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Adolescent Pregnancies and Their Outcomes in South-East Region of Bangladesh

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ABSTRACT

Backgrounds: Profile and outcome of adolescent pregnancies was not well defined for Rangamati district from south-east of Bangladesh. The aim of the study was to describe, sociodemographic status, obstetrical and fetomaternal outcome and complications of adolescent pregnancies.

Methods: A one year retrospective descriptive study was conducted in Rangamati General Hospital for the year 2017. Records of adolescent pregnant women (15 – 19 years) surveyed from register.

Results: Total 283 adolescent pregnant were admitted and of them 167 underwent delivery. 15.69% of total child deliveries in 2017 were from adolescent women. Pregnancy outcomes included -live births 159 (82.38%) incomplete abortions 23 (11.91%) still births four (2.07%) IUDs four (2.07%) and missed abortions three (1.55%). Among live births normal vaginal delivery took place in 79.37% and caesarian section in 18.75%. Maternal complications occurred in 40.98% (n =116) and fetal complications in 22.48% (n = 38). Common complications included abortions, low birth weight babies, preterm births, prolonged labors and eclampsia.

Conclusions: Adolescent pregnancy is common and frequently associated with adverse feto-maternal outcome in Rangamati.

Key words: Adolescent; Pregnancy; Bangladesh.

INTRODUCTION

Adolescent pregnancies are associated with adverse feto-maternal outcome. Typically it is defined as pregnancy in a female between the ages of 13 to 19 years. Burden of such pregnancies is more among developing countries. Bangladesh has the highest adolescent fertility rate in South Asia[1]. Estimated that 30.8% Bangladeshi teenagers conceives child[1]. In recent past many studies have extensively evaluated trend and determinants of adolescent pregnancies in Bangladesh[2-4]. However, outcome of Bangladeshi adolescent pregnancies and their impact on maternal and child health is yet to be explored. The aim of current study was to describe sociodemographic profile, obstetrical and feto-maternal outcome and complications of adolescent pregnancies from Rangamati district of Bangladesh.

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MATERIALS AND METHODS

Our study area Rangamati district is situated on south-east part of Bangladesh adjoining India and Myanmar. Total population is 5,95,979 and is of multiethnic origin. Among them 3,56,153 are of tribal origin and 2,39,826 are nontribal (Bengali). Literacy rate for aged > 7 years of the district is 49.73% and for female it is 42.36%. Females of 15-19 year age group are enumerated at 24,435 (8.63% of female population). Mean age of marriage for female was 20.36 years. Total fertility rate 1.91 and age specific fertility rate (15-19 years) was 20/1000 women. All mentioned data are from last census held on 2011[5]. The district is lagging behind in different economic and health indicators and facilities.

Rangamati General Hospital (RGH) is the only secondary level public health institution of the district. This was a retrospective cross-sectional descriptive study conducted for a period of one year from January to December 2017 in Gynaecology and Obstetrics department of RGH. We identified the records of adolescent pregnant women (15-19 years)

who admitted at various periods of gestation throughout the year. We recorded socio-demographic data, obstetric variables, pregnancy outcomes, complications and feto-maternal outcomes. All entries were checked for possible dual entry in case of multiple admissions taken by same women.

Frequency of qualitative variables expressed in percentages. Quantitative variables in mean ± SD. Difference in observation between groups analyzed with chi-square test or student's "t" test as applicable. Level of significance was considered to be $p < 0.05$ at the level of 95% Confidence Interval (CI). Statistical analysis was done with SPSS version 20.

RESULTS

Total of 2,129 obstetric cases (Nontribal 1,404 and tribal 725) got admitted during the study period, of them adolescent pregnant women were 283 (13.29%, 95% CI 11.91 to 14.8). Non-tribal adolescent pregnant were 215 and tribal 68. Admission rate of adolescent pregnant women was significantly higher among non-tribals (15.3%, n = 215) than tribals (9.37%, n = 68) (p = 0.0001). None of the adolescent pregnanant women were below 15 years of age. Estimated incidence of adolescent pregnancies in Rangamati was.11.58 per 1,000 women aged 15-19 years (95% CI 10.27 to 13.01). Socio-demographic characteristics of the adolescent pregnant women are described in Table I. Parity ranged from none to two and majority of the women were primi 256 (90.46%) and 27 were multiparous (9.54%).

Characteristics of the 283 adolescent pregnant women were not homogenous. Not all were admitted in RGH for delivery purpose. Out of 283 women, outcome of pregnancy was available for 193. From these 193 adolescent pregnant , 167 women delivered child and 26 had miscarriage of pregnancy. Remaining ninety women did not give birth during hospital stay, so their final outcome was unknown. Among these 90 women- 36 received conservative treatments for obstetrical (e.g hyperemesis gravidarum, false labor pain etc) or non-obstetrical issues (e.g anemia) 23 complicated cases presenting at term were referred to higher center and remaining 31 cases with labor pain self-discharged from hospital probably opting for delivery elsewhere.

This heterogeneity among study subjects compelled us to consider them in two subsets to achieve our study aims. We observed pregnancy and delivery outcomes from the subset of 193 women as mentioned above. Another aim was to record the complications of adolescent pregnancies. As it was a hospital based study, we could only describe those complications occurred during admission in RGH. Therefore for reporting maternal complications we could include all 283 women.

From the subset of 193 women- 167 delivered child (Either live or dead birth) and in remaining 26 (13.47%) women miscarriage occurred. Observed pregnancy outcomes from 193 women were -live births 159 (82.38%) incomplete abortions 23 (11.91%) still births four (2.07%) IUDs four (2.07%) and missed abortions three (1.55%).

We now describe in depth these 167 women who delivered in RGH. In 2017 total of 1,064 deliveries were performed in RGH, 636 from nontribal women and 428 from tribal women. Overall frequency of adolescent delivery was 15.69% of all deliveries (n = 167, non-tribal 124 and tribal 43). By ethnicity this delivery rate was19.49% (n = 124) and 10.04% (n = 43) for non-tribal and tribal population respectively.Total of 169 babies were delivered by these 167 women, 165 women had singleton deliveries and two women had twin deliveries. 160 Live births occurred in 159 women (95.20%) and remaining eight women gave birth to nine dead child (4.79%). Mode of deliveries in the 159 women having live births were -126 (79.24%) Normal Vaginal Deliveries (NVDs), 30 caesarian sections (18.86%) and three assisted vaginal deliveries (1.88%, two vacuum extraction and one breach extraction). Among 159 live births, term delivery was 91.19% (n= 145), preterm delivery 6.91% (n = 11) and postdated delivery 1.88% (n=3). Remaining eight women delivered 9 dead babies at term (Four IUDs and five still births including one twin case).

Complications as observed during hospital stay for 283 women are presented in Table II. We observed maternal complication/s in 40.98% (n = 116; 95% CI 35.42 to 46.80) of women. Foetal complication was noted in 38 (22.48%) of total 169 delivered babies (160 alive and 9 dead). Overall mean birth weight of a child was 2.93 ± 0.43 kg (Range 1.7 to 4.0 Kg). For a nontribal child it was 2.91 ± 0.41 kg (Range 1.9 to 4.0 Kg) and for tribal child 3.01± 0.48 Kg (Range 1.7 to 3.8 Kg). Ethnic difference in mean birth weight was not significant (p = 0.78). Median Apgar score of live born child's at five minutes was 8 (Range 4 to 10). Majority (n = 137, 90.72%) had normal score (≥7), 14 (9.27%) had fairly low score (4 to 6). Score was not recorded in remaining nine new born.

According to World Health Organization minimum four Antenatal Care (ANC) visits was taken as standard. Antenatal visit was ≥4 in 46 (35.93%), 1 to 3 in 53 (41.40%) and none in 29 (22.65%) in 128 women having normal or assisted vaginal delivery. Data was missing for one women having NVD. Those women who had CS (n=30) reported ≥4 visits in 15 (50.0%) and 1 to 3 visits in eight (26.67%) and none in seven (23.33%). Overall at the time of admission four or more ANC visits were reported by 37.55% (n = 80) nontribal and 13.43% (n = 9) tribal women (p = 0.0003). No ANC visit was reported by 25.35% (n= 54) nontribal and 50.74% tribal (n= 34) (p = 0.0001).

Prolonged labor and oligohydramnios were the commonest indications of 30 CSs performed in RGH (Table III).

Comparison of some outcomes between nontribal and tribal adolescent pregnancies given in Table IV. It was observed that delivery method (Vaginal or caesarian) preterm birth rate, rate of incomplete abortions and still birth varied significantly between the two ethnic groups. However there was no significant ethnic variation in rate of occurrence offeto-maternal complications.

Table I: Socio-demographic characteristics of adolescent pregnant women (n = 283).

Variables	n	%
Mean age		
Overall	18.37 ± 0.64 years (Range 15 to 19 years)	-
Nontribal	18.39 ± 0.57 years (Range 16 to 19 years)	-
Tribal	18.33 ± 0.82 years (Range 15 to 19 years)	-
Median age	18 years	-
Religion		
Islam	188	66.43
Buddhist	72	25.44
Hindu	23	8.12
Ethnicity		
Nontribal	215	75.97
Tribal	68	24.03
Residence		
Urban	177	62.54
Rural	106	37.46

Table II: Complications of adolescent pregnancy during hospital stay.

Complications	n	%
Maternal complications		
A. Obstetric complications		
Twin pregnancy	3	1.06
1st trimester complications (n = 32)		
Incomplete abortion	23	8.48
Hyperemesis gravidarum	5	1.76
Threatened abortion	3	1.06
Molar pregnancy	1	0.35
2nd trimester complications (n =3)		
Missed abortion	3	1.06
3rd trimester complications (n = 54)		
Prolonged labor	12	4.24
Preeclampsia	10	3.53
Oligohydramnios	9	3.18
PROM	6	2.12
Eclampsia	5	1.76
Cephalopelvic disproportion	5	1.76
Obstructed labor	5	1.76
Breach presentation	2	0.71
Postpartrum complications (n = 11)		
PPH	6	2.12
Puerperal sepsis	3	1.76
Perineal tear	2	0.71
B. Medical complications (n = 14)		
UTI	6	2.12
Anemia	2	0.71
Others	6	2.12
C. Surgical complication (n = 1)		
Calculous cholecystitis	1	0.35
Foetal complications*		
LBW baby	17	10.05
Preterm baby	11	6.50
IUD	4	2.36
Still birth	5*	2.95
Post dated baby	3	1.77
Foetal distress	2	1.18
Less fetal movement	2	1.18
Meconium aspiration	1	0.59

*After 28 weeks of gestation.

Table III: Indications of caesarian section*.

Indication	n	%
Prolong labor	12	40.00
Oligohydramnios	9	30.00
Cephalopelvic disproportion	5	16.67
Ruptured membrane	4	13.33
Postdated pregnancy	3	10.00
Fetal distress	2	6.67
Previous caesarean section	1	3.33
Meconium stained liquor	1	3.33
Less fetal movement	1	3.33
Preeclampsia	1	3.33

*Multiple indications.

Table IV: Ethnic comparison of some pregnancy outcomes.

Trait	Nontribal		Tribal		p
	n	%	n	%	
Maternal complication	86	40.00	30	44.11	0.54
Fetal complication	27	21.77	11	24.44	0.70
Vaginal delivery	92	77.31	37	92.5	0.03
Caesarian section	27	22.68	3	7.4	0.03
Preterm delivery	5	2.32	6	8.82	0.03
LBW	14	12.29	3	7.89	0.50
Incomplete abortion	13	6.04	10	14.70	0.00
IUD	4	3.22	-	-	0.30
Still birth	1	0.80	4	8.88	0.01

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DISCUSSION

Adolescent pregnant women contributed to 13.29% (n = 283) of obstetrical admissions in RGH in 2017. However, adolescent delivery at Rangamati was 15.69% of total deliveries, much higher than Niger Delta region of Nigeria (6.2%) and lower than rural area of Cameroon (20.4%)[6,7].

No pregnancy in our series occurred out of wedlock in contrast to Nigeria (72.3%) and Cameroon (59.24%) where most were single mother[6,7]. Cultural, religious and social difference is the likely explanation. While marriage of females at early age is a social issue in Bangladesh but instances of premarital conception are seldom reported. Such case remains hidden in the society and likely underwent illegal abortion. This is similar to Pakistani observation[8]. So prevention of early marriage could be a vital factor to prevent adolescent pregnancies.

Majority of adolescent pregnant women were primi in Rangamati (90.46%).While in Cameroon (78%) in Pakistan (50%) and in Nigeria (24.1%) primi adolescent pregnant were less than us[6- 8]. Preterm (30.6%Vs 6.5%) and post dated (6.6% Vs 1.7%) delivery was much higher in Cameroon compared to our observed rate in RGH[7]. In Rangamati NVD was the main mode of delivery and instrumental delivery was low. Rate of CS (18.75%) was lower from Nigerian (31.3%), Indian (28.3%) and Nepalese (19.6%) setting but higher than a study from Cameron (0.5%)[6,7,9].

Abortion was the commonest complication in 1st and 2nd trimester. About 9.18% (n=26) adolescent pregnancies in Rangamati ended in miscarriage. During 3rd trimester Pregnancy Induced Hypertension (PIH) and prolonged/ obstructed labor while PPH in post-partum period were the commonest complications in our series.

PIH is a common morbidity worldwide. 5.90% of adolescent in our series had preeclampsia or eclampsia while Pun KD et al reported 1.2% PIH among Nepalese teenagers. They also reported obstructed labor in 7.1% and PPH in 0.6%[10].

Low birth weight and preterm birth were the commonest fetal complications in Rangamati similar to Cameroon[7]. Incidence of LBW was low among Cameroonian child (9.8%). Mukhopadhyay et al in Kolkata, India observed 27.7% preterm delivery and 38.9% LBW[9]. A Nepalese series reported LBW (27.97%) fetal distress (3%) PROM (3%) IUD (2.4%) meconium aspiration (1.8%) and still birth (0.6%)[10].

Ethnic variation observed in different variables outcomes of pregnancy outcomes among tribal and nontribal population of Rangamati. Similar ethnic difference has been observed among Pathan's and Punjabi's from Pakistan[8].

LIMITATION

Retrospective study design is the limitation of the observed findings.

CONCLUSION

Adolescent pregnancies in Rangamati are associated with adverse feto-maternal outcomes. Measures are required to reduce incidence of adolescent pregnancy.

DISCLOSURE

All the authors declared no competing interest.

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