider examines many people each day. Therefore, it is quite impossible for them to remember these mothers and especially

the content they advised. Time interval provided to each mother is also an important issue for adequate understanding about true labor pain. Therefore, the special education like the present study given to the mothers whose gestational age is 36 weeks or more attending the ANC clinic will have an important role in reducing inappropriate labor room admission due to false labor pain.

In the present study, the special education group showed a higher correct self-diagnosis of true labor onset than routine education, and might decrease the number of necessary admissions due to false labor pain, as recent review[5].

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Potential conflicts of interest

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ผลการให้ความรู้ขณะตั้งครรภ์สำหรับการวินิจฉัยเจ็บครรภ์จริงถูกต้องด้วยตนเองที่ดีกว่า: การศึกษาแบบควบคุมสุ่ม

ธาริณี ลำลึก, เอกชัย โควาวิสารัช

วัตถุประสงค์: *เพื่อเปรียบเทียบการวินิจฉัยเจ็บครรภ์จริงถูกต้องด้วยตนเอง ระหว่างกลุ่มให้ความรู้พิเศษกับกลุ่มให้ความรู้ตามแบบแผน*

วัสดุและวิธีการ: *การศึกษาแบบสุ่มควบคุมในหญิงตั้งครรภ์แรก 200 ราย ฝากครรภ์ ณ โรงพยาบาลราชวิถี ระหว่างวันที่ 1 ตุลาคม พ.ศ. 2552 ถึง วันที่ 31 มีนาคม พ.ศ. 2553 แบ่งเป็นสองกลุ่มเท่ากัน กลุ่มละ 100 คน กลุ่มแรกเป็นกลุ่มให้ความรู้พิเศษ กลุ่มสองเป็นกลุ่มให้ความรู้ตามแบบแผน ส่วนการวินิจฉัยเจ็บครรภ์จริงจำกัดความว่าการมายังห้องคลอดด้วยเจ็บครรภ์จริง และคลอดเมื่ออยู่โรงพยาบาลครั้งนั้น*

ผลการศึกษา: *มีหญิงตั้งครรภ์ 85 และ 79 ราย ในกลุ่มให้ความรู้พิเศษและกลุ่มให้ความรู้ตามแบบแผนตามลำดับ ไม่มีความแตกต่างในอายุเฉลี่ยของมารดา 25.20 ปี กับ 25.54 ปี อัตราการผ่าตัดคลอดเท่ากับร้อยละ 25.3 กับ 26.6 การวินิจฉัยเจ็บครรภ์จริงถูกต้องด้วยตนเองสูงกว่าอย่างมีนัยสำคัญ ร้อยละ 91.8 กับ 77.2 ตามลำดับ (p = 0.01)*

สรุป: *กลุ่มให้ความรู้พิเศษมีการวินิจฉัยเจ็บครรภ์จริงถูกต้องด้วยตนเองสูงกว่า เมื่อเปรียบเทียบกับการให้ความรู้ตามแบบแผนอย่างมีนัยสำคัญ*