

Outcomes of Teenage Mothers at Dankhunthot Hospital, Nakhon Ratchasima

Nareelux Suwannobol, and Supap Chobkhayan

Abstract—The aim of this study was to investigate the pregnancy outcomes of teenage mothers at DanKhunThot hospital, Nakhon Ratchasima, Thailand. A retrospective descriptive study was conducted in 573 of teenage pregnant from charts reviewed from 1st October 2010-31st March, 2012. Data were analyzed by frequency distribution, mean and Standard Deviation.

The results shown several problems and negatives outcomes of pregnancy in teenager such as not attended prenatal care, Low birth weight infants, death fetus in utero and other complications. The results of this study can be utilized in the development of prenatal, perinatal and post natal care services, especially in DanKhunthot Hospital contexts. Moreover, the results were present to the District Health Care committees in order to enhance health care service system for teenage pregnancy of DanKhunthot District in further.

Keywords—Teenage mothers, Pregnancy outcome, Neonatal outcomes, Maternal outcomes.

I. INTRODUCTION

TEENAGE pregnancy is a major public health problem in every country. In America, the teen pregnancy rate in 2005 was 21.4 per thousand (Teen pregnancy, 2007). In Europe, the rate was 21.0[1]. In Australia, 90.0% of 20-year-old pregnant adolescents were unmarried [2]. In Thailand, it was found that teenagers tended to have sex for the first time at younger ages; 30% of Thai teenagers and 15% of females had sex for the first time between the ages 15-18[3]. According to the report from World Health Organization (WHO), teenage pregnancy rates tended to continually increase; 15-16 year-old-teenagers accounted for 11% of worldwide pregnancy from 16 million people and 95% of pregnancy came from underdeveloped and developing countries [4]. The problem of teen pregnancy in Thailand tends to be more serious. According to Bureau of Health Promotion, Department of Health, the Ministry of Public Health [5], teen pregnancy rates in 2004, 2005, and 2006 accounted for 14.7%, 13.5%, and 14.7% respectively [6]. These numbers did not include pregnant teenagers who had abortions, both legally and illegally, due to unintended pregnancy or sexual assault pregnancy. Apparently, the teen pregnancy rate was higher than 10% as determined by the regulations of the Ministry of Public Health (Ministry of Public Health, 2007). The situation in DanKhunThot hospital, NakhonRatchasima, was not quite different; the teen pregnancy rates from 2009 –

2011 accounted for 10.06%, 14.84%, and 25.23% and reached 23.05% in the first 6 months of fiscal year 2012. Moreover, the rate tends to be even higher. From this situation, pregnant teenagers, who lack physical readiness and maturity, are fully affected as they are prone to physical and mental complications during pregnancy and intrapartum period more than pregnant adults. Intrapartum period is a crisis which causes pregnant women pain, suffering, and fear of delivering. Pregnant teenager's body, mind, emotion, and sex are not fully grown. When her body stops growing, she will experience a strong flood of emotions, be worried about her changing body, and be self-centered. These things affect both mother's and fetus' health and even threaten their lives, for example, prolonged labor and postpartum hemorrhage [7]. However, some reports dispute that teen pregnancy and complications mentioned above are not serious or can be prevented before pregnancy.

The Department of Health, the Ministry of Public Health, has been aware of the problem of teen pregnancy. The National Health Development Plan, Volume 10 (B.E. 2007–2011), sets a goal to limit the teenage pregnancy rate at no more than 10%. From compiling statistics of women delivering in DanKhunThot hospital, Nakhon Ratchasima, since fiscal years 2010 – 2012, we found that the teen pregnancy rate continually increases. Therefore, we decided to conduct this study to find the outcomes and complications of pregnancy and delivery. Then, the results of the study will be used to prevent or reduce complications and reduce the teen pregnancy rates in local hospitals in the future.

II. OBJECTIVES

To study the outcomes of teenage mothers during pregnancy and after birth at Dankhunthot hospital in Nakhon Ratchasima Province.

III. STUDY DESIGN

Retrospective descriptive study was conducted in 573 of adolescent pregnant from chart reviewed from 1st October 2010-31st March, 2012. Data were analyzed by frequency distribution, mean and Standard division.

A. Population

The sample was 573 teenagers who were pregnant and delivered at DanKhunThot hospital, NakhonRatchasima from 1st October 2010-31st March, 2012.

Nareelux Suwannobol is with School of Family Health and Midwifery Nursing, Institute of Nursing, Suranaree University of Technology, Nakhon Ratchasima, 30000 Thailand (e-mail: nareelux@sut.ac.th).

Supap Chobkhayan is register nurses at Dankhunthot hospital Nakorn Ratchasima, 30210 Thailand (e-mail: kae.candy@hotmail.com).

B. Study Instruments

The instrument used in this study was a record form from in-patient's records and delivery's records of Dan khunThod hospital, NakhonRatchasima. The form consists of 4 parts: part 1 basic information; part 2 general aspects of childbirth; part 3 obstetric complications; part 4 complications in newborn infants and newborn infant outcomes.

The basic information of teenage mothers included age, height, weight before pregnancy. General aspects of childbirth included gravidarum, parity, gestational age when receiving antenatal care, times of antenatal care received, and weight gained during antenatal care. Furthermore, the antenatal care outcomes were also studied: Hematocrit (Hct), sexual transmitted disease (syphilis, hepatitis B virus, AIDS), weight after delivery, and mode of delivery.

Intrapartum and obstetric complications included premature contraction, preterm labor, premature rupture of membrane, hypertension before pregnancy, postpartum hemorrhage, meconium-stained amniotic fluid, and fetal distress.

Newborn infants and complications in newborn infants included average weight of newborn infant, low birth weight (less than 2,500 grams), Apgar score ≤ 7 at 1 min after birth, Apgar score ≤ 7 at 5mins after birth, preterm delivery, congenital anomaly, and stillbirth.

C. Data Analysis

Statistical program was used to calculate descriptive statistics, i.e. frequency, percentage, average, and standard deviation.

IV. RESULTS

TABLE I
PERSONALITY AND OBSTETRIC CHARACTERISTICS DATA OF TEENAGE MOTHERS

Personality and Obstetric Characteristics Data	N=573	Percentage	Mean
-Age (year)			17.37 \pm 1.34
-Gravida			
-Primiparous	493	86%	
-Multiparous	71	14%	
-Antenatal Care (ANC)			
-No ANC	9	1.57%	
-ANC at list 4 times	549	95.80%	
-Late first ANC	52	9.07%	
-Sexual Transmission Disease			
-VDRL positive	1	0.17%	
-Anti-HIV positive	11	1.92%	
-HBsAg positive	1	0.17%	
-Gestational Age (week)			38.02 \pm 1.85
-Delivery Method			
-Normal labour	474	82.7%	
-Caesarean Section	93	16.3%	
-Forceps or Vacuum Extraction			
-Newborn body weight			
- < 2,500 g.	61	10.6%	
- 2501-4000 g.	506	88.3%	
- > 4000 g.	6	1%	
-Death Fetus In Utero	1	0.17	

From the basic information collected, it was found that of 2,733 women giving birth during conducting the study there were 573 teenagers, or 20.96%. The average age of those teenagers was 17.37 years old. First-time pregnant teenagers and second-time pregnant teenagers accounted for 86% and 14% respectively. 95.80% of pregnant teenagers got complete antenatal care (4 times), 1.57% did not receive antenatal care, and 9.07 got late antenatal care. Moreover, 0.97% of pregnant women did not have their second blood test. For sexual transmission diseases found in pregnant women, HbsAg positive accounted for 1.92%, syphilis for 0.17%, and AIDS for 0.17%.

The pregnancy outcomes indicated that the average gestational age of pregnant teenagers was 38.02 weeks (23-42 weeks). There were 93 cesarean section deliveries (16.2%), vacuum-assisted vaginal and forceps extraction deliveries (1.1%), and normal labor (82.7%). There were 10.6% of low birth weight infants (<2,500), 1% of infants weighing more than 4000 grams at birth, 1 stillbirth, and no any congenital malformation.

The outcomes of the teenage mothers delivering in Dan KhunThot hospital' obstetric complications indicated that there were 3.84% of Anemia and 0.35% of Thalassemia, and that some teenage mothers did not have their second blood test, which have been considered as a high-risk situation that increases obstetric complications. For prenatal period, there were 4.7% of preterm labour and 0.17% of premature rupture of membrane. For obstetric complication during pregnancy, there were 0.52% of pregnancy induce hypertension (both gestational age and pre-eclampsia) and 0.52% of gestational diabetes mellitus (type A1 and A2). For postpartum complication in teenage mothers, there were 0.52% of postpartum hemorrhage and there was no any shock found. Chorioamnionitis (0.17%) and hematoma at perineum (0.17%) were the complications which had the highest costs

TABLE II
OBSTETRIC COMPLICATIONS IN DAN KUHN THOT TEENAGE PREGNANCY

Complications	Amount	Percentage
Anemia	22	3.84
Thalassemia	2	0.35
Preterm labour	28	4.87
PROM	1	0.17
Pregnancy induce hypertension	3	0.52
GDM A1,A2 & DM	3	0.52
Post partum hemorrhage	3	0.52
Chorioamnionitis	1	0.17
Hematoma at perineum	1	0.17

The outcomes of the deliveries from the teenage mothers indicated that 61 infants weighing less than 2,500 at birth accounted for 10.6%, birth asphyxia (Apgar score at 1 min after birth) for 2.62%, and severe birth asphyxia (Apgar score at 5 mins after birth) for 0.17%.

TABLE III
THE TEENAGE PREGNANCY OUTCOME

Complications	Amount	Percentage
LBW	61	10.65
Apgar score at 1 min \leq 7	15	2.62
Apgar score at 5 min \leq 7	1	0.17
Thick meconium	5	0.9

V. CONCLUSION, DISCUSSION AND RECOMMENDATION

From the incidence of 20.97% of teenagers, their average age was 17.32 years old. It was found that teenagers tended to be pregnant at younger ages; the youngest age was 12 years old. The National Health Development Plan, Volume 10, sets a goal to limit the teenage pregnancy rate at no more than 10%. From this study, it was found that most of the pregnancies were first-time pregnancies (86%) and that repeated pregnancies during teens accounted for 13.6%, which was lower than the report of Suebnukarn and Phupong. The report said that 95.6% of first-time pregnancy resulted from current situations that a girl's body changes and gets her first period faster [8]. Having sex for the first time when they are still young causes repeated pregnancy. This finding conforms to the study of DanKhunThot teenagers. For delivery, normal labor and cesarean section accounted for 82.70% and 16.2% respectively, which accords with other studies and the study of Buhachart and Pinjareon which found more normal labor rates in adult age than cesarean section rates [9].

From the study of the preterm labor in the teenagers, it was found that 4.87% of preterm labor rates with the rates. Infants with low birth weight accounted for 10.6% accorded of Ekachai that founded 17.4%^[10]. Apgar score \leq 7 at 1 min after birth accounted for 2.61%. Apgar score \leq 7 at 5mins after birth accounted for 0.17%. The complications found were dead fetus in utero (0.17%) and prelabor rupture of membrane with chorioamnionitis (0.17%).

The teenage pregnancy outcomes that caused problems to pregnancy were getting late antenatal care, not getting antenatal care, and infants with low weight birth, dead fetus in utero, and many complications, which significantly affected a teenage mother's body and mind even though they were not often found. For a pregnant teenager having high risk of anemia, she could prevent by taking medicines to increase iron in her body and getting educated about premature contraction and other complications to get cured in time and reduce complications. Complications such as preterm labor and chorioamnionitis cause infants to stay in hospital longer with more expenses and also affect mother's and relatives' mental states.

From the incidence of teenage pregnancy mentioned above, the teenage pregnancy rates tend to be higher. All teenagers including the ones who were pregnant again in their teens need to be educated about sex education and birth control properly. This study can be used to improve antenatal care services, intrapartum care, and puerperium care for the teenage mothers in Dan KhunThot hospital.

ACKNOWLEDGMENT

The authors would like to thank Dan Khun Thot Hospital, to allow the medical records from this research. Thanks to Doctors and Nurses from the delivery room, Dan Khun Thot Hospital for cooperation in research.

REFERENCES

- [1] Yildirim Y, Inal M, Tinar S. Reproductive and obstetric characteristic of adolescent pregnancies in Turkish women. *Pediatric Adolescent Gynecology*. 2005;18 :249-253
- [2] Hanna B. Negotiating motherhood: the strugglers of teenage mothers. *Journal of Advanced Nursing*. 2001;34(4):419-565
- [3] Isaranurug S, Mo-Suwan L, Choprapawon C. Differences in socio-economic status, service utilization, and pregnancy outcomes between teenage and adult mothers. *J Med Assoc Thai*. 2006; 89: 145-51.
- [4] WHO-World Health Organization. Family and community practices that promote child survival, growth and development : A review of the evidence. 2004.
- [5] Annual Bureau of Health Promotion, Department of Health, the Ministry of Public Health 2007. Bangkok: the Ministry of Public Health.2007.
- [6] Annual obstetric report. Dankhunthot Hospital 2009-2011. Nakhon Ratchasima: Dankhunthot Hospital; 2009-2011.
- [7] Keawsiri P, Anusornteerakul S, Rujiraprasert N, Penjumrush W. Adolescent mothers' self-care actions in labour stage as perceived by the adolescent mothers and nurses. *Journal of Faculty of Nursing. KKU*. 2001;24(2):33-42.
- [8] Suebnukarn K, Phupong V. Pregnancy outcomes in adolescent $<$ or 15 year old. *J Med Assoc Thai*. 2005; 88(12):1758-62.
- [9] Bunhachart R, Pinjareon S. Teenage primigravida and low birth weight delivery. *Songkla Med J*. 1998; 16(3): 113-123.
- [10] Kovavisarath E, Chairaj S, Tosang T, Asavapiriyant S, Chotigeat U. Outcome of Teenage Pregnancy in Rajavithi Hospital. *J Med Assoc Thai*. 2010;93(1):1-8.
- [11] Urairoekkun C. Teenage pregnancy. Regional Health Promotion Center 4, Ratchaburi. 2010.
- [12] Kumar A, Singh T, Basu S, Pandey S, Bhargava V. Outcome of teenage pregnancy. *Indian J Pediatr*. 2007; 74: 927-31.
- [13] Sanukool P, Thanphisan P. Outcome of Teenage Pregnancy and birth in Health Promoting Hospital. Regional Health Promotion Center 6. Thai Pharmaceutical and Health Science Journal. 2008; 3(1),97-102.

Nareelux Suwannobol is an instructor of School of Family Health and Midwifery Nursing, Institute of Nursing, Suranaree University of Technology, Nakhon Ratchasima, Thailand. Her fields of research interest include maternal and child health, health promotion and family health. She received M.N.S. (Maternity and Newborn Nursing) from Mahidol University, Thailand (2000). Now, she is a Ph.D candidate (nursing), Burapha University, Thailand.

Supap Chobkhanyan is register nurse at Dankhunthot hospital Nakorn Ratchasima, Thailand. She received nursing and midwife from Konkean University Thailand (2004).