

Teenage Pregnancy and Exclusive Breastfeeding Rates

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Background: Teenage pregnancy is an important health issue globally and in Thailand. Younger age mothers decide on the breastfeeding practices of the first 6-month.

Objective: To find the rates of 6-month exclusive breastfeeding practices of teenage mothers and compare them with the rates of 6-month exclusive breastfeeding practices in mothers who are 20 years of age or more.

Material and Method: Three thousand five hundred sixty three normal, postpartum women, who delivered without complications at the HRH Princess Maha Chakri Sirindhorn Medical Center in the Nakhon Nayok Province between 2010 and 2013 were included in this study. At the second day postpartum, the data of latch scores and the data of the practice of exclusive breastfeeding were collected. Telephone follow-ups on the seventh, fourteenth, and forty-fifth postpartum days and at the second, fourth, and sixth month postpartum month were collected and used for exclusive breastfeeding data following discharge. Demographic data included the maternal age, parity, gestational age, marital status, occupation, religion, route of delivery, estimated blood loss, body mass index, nipple length, and the child's birth weight. The collected data was analyzed by the t-test, Chi-square, and odds ratio with 95% confidence interval.

Results: The percentage of teenage pregnancies was at 14.8% (527 cases). On postpartum day 2, the percentage of latch scores of 8 or less was 66.4%. At the seventh, fourteenth, and forty-fifth day and at the second, fourth, and sixth months postpartum, the exclusive breastfeeding rates were 88.5, 78.5, 57.6, 43.1, 32.9, and 27.0%, respectively. Comparison of the 6-month exclusive breastfeeding rates between teenage mothers and mothers 20 years of age or older were not statistically significant ($p < 0.05$).

Conclusion: The 6-month exclusive breastfeeding rate of teenage mothers was at 27.0% and had no significant differences from the rates of mothers 20 years of age or more.

Keywords: Teenage pregnancies, Exclusive breastfeeding, Latch score

J Med Assoc Thai 2014; 97 (9): 893-8

Full text. e-Journal: <http://www.jmatonline.com>

Teenage pregnancy is a pregnancy in women less than 20 years of age. It is one of the major public health issues in Thailand and is expected to increase. Teenage pregnancy has shown more risks for preterm births and neonates with low birth weights⁽¹⁾. Pregnancy in adolescence may affect latching, breastfeeding initiation and the goal of the 6-month exclusive breastfeeding practice. From the review of previous literature, the 6-month exclusive breastfeeding rate in Thailand was 5.4% in 2006 and 15.5% in 2009⁽²⁾. These exclusive breastfeeding rates were lower than the target established by the Ninth National Health Development Plan under the National Economic and

Social development Plan that set at 30%. Studies of teenage mothers' exclusive breastfeeding practices are scant. The authors investigated in the rates of 6-month exclusive breastfeeding practices of teenage mothers compared to the practices of mothers 20 years of age or more.

Material and Method

The present study was a retrospective cohort study. The data was collected between 2010 and 2013. Inclusion criteria were women who delivered without complications (multiple pregnancies, preeclampsia, antepartum hemorrhage, and preterm labor) at the HRH Princess Maha Chakri Sirindhorn Medical Center. Their newborns had birth weights of more than 2,500 grams with no complications. Teenage pregnant was the woman between 10 and 19 years of age. Exclusion criteria were of women who had postpartum hemorrhages or contraindications to breastfeeding. The

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mothers were encouraged to stimulate their newborns for breastfeeding every two to three hours while in the postpartum ward. Demographic data collected included maternal age, parity, gestational age, marital status, occupation, religion, route of delivery, estimated blood loss, body mass index, nipple length, and the neonates birth weight. Latch scores were used for latching-on assessment, and the assessment was done at 42 to 48 hours postpartum. Follow-up by telephone was done on the seventh, fourteenth, and forty-fifth postpartum day and subsequently continued at the second, fourth, and sixth month. The information was used for exclusive breastfeeding data collection. The collected data were analyzed by the t-test, Chi-square, and odds ratio with 95% confidence interval. Statistical analysis was done using SPSS IBM Singapore Pte. Ltd. (Registration No.1975-01566-C). We used 0.05 of α error, 0.95 of power, $df = 5$ and an effect size equal to 0.2. The calculated sample size was 495. The Ethical committee of the Faculty of Medicine, Srinakharinwirot University has approved the present study.

Results

Three thousand five hundred eighty seven postpartum women had been enrolled in the present research project. Of these, 24 suffered complications of postpartum hemorrhage and were excluded. The remaining 3,563 cases were included in the present study. The prevalence of teenage pregnancies was calculated at 14.8%, totaling 527 cases. The demographic data of the postpartum women in the teenage group mean age was 17.37 ± 1.4 years. The percentages of primipara and multipara women were 88.7% and 11.3% respectively. The mean gestational age was 38.0 ± 1.0 weeks. The percentage of married women was 92.0%. The percentage of mothers who were of the Buddhist faith was 91%. The mothers' occupations were self-employed or housewives 65.6%. The mean body mass index (BMI) was 24.7 ± 5.4 kg/m². The percentage of vaginal deliveries was 67.4%. The mean blood loss was 339.0 ± 217.1 milliliters. The mean nipple length was 6.9 ± 2.5 millimeters. The mean newborn birth weight was $2,897.2 \pm 418.3$ grams.

The demographic data of the women ages >20 years mean age was 28.78 ± 5.4 years. The percentages of primipara and multipara women were 42.1% and 57.9% respectively. The mean gestational age was 38.3 ± 1.1 weeks. The percentage of married women was 93.6%. The percentage of mothers of the Buddhist faith was 90.4%. The mothers' occupations

were self-employed or housewives 45.2%. The mean body mass index was 26.1 ± 5.2 kg/m². The percentage of vaginal deliveries was 45%. The mean estimated blood loss was 396.5 ± 290.8 milliliters. The mean nipple length was 7.0 ± 2.6 millimeters. The mean newborn birth weight was $3,080.8 \pm 1,164.5$ grams. The details of the demographic data were shown in Table 1.

Latch scores were arranged in two groups; scores less than or equal to 8 and scores of greater than 8. In the teenage group, the percentage of latch scores ≤ 8 was 66.4% and the percentage of latch scores > 8 was 33.6% at postpartum day 2. At the seventh, fourteenth, and forty-fifth day postpartum and at the second, fourth, and sixth month postpartum, the exclusive breastfeeding rates were 88.5, 78.5, 57.6, 43.1, 32.9, and 27.0%, respectively. In the group with ages >20 years, the percentage of latch scores ≤ 8 was 60.6% and the percentage of latch scores > 8 was 39.4% at postpartum day 2. At the seventh, fourteenth, and forty-fifth day postpartum and at the second, fourth, and sixth month postpartum, the exclusive breastfeeding rates were 85.1, 74.8, 60.0, 46.6, 35.2, and 29.2%, respectively. The details of latch scores and rates of exclusive breastfeeding in both the teenage group and group with age >20 years were shown in Table 2 and Fig. 1.

Latch scores ≤ 8 in the teenage group was significantly different in the rates found for the group with ages >20 years. Odds ratio was 1.2 (95% CI 1.1-1.5). No significant differences between the two groups in exclusive breastfeeding at the seventh, fourteenth, and forty-fifth day postpartum and at the second, fourth, and sixth month postpartum were found.

Discussion

The prevalence of teenage pregnancy had shown to be higher (14.8%) than the rate the World Health Organization recommends. The World Health Organization has set standard that teenage pregnancies should not exceed 10% of the total pregnancies⁽³⁾. However, this rate was between 12% and 15%, as reported in a previous study done in Thailand⁽¹⁻³⁾. Most of the pregnant teenagers were primiparas, which had a negative effect on breastfeeding due to the mothers inexperience⁽⁴⁾. The marital status had shown that teenagers had sexual intercourse at an early age and pregnancy might occur. The new parents were not ready to have a child. However, marriage had shown a positive effect on breastfeeding⁽⁵⁾. The

Table 1. Demographic data of the teenage and ages-more-than-20-year groups

Mother and newborn's data	Teenage group (n = 527)	group with age >20 years (n = 3,036)	p-value
Age (years)	17.4±1.4	28.8±5.4	
Gestational age (week)	38.0±1.0	38.3±1.1	0.166
Primipara (%)	88.7	42.1	<0.01*
Multipara (%)	11.3	57.9	
Marital status			
Married	92.0	93.6	0.194
Not married	8.0	6.4	
Religion			
Buddhist	91.0	90.4	0.903
Islam	8.4	9.0	
Catholic	0.6	0.6	
Occupation			
Housewife or self-employed (%)	65.6	45.2	<0.01*
Employee (%)	34.4	54.8	
Body mass index (kg/m ²)	24.7±5.4	26.1±5.2	0.520
Route of delivery (%)			
Normal delivery	67.4	56.4	<0.01*
Forceps extraction	1.3	1.3	
Vacuum extraction	4.9	3.9	
Cesarean section	26.4	36.4	
Blood loss (ml)	339.0±217.1	396.5±290.8	0.035
Nipple length (mm)	6.9±2.5	7.0±2.6	0.075
Birth weight (gram)	2,897.2±418.3	3,080.8±1,164.5	0.103

* Statistically significant ($p<0.05$)

Table 2. The percentage of latch scores, rates of exclusive breastfeeding and p-values in both the teenage group and the group ages >20 years during the postpartum period

Postpartum period	Teenage group	Group with age >20 years	p-value
Postpartum day 2			
Latch score ≤8 (%)	66.4	60.6	<0.01*
Latch score >8 (%)	33.6	39.4	
Exclusive breastfeeding rate (%)			
7 th day	88.5	85.1	0.093
14 th day	78.5	74.8	0.127
45 th day	57.6	60.0	0.398
2 nd month	43.1	46.6	0.223
4 th month	32.9	35.2	0.398
6 th month	27.0	29.2	0.414

* Statistically significant ($p<0.05$)

teenage mothers were mostly housewives or working independently at home. In these occupations, the mothers had better breastfeeding practices when compared to mothers working as employees⁽⁶⁾. The mean body mass index was within normal limits. The mean nipple length was 6.9 millimeters. Nipple lengths less than 7 millimeters should be monitored closely

and if the mother has difficulties in breastfeeding, the medical staff should intervene⁽⁷⁾.

In the group with ages >20 years, the mothers were multipara, which had shown benefits in their experience that helped with breastfeeding. These mothers were, for the most part, married and of the Buddhist faith similar to the teenage mothers. These

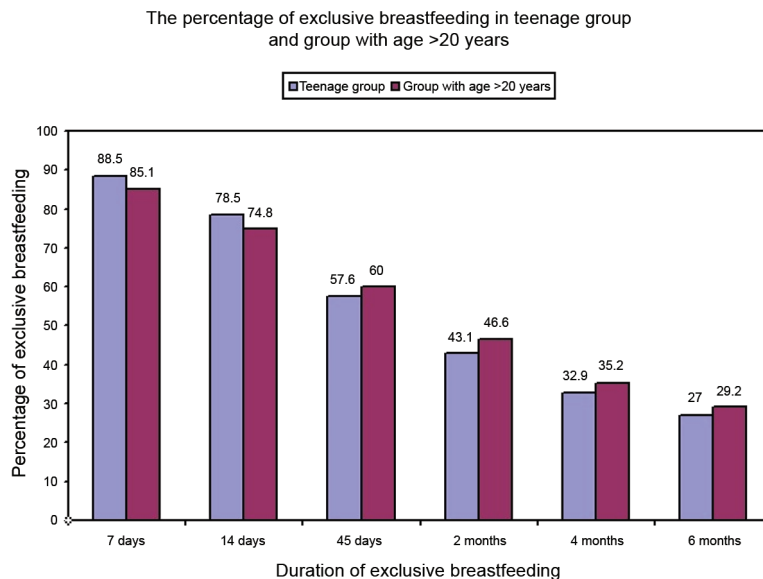


Fig. 1 The rates of exclusive breastfeeding in both the teenage group and group ages >20 years during postpartum period.

women's occupations were mostly employees and this had a negative effect on breastfeeding. The mean body mass index was in the 'overweight' range and had negative effects on breastfeeding although there were no significant differences. The normal delivery rate in the 20 years of age or more group was less than the teenage mother. This was consistent with a previous study that had found that teenage mothers were more likely to have normal deliveries⁽⁸⁾. With higher vacuum extraction and cesarean sections, the initiation of breastfeeding was delayed^(9,10). The mean nipple length of the elder group was slightly longer than in the teenage mothers. However, no significant differences were found. Blood loss after delivery and the children's birth weights had shown no differences and were within acceptable limits.

Latch scores ≤ 8 in the teenage group were significantly different from the scores of the group with ages >20 years at postpartum day 2. The teenage group had 1.2 times higher risk of having latch scores ≤ 8 in comparison to the group with ages >20 years. Latch scores greater than 8 correlated with exclusive breastfeeding at six weeks postpartum⁽¹¹⁾. At postpartum day 45, the exclusive breastfeeding rate in the teenage group was less than the group with ages >20 years. These results were consistent with previous studies.

The exclusive breastfeeding rates in the teenage group had no significant differences from exclusive breastfeeding rates of the group ages >20 years at the seventh, fourteenth, and forty-fifth

postpartum day and at the second, fourth, and sixth month postpartum. Although the status primipara had negative effects on breastfeeding, higher normal deliveries, higher instances of independent work at home and a lower body mass index had positive effects on breastfeeding. In the overall results of teenage mothers without complications, there were no differences in exclusive breastfeeding when compared to mothers with ages >20 years of age. The medical staff could possibly use this data to help make teenage mothers feel confident for the exclusive breastfeeding for at least six months. However, teenage mothers often had complications included anemia, acute pyelonephritis, preterm labor, low birth weights, the transfer of the newborn to the neonatal intensive care unit, and experienced postpartum depression, which made it difficult to initiate breastfeeding, resulting in decreased rates of breastfeeding^(1,8,12-14). The medical staff should counsel teenage mothers and educate them on how to maintain exclusive breastfeeding when the mother needs to be separated from her baby. This could possibly help with increasing the exclusive breastfeeding rates of teenage mothers.

The present study had limitations that we did not record some information such as data on planned and wanted pregnancies, and the intentions and duration of exclusive breastfeeding. These factors may affect the rates and duration for exclusive breastfeeding.

Conclusion

The prevalence of teenage pregnancy was at 14.8%. In teenage mothers, latch scores less than or equal to 8 was at 66.4% at postpartum day 2. The exclusive breastfeeding rate at the seventh, fourteenth, and forty-fifth postpartum days and at the second, fourth, and sixth postpartum months were 88.5, 78.5, 57.6, 43.1, 32.9, and 27.0, respectively. The differences between the 6-month exclusive breastfeeding rates of the teenage group and the group with ages >20 years was not statistically significant.

What is already known on this topic?

Teenage pregnancy rate was between 12% and 15% in Thailand. The World Health Organization has set a standard that teenage pregnancies should not exceed 10% of the total pregnancies. Most of the pregnant teenagers were primiparas, which had a negative effect on breastfeeding due to the mothers' inexperience. Latch scores greater than 8 correlated with exclusive breastfeeding at six weeks postpartum. Nipple lengths less than 7 millimeters should be monitored closely and if the mother has difficulties in breastfeeding, the medical staff should intervene.

What this study adds?

The prevalence of teenage pregnancy had shown to be high (14.8%). In teenage group, the exclusive breastfeeding rate at the seventh, fourteenth, and forty-fifth postpartum days and at the second, fourth, and sixth postpartum months were 88.5, 78.5, 57.6, 43.1, 32.9, and 27.0, respectively. The exclusive breastfeeding rates in the teenage group had no significant differences from exclusive breastfeeding rates of the group with ages >20 years at the seventh, fourteenth, and forty-fifth postpartum day and at the second, fourth, and sixth month postpartum. Latch scores less than or equal to 8 in the teenage group were significantly different from the scores of the group with ages >20 years at postpartum day 2. The teenage group had a 1.2 times higher risk of having latch scores less than or equal to 8 in comparison to the group with ages >20 years. The mean nipple length of the mothers age 20 years and older was slightly longer than was found in the teenage mothers. However, there was no significant difference.

Acknowledgment

The authors thank the staff of the HRH Princess Maha Chakri Sirindhorn Medical Center and

the Faculty of Medicine, Srinakharinwirot University for their support of our research.

Potential conflicts of interest

None.

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การตั้งครรภ์ในวัยรุ่นกับอัตราการเลี้ยงลูกด้วยนมแม่อย่างเดียว

ภาวิน พัวพรพงษ์, เกษม เรืองรองมรกต, วิเชียร มโนเลิศเทเวศย์, สุชาติ เกษสุวรรณ, ศิณัฐชานันท์ วงษ์อินทร์

วัตถุประสงค์: ศึกษาการเลี้ยงลูกด้วยนมแม่อย่างเดียวในช่วงหกเดือนหลังคลอดของมารดาในวัยรุ่น และเปรียบเทียบอัตราการเลี้ยงลูกด้วยนมแม่อย่างเดียวในมารดาที่ตั้งครรภ์ในวัยรุ่นกับมารดาที่อายุตั้งแต่ 20 ปีขึ้นไป

วัสดุและวิธีการ: ศึกษาจากสตรีหลังคลอดที่ไม่มีภาวะแทรกซ้อนและทารกแรกเกิดที่โรงพยาบาลศูนย์การแพทย์สมเด็จพระเทพรัตนราชสุดาฯ สยามบรมราชกุมารี อำเภอบางละมุง จังหวัดนครนายก พ.ศ. 2553 ถึง พ.ศ. 2556 จำนวนทั้งสิ้น 3,563 ราย เก็บข้อมูลพื้นฐาน อายุ ลำดับครรภ์ อายุครรภ์ อาชีพ สถานภาพสมรส การนับถือศาสนา ดัชนีมวลกาย วิธีการคลอด การเสียเลือดหลังคลอด ความยาวหัวนม และน้ำหนักทารก ประเมินคะแนนการเข้าเต้านับวันที่สองหลังคลอด โทรศัพท์ติดตามสอบถามมารดาถึงการเลี้ยงลูกด้วยนมแม่ในช่วง 7 วัน 14 วัน 45 วัน 2 เดือน 4 เดือน และ 6 เดือนหลังคลอด รวบรวมข้อมูลพื้นฐานของมารดาและทารก และคะแนนการเข้าเต้านับเพื่อวิเคราะห์ผล

ผลการศึกษา: มารดาที่ตั้งครรภ์ในวัยรุ่นจำนวน 527 ราย คิดเป็นร้อยละ 14.8 ร้อยละของคะแนนการเข้าเต้านับน้อยกว่าหรือเท่ากับ 8 ในวันที่สองหลังคลอดเท่ากับ 66.4 การเลี้ยงลูกด้วยนมแม่อย่างเดียวหลังคลอดในวันที่ 7, 14, 45 เดือนที่ 2, 4 และ 6 เท่ากับ 88.5, 78.5, 57.6, 43.1, 32.9 และ 27.0 ตามลำดับ โดยเมื่อเปรียบเทียบอัตราการเลี้ยงลูกด้วยนมแม่ในมารดาวัยรุ่นกับมารดาที่อายุตั้งแต่ 20 ปีขึ้นไป ที่ไม่มีภาวะแทรกซ้อนของการตั้งครรภ์และการคลอดพบว่าไม่มีความแตกต่างกัน

สรุป: อัตราการเลี้ยงลูกด้วยนมแม่อย่างเดียวหกเดือนในมารดาวัยรุ่นเท่ากับร้อยละ 27.0 และไม่มีมีความแตกต่างอย่างมีนัยสำคัญกับอัตราการเลี้ยงลูกด้วยนมแม่ของมารดาที่อายุมากกว่า 20 ปี
