Short Term Biological Impact on Teenage Mothers and Their Babies

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Abstract

This prospective study covered a one year period between June 1994 and August 1995 and included 104 cases of teenage mothers and 98 control adult mothers. The purpose was to assess the short term biological impact on teenage mothers and their babies in Thailand by comparing teenage mothers-age ≤18 years old and adult mothers-age 20-35 years old. The mean age of the teenage mothers and adult mothers was 16.75±0.97 and 26.67±2.88. The result demonstrated that there was no significant difference in the short term biological effect on mothers and their babies.

The incidence of teenage pregnancy in Thailand was approximately 13 per cent from 1988 to 1992 which is the same as in the United States[1]. These young mothers and of course, their children are at substantial health and behavioral risks although some of them can cope with their new role quite well and teenage mothers had increased risk of having low-birth-weight babies and premature babies, and also these babies had high mortality during their first year of life[2,3]. Teenage pregnancy consistently shows correlation with low socioeconomic level, low education and their dependency on family. They usually have unrealistic expectations about the developmental milestones of their children and also have punitive child rearing attitudes which affect their infants' development.

Study of teenage pregnancy has mostly come from Western countries and there are few reports from Thailand so we conducted this prospective study to assess the characteristics of teenage mothers compared with adult mothers and also studied the biological impact of maternal age to pregnancies and their outcome.

MATERIAL AND METHOD

Subjects

- Mothers who gave birth to children at Rajvithi Hospital between June 1994 and August 1995 were randomised enrolled and interviewed by pediatricians during their post-partum stay in the hospital. The interview included certain aspects e.g. education level, marital status, socioeconomic status.

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- These mothers would be divided into 2 groups according to their age
  - Teenage mothers : age under 18 years
  - Adult mothers : age 21 - 35 years
- All neonates, products of these mothers would be completely examined by pediatricians.
- Mothers who had HIV + ve were excluded from this project.

Definition of Variable

- Low birth weight (LBW) : birth weight below 2,500 grams .
- Prematurity : gestational age less than 37 weeks
- Small-for-gestational-age (SGA) : birth weights below the tenth percentile for gestational age
- Prenatal care
  - adequate : regular visiting since the first trimester
  - inadequate : had ANC visit in the third trimester or no prenatal care
  - intermediate : between the two groups
- Mothers' education level
  - adequate : 12 years old should complete at least grade 6 15 years old should complete at least grade 9, >19 years old should complete high school
  - inadequate : understandard level from the above
- Statistic Analysis : All data were recorded and entered into a computer PC 486 DX using d Base3 plus program epi-info version 6.0

RESULTS

One hundred and four teenage mothers and 94 adult mothers were enrolled in this study. The mean age of the teenage mothers and adult control mothers was 16.67 ± 0.97 (range 15 - 18 yr and 26.67 ± 2.88 years old (range 21 - 35 yr). Ninety-nine per cent of the teenage mothers and 70.4 per cent of the adult control mothers were unmarried ($p < 0.05$). Twenty one per cent of the teenage mothers and 47.96 per cent of the adult control mothers used contraception ($p < 0.05$). Fifty-three per cent of the teenage mothers and 73 per cent of the adult control mothers had regularly attended the prenatal clinic at the hospital ($p < 0.05$).

Seventy per cent of the teenage mothers and 64 per cent of the adult control mothers completed only grade 6 which was considered inadequate education and age-inappropriate ($p>0.05$).

Table 1. Characteristics of mothers in the study populaion.

	teenage mothers N = 104		adult mothers N= 98	
	n	%	n	%
marital status				
unmarried	103	99.01	69	70.4*
married	1	0.99	29	29.6*
education				
inadequate	73	70.02	63	64.2
adequate	31	29.8	35	35.8
birth control				
no	82	78.9	51	52.0*
yes	22	21.1	47	47.9*
prenatal care				
adequate	56	53.84	72	73.5*
intermediate	10	9.64	10	10.2
inadequate	38	36.52	16	16.3*
weight gain during pregnancy				
< 8 kgs	22	21.2	15	15.3
8-10 kgs	40	38.5	38	38.8
> 10 kgs	42	40.4	45	45.9

* = significant difference $p < 0.05$

Table 2 Percentage of adverse outcomes of pregnancy.

	teenage mothers N = 104		adult mothers N = 98	
	n	%	n	%
SGA	2	1.92	3	3.03
preterm	3	2.88	2	2.04
postterm	2	1.92	-	-
dead fetus *in utero*	1	0.96	-	-
Total	8	7.68	5	5.07

SGA = small for gestational age

Table 3. Medical problems in neonates in the first week of life.

	teenage mothers N = 104		adult mothers N = 98	
	n	%	n	%
physiologic jaudice	9	8.7	8	8.2
sepsis	-	-	1	1.02
birth asphyxia	1	0.96	-	-
anemia	-	-	1	1.02
congenital syphilis	1	0.96	-	-
respiratiory distress syndrome	1	0.96	-	-
transient tachypnea	1	0.96	-	-
cephal hematoma	1	0.96	-	-
neonatal abstinence syndrome	-	-	2	2.04
Total	14	13.5	12	12.28

Twenty-one per cent of the teenage mothers and 15 per cent of the adult control mothers had poor weight gain during pregnancy ($p>0.05$). Five per cent of the teenage mothers and 3.8 per cent of the adult mothers had drug use during pregnancy e.g. Alcohol, tobacco, glue etc. ($p>0.05$).

Forty-nine per cent of the teenage mothers and 38.8 per cent of the adult mothers had no income ($p<0.05$). Most of the teenage mothers were totally dependent on their parents. Most of the adult mothers with no income were totally dependent on their husbands. (Table 4)

The percentage of preterm, post term, SGA, dead fetus *in utero* and first week morbidity in infants was 2.88 per cent, 1.92 per cent, 1.92 per cent, 0.96 per cent and 13.5 per cent respectively in the teenage mothers compared to 2.04 per cent, 3.03 per cent, 0 per cent, 0 per cent and 12.3 per cent respectively in the adult mothers ($p>0.05$).

DISCUSSION

Even though the incidence of Thai teenage pregnancy (15-19 years of age) has not significantly increased since 1988-1992[1]. Births from mothers in this age group now account for approximately 13 per cent of all live births in Thailand as well as the United States[2,3].

Most reports from western countries show that pregnancy in this age group was associated with an excess risk of poor outcomes including low birth weight and prematurity. Especially a report from Utah[11] which found that the overall incidence of low birth weight, small for gestational

Table 4. Income of mothers.

income (Baht / month)	teenage mothers N = 104		adult mothers N = 98	
	n	%	n	%
0	51	49.1	38	38.8*
1 - 1000	1	0.9	1	1.02
1001 - 3000	36	34.6	20	20.4*
3001 - 5000	12	11.5	23	23.5*
5001 - 10,000	4	3.9	16	16.3*
Total	104	100	98	100

* = singnificant difference $p < 0.05$ (October 1996 : 1 US $ = approx. Bht 26.-)

age and prematurity were 7, 14 and 10 per cent among the babies born to the < 17 years of teenage mothers. The babies born to mothers who were unmarried, who had not received adequate prenatal care or who had low or inadequate education had an increased risk of outcomes. Inadequate outcomes, mothers who did not receive adequate care were approximately twice as likely to have low-birth weight babies than those who received adequate care and more than twice as likely to have premature babies.

Our report confirmed that most teenage mothers were unmarried and economically dependent on their families. The result of an unstable life and poverty would certainly affect maternal and child health. Our findings also found that most teenage mothers had inadequate birth control and prenatal care which would likely increase the negative outcomes.

There was no difference in educational level in both groups of mothers. Most mothers completed only grade 6 which was considered inadequate in both groups. Some of the adult mothers had college and university level of education. There was also no difference in weight gain during pregnancy in both groups even though the adult mothers had a significant increase in regular prenatal visits. The regular prenatal visits may not guaruntee the adequate prenatal care in pregnant mothers.

However, there was statistic relation between mothers who gained weight during pregnancy less than 8 kgs and infants' small for gestational age. The incidence of small for gestational age and prematurity in this study were 1.92 and 2.88 per cent which was not significantly different from adult mothers.

Early diagnosis, early prenatal care as well as psychosocial service for teenage pregnancy may be beneficial. We all know that teenage mothers are not well-prepared to be mother. Pediatricians, who take care of the babies should consider the bio-psycho-social problems in teenage mothers as well as her perception of her infant and interaction with him or her.

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ผลกระทบต่อสุขภาพของมารดาวัยรุ่นและทารก

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ผู้รายงานทำการศึกษาแบบไปข้างหน้าเพื่อหาลักษณะทางชีวภาพและทางสังคมในมารดาวัยรุ่น อายุต่ำกว่า 18 ปี จำนวน 104 คน และตรวจสุขภาพของทารกที่คลอดออกมาในช่วง 7 วันแรก เปรียบเทียบกับมารดากลุ่มควบคุมซึ่งมีอายุ 21-35 ปีที่มาคลอดในช่วงเวลาใกล้เคียงกัน จำนวน 96 คน

ผลการวิจัยพบว่า มารดาทั้งสองกลุ่มส่วนใหญ่มีระดับการศึกษาที่ต่ำกว่าเกณฑ์อายุมาตราฐาน คือจบชั้นประถมปีที่ 6 ร้อยละ 99 ของมารดาวัยรุ่นไม่ได้จดทะเบียนสมรสถูกต้องตามกฎหมาย มารดาวัยรุ่นส่วนใหญ่ยังมีปัญหาไม่มีงานประจำทำ ต้องพึ่งพาการเงินจากทางบ้าน ไม่มีการวางแผนคุมกำเนิดที่เหมาะสมและมักมาฝากครรภ์ไม่สม่ำเสมอ ซึ่งส่วนใหญ่มารับบริการการตรวจสุขภาพในระยะท้ายๆของการตั้งครรภ์ แตกต่างจากมารดากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติ ไม่พบว่ามีความแตกต่างในน้ำหนักของมารดาที่เพิ่มขึ้นขณะตั้งครรภ์ อัตราการป่วยของทารกใน 7 วันแรก การคลอดก่อนกำหนด การคลอดหลังกำหนด น้ำหนักตัวของทารกเมื่อแรกคลอด ทารกที่มีน้ำหนักตัวน้อยกว่าอายุครรภ์และภาวะตายคลอด ของมารดาทั้งสองกลุ่ม

การที่พบความผิดปกติของมารดาและทารกในมารดาวัยรุ่นไม่แตกต่างจากมารดากลุ่มควบคุม ซึ่งแตกต่างจากรายงานของต่างประเทศนั้น ผู้รายงานได้แสดงความคิดเห็นว่าน่าจะเกิดจากการที่มารดาทั้งสองกลุ่มส่วนใหญ่มีระดับการศึกษาที่ต่ำกว่าเกณฑ์มาตราฐานตามอายุ จึงทำให้ไม่มีความแตกต่างในการเพิ่มขึ้นของน้ำหนักในขณะตั้งครรภ์ ถึงแม้ว่าในมารดากลุ่มควบคุมจะมาฝากครรภ์สม่ำเสมอกว่าก็ตาม การมาฝากครรภ์อย่างสม่ำเสมอในมารดาที่มีระดับการศึกษาต่ำกว่าเกณฑ์อาจไม่ได้เป็นตัวบ่งชี้ว่าจะมีการดูแลตัวเองได้ดีเสมอไป

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