OBSTETRICS

Prevalence of Migrants Delivered at Taksin Hospital and Their Pregnancy Outcomes

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ABSTRACT

Objective: To assess the prevalence of migrants who gave birth at Taksin Hospital and compare the pregnancy outcomes of registered group with unregistered group.

Materials and methods: A cross-sectional study was conducted at Taksin Hospital, Thailand. Data was collected from medical and labor records during January 1st, 2001 and December 31st, 2005. After exclusion of the multiple pregnancy, the subjected were divided into two groups, registered and unregistered. Maternal demographic data, obstetric characteristics and neonatal outcomes were compared between groups.

Results: During the 5-year study period, the prevalence of migrants who gave birth at Taksin Hospital was 4%. The registered group had significantly higher in mean gestational age at delivery, numbers of antenatal care visit, cesarean section rate and mean birth weight than the unregistered group (p<0.05), whereas the unregistered group had significantly higher prevalence in preterm labor (19.2% vs 13.3%,p=0.005) and low birth weight (1,500-2,499 grams) (13.6% vs 8.2%,p=0.003) than registered group.

Conclusion: The prevalence of migrants who gave birth at Taksin Hospital was 4%. Preterm labor and low birth weight (1,500-2,499 grams) in unregistered group were higher than registered group significantly.

Keywords: migrant, prevalence, registered, unregistered, Taksin Hospital

Introduction

As a result of war and economic problems, over 700,000 migrants from neighboring countries moved to Thailand. It caused many problems such as health status, socioeconomic and national securities[1]. Thai government tried to control these problems by offered work permit with health insurance, but almost half of them did not received.

After extensive literature review, this is the first paper involved the pregnancy outcomes of migrants in Thailand while many researches in developed countries compared pregnancy outcome of immigrant women with native women were reported.[2-8]

Most of migrants came from neighboring countries around Thailand. There was neither marked heterogeneity within the population nor obvious difference in phenotypes compared with Thai. Taksin Hospital offered antenatal and perinatal care program

for them similar to Thai people.

The purpose of this study was to assess the prevalence of migrants who gave birth at Taksin Hospital and compare their pregnancy outcomes between registered and with unregistered group.

Materials and methods

This study was performed at the Department of Obstetrics and Gynecology of Taksin Hospital in Bangkok. This is a secondary to tertiary care hospital and a co-teaching hospital of Siriraj Hospital, Mahidol University. The average annual delivery rate was 6000 cases. This study was approved by the Ethics Committee for Researches Involving Human Subjects, the Bangkok Metropolitan Administration.

This cross-sectional study was carried out between January 1st, 2001 and December 31st, 2005. All migrants who gave birth after the 24th week of gestation were included. Data were collected from medical and labor records. The multiple pregnancy was excluded from analysis to avoid bias in low birth weight findings. The subjects were divided into two groups according to the registration. Maternal and obstetrical characteristics and neonatal outcomes were compared between groups.

Migrants were Myanmar, Laotian, Cambodian and ethnic minority around national borders who have moved to work in Thailand. Migrants who had work permission or passport and health insurance were in registered group. Migrants who did not have legal documents and health insurance were in unregistered group. Maternal and obstetrical characteristics included maternal age, gestational age, gravidity, parity, number of antenatal care visits, hematocrit (at delivery room or at antenatal care record), and mode of delivery. Indications for cesarean section included cephalopelvic disproportion (CPD), breech presentation, previous cesarean section, fetal distress, cervical dysticia and oligohydramnios. The other indications were placanta previa, severe preeclampsia with unfavorable cervix, nonreassuring fetal heart rate and genital lesion. Obstetric complications included preeclampsia, gestational diabetes, anemia (hematocrit less than

33%), preterm delivery (delivery before 37 complete weeks), postterm delivery (delivery at 42 complete weeks or more), thick meconium stained amniotic fluid, CPD, fetal distress and postpartum hemorrhage. Neonatal outcomes included birth weight, Apgar score at 1 min<7and at Apgar score at 5 min<7, stillbirth, discharge separated and neonatal intensive care unit (NICU) admission.

Statistical was undertaken using SPSS version 16.0 for windows. Data was analyzed using descriptive statistics and expressed in term of mean, standard deviation, mode and percent. Chi square or Fisher's test was used for comparison of categorical variables, and student t-test was used for comparison of continuous variables. p-value<0.05 was considered statistically significant.

Results

During a 5-year study period, a total of 1,211 migrants were delivered. The total pregnant delivered at Taksin hospital were 30,234 cases. Table 1 shows the total delivery and total of migrants delivered at Taksin hospital. The prevalence of migrants who gave birth at Taksin Hospital was 4%. After 9 cases of multiple pregnancy were excluded, the remaining of 1,202 migrants were divided into registered group (n=694) and unregistered group (n=508). Most of migrants were Myanmar (53.9%). The remaining were Laotian (32.6%), Cambodian (5.1%) and minority (8.4%). Labor (85.3%) was the most common occupation in migrants. Maid (14.0%) was the second most common occupation.

Table 2 demonstrates the comparison of maternal and obstetric characteristics between both groups. There were not statistically significant different between two groups in mean maternal age, hematocrit, gravidity, parity, normal delivery, operative vaginal delivery and breech assisting. The registered group had significant higher mean gestational age (38.37$\pm$2.05 vs 38.10$\pm$2.31, p=0.034), numbers of antenatal care visit (p<0.001) and cesarean section rate (17.0% vs 11.8%, p=0.014) than unregistered group. Cephalopelvic disproportion was the most common indication and

had statistically significant different between groups (p=0.034).

Table 3 shows the comparison of obstetrical complications. Preterm delivery was the only significant complication different between groups (13.3% in registered group vs 19.2% in unregistered group, p=0.005).

Table 4 shows comparison of neonatal outcomes and complications. Mean birth weight was significantly higher in registered group than in unregistered group (3006.74±433.06 vs 2936.71±499.95, p=0.011). Low birth weight infant was significant higher percentage in unregistered group than registered group (13.6% vs 8.2%, p=0.003). There were not statistically significant different between the groups in Apgar score at 1 min <7, Apgar score at 5 min <7, stillbirth, discharge separated and NICU admission.

Table 1. The total delivery, total migrants delivery and prevalence of migrants at Taksin Hospital

Year	Total delivery	Total migrant delivery	Prevalence of migrant delivery
2001	6,787	55	0.8
2002	6,171	188	3.0
2003	5,915	238	4.0
2004	5,960	316	5.3
2005	5,401	414	7.7
	30,234	1,211	4.0

Table 2. Maternal and obstetric characteristics of migrant delivery at Taksin Hospital

	Registered group n=694	Unregistered group n=508	p-value
Maternal age (years)*	24.84±4.55	24.39±4.95	0.109
Gestational age (weeks) *	38.37±2.05	38.10±2.31	0.034*
Gravidity**	1 (1-6)	1 (1-13)	0.414
Parity**	0 (0-5)	0 (0-8)	0.228
Hematocrit (%)*	34.51±3.38	34.46±3.52	0.788
Antenatal care visit (n,%)			
ANC <4 times	86 (12.4%)	191 (37.6%)	<0.001*
ANC ≥4 times	608 (87.6%)	317 (62.4%)	
Mode of delivery (n,%)			
Normal delivery	554 (79.8%)	417 (82.1%)	0.336
Operative vaginal delivery	20 (2.9%)	25 (4.9%)	0.090
Breech assisting	2 (0.3%)	6 (1.2%)	0.077
Cesarean delivery	118 (17.0%)	60 (11.8%)	0.014*

*= Statistically significant difference

Table 2. Maternal and obstetric characteristics of migrant delivery at Taksin Hospital (Cont.)

	Registered group n=694	Unregistered group n=508	p-value
Indication for cesarean section (n,%)			
CPD	39 (33.1%)	15 (25.0%)	0.034*
Breech presentation	24 (20.3%)	14 (23.3%)	0.617
Fetal distress	25 (21.2%)	11 (18.3%)	0.172
Previous cesarean section	9 (7.6%)	5 (8.3%)	0.787
Cervical dystocia	9 (7.6%)	5 (8.3%)	0.787
Oligohydramnios	6 (5.1%)	2 (3.3%)	0.479
Others	6 (5.1%)	8 (13.3%)	0.285

* Mean±SD   * = Statistically significant difference
** Mode (minimum-maximum)

Table 3. Obstetrical complications of migrant delivery at Taksin Hospital

	Registered group n=694	Unregistered group n=508	p-value
Preeclampsia	17 (2.4%)	14 (2.8%)	0.854
Gestational diabetes	3 (0.4%)	6 (1.2%)	0.179
Anemia	231 (32.1%)	163 (33.3%)	0.709
Preterm labor	92 (13.3%)	98 (19.2%)	0.005*
Postterm delivery	13 (1.9%)	13 (2.6%)	0.429
Thick meconium stained amniotic fluid	17 (2.4%)	11 (2.2%)	0.848
CPD	39 (5.6%)	15 (2.9%)	0.034*
Fetal distress	25 (3.6%)	11 (2.2%)	0.172
Postpartum hemorrhage	7 (1.0%)	6 (1.2%)	0.702

Data presented as n (percentage), * = Statistically significant difference

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Table 4. Neonatal outcomes and complications of migrant delivery at Taksin Hospital

	Registered group n=694	Unregistered group n=508	p-value
Mean birth weight (grams)*	3006.74±433.06	2936.71±499.95	0.011**
Birth weight			
: <1,500 grams	5 (0.7%)	5 (1.0%)	0.751
: 1,500-2,499 grams	57 (8.2%)	69 (13.6%)	0.003**
: 2,500-3,999 grams	623 (89.8%)	425 (83.7%)	0.002**
: ≥4,000 grams	9 (1.3%)	9 (1.8%)	0.632
Apgar score <7 at 1 min	10 (1.4%)	10(3.5%)	0.501
Apgar score <7 at 5 min	3 (0.4%)	6 (1.2%)	0.179
Stillbirth	2 (0.3%)	3 (0.6%)	0.656
Discharge separated	52 (7.5%)	51 (10%)	0.119
NICU admission	9 (1.3%)	6 (1.2%)	0.858

* Mean±SD

** = Statistically significant difference

Data presented as n (percentage),

NICU = Newborn intensive care unit

Discussion

The average prevalence rate of migrants who gave birth at Taksin Hospital was 4%. In the past 5 years there has been a rise in annual prevalence rate from 0.8% to 7.7% as the same tendency in previous studies.[2,3] The prevalence of non Europeon Union (non-EU) pregnant women delivered in Italy during 1992-2001 was 7.3% and the annual delivery was rising from 1.5% to 13.2%.[2] But the proportion of immigrant women's births in Finland increased slightly from 5.4% in 1999 to 5.9% in 2000.[4]

The registered group had significant higher in number of antenatal care visit than the unregistered group because all women in registered group had health insurance and they were legally residing in Thailand so they were no limitation to access any antenatal care program. There were internal and external barriers that prevent women of low socioeconomic status from seeking prenatal care. Internal barriers were attitudes associated with low motivation, knowledge deficits, fear, and fatigue. External barriers elicited were finances, transportation, system difficulties, lack of support, lack of child care, missed work and insufficient of time.[9] Delvaux T et al[10] and Malnikow J et al[11] reported that the important risk factor for inadequate prenatal care was lack of health insurance.

The registered group had significant higher in cesarean section rate (17.0% vs 11.8%). CPD was the indication that had statistically significant different between groups. The result is possibly from the mean birth weight which higher in registered group than in unregistered group. In Thailand, cesarean section rate continue to rise rapidly from 15% in 1990 to 22% in 1996[12] and 29.26% in 2005[13] because of using external fetal heart rate monitoring and elective cesarean section or cesarean section due to patients request were increased in nulliparous women[13]. As the result, the cesarean section rate in migrants was lower than in Thai population. The most common indication in Thai population was previous cesarean section. CPD and elective cesarean section were the second and the third most common indication, respectively[13]. In this study, CPD was the most common indication in both groups. The explanation of these results are that most of

migrants were nulliparous and no indication of elective cesarean section in this population.

From this study, preterm delivery was the only obstetric complication that was significantly different between two groups. These are responsible for lower mean birth weight and higher percentage of low birth weight in unregistered group. There are many risk factors of preterm delivery included biological factors (maternal age, race, medical and obstetrical complications), behavioral factors (cigarette smoking, alcohol intake, illicit drug, maternal intake and physical activity) low socioeconomic status and the effect of prenatal care. Better monitoring of both fetus and mother during pregnancy may reduce the risk of many adverse outcomes in addition to low birth weight and preterm labor[8]. In this study, the difference between two groups were health insurance and number of antenatal care visits may affect these results.

The weakness of this study is some of useful data that may affect pregnancy outcomes were did not collected such as financial status, level of education, smoking and drinking history, total weight gain, timing of the first prenatal care visit, marital status and race of their husbands. Another weakness is the exact gestational age. Most of them could not tell the exact date of her last menstruation period (LMP) because of poor communication with health care providers and they forgot the exact LMP. The gestational age was evaluated from the ultrasound reported at first visit, physical examinathien and from Ballard score.

This present study was to provided a picture of pregnancy and neonatal outcomes of migrants between registered group and unregistered group that has never been previously studied in Thailand. The results from this study may help many healthcare workers to consider the policy in this population. Migrant communities need targeted health attention because of inadequate communication with healthcare provider, heavy work during pregnancy, insufficient attendance in antenatal care and feelings of racism and discrimination in society.

In conclusion, the prevalence of migrants who gave birth at Taksin Hospital was 4%. Preterm labor and low birth weight in unregistered group were significantly higher than registered group.

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ความชุกของการคลอดบุตรในแรงงานต่างด้าวที่โรงพยาบาลตากสินและผลลัพธ์ของการตั้งครรภ์

ประกายพรึก ทั่งทอง

วัตถุประสงค์ *: เพื่อประเมินความชุกของการคลอดบุตรของแรงงานต่างด้าวที่โรงพยาบาลตากสิน และเปรียบเทียบผลการตั้งครรภ์ระหว่างแรงงานต่างด้าวกลุ่มที่ลงทะเบียนกับกลุ่มที่ไม่ลงทะเบียน*

วัสดุและวิธีการ *: เป็นการศึกษาแบบตัดขวางที่โรงพยาบาลตากสิน จังหวัดกรุงเทพมหานคร โดยเก็บข้อมูลจากเวชระเบียนและใบย่อคลอดช่วงระหว่างวันที่ 1 มกราคม 2544 ถึงวันที่ 31 ธันวาคม 2548 โดยตัดข้อมูลกลุ่มที่ตั้งครรภ์แฝดออกและแบ่งแรงงานต่างด้าวเป็นสองกลุ่มตามการลงทะเบียน ทำการเปรียบเทียบข้อมูลทั่วไป ลักษณะทางประชากรศาสตร์ของมารดาและทารกระหว่างกลุ่มทั้งสอง*

ผลการศึกษา *: ในช่วงเวลา 5 ปีที่ทำการศึกษา ความชุกของการคลอดบุตรในแรงงานต่างด้าวเท่ากับร้อยละ 4 กลุ่มที่ลงทะเบียนมีอายุครรภ์เฉลี่ยขณะคลอด จำนวนครั้งของการฝากครรภ์ที่มากกว่าหรือเท่ากับ 4 ครั้ง อัตราการผ่าตัดคลอดทางหน้าท้อง และน้ำหนักแรกเกิดเฉลี่ย มากกว่ากลุ่มที่ไม่ลงทะเบียนอย่างมีนัยสำคัญทางสถิติ (p<0.05) ขณะที่กลุ่มไม่ลงทะเบียนมีภาวะการคลอดก่อนกำหนด (19.2%vs 13.3%,p=0.005) และภาวะทารกมีน้ำหนักตัวน้อย (1,500-2,499 grams) (13.6% vs 8.2%,p=0.003) มากกว่ากลุ่มที่ลงทะเบียนอย่างมีนัยสำคัญทางสถิติ*

สรุป *: ความชุกของการคลอดบุตรในแรงงานต่างด้าวที่โรงพยาบาลตากสินเท่ากับร้อยละ 4 พบภาวะการคลอดก่อนกำหนดและภาวะทารกมีน้ำหนักตัวน้อยในกลุ่มที่ไม่ลงทะเบียนมากกว่ากลุ่มที่ลงทะเบียนอย่างมีนัยสำคัญทางสถิติ*