

# Adolescent Pregnancy and its Outcome in a Rural Teaching Hospital, Karnali Academy of Health Science, Jumla

\*Purnima Rai<sup>1</sup>, Namrata Sindan<sup>2</sup>, Bishnu Dutta Acharya<sup>3</sup>, Rajiv Shah<sup>1</sup>, Sandeep Shrestha<sup>2</sup>

<sup>1</sup>Lecturer, Department of Obstetrics and Gynecology, KAHS

<sup>2</sup>Lecturer, Department of Pediatrics, KAHS

<sup>3</sup>Physiotherapy officer, KAHS

## ABSTRACT

**Introduction:** Nepal is a low socioeconomic country and adolescent pregnancy can have a deleterious effect on the health as well as social wellbeing of the mother, child and the community. The aim of this study was to find the frequency of teenage pregnancy and its outcomes in Karnali Academy of Health Science, Jumla, Nepal.

**Method:** This was a retrospective study conducted in Karnali Academy of Health Science, Jumla, Nepal. Data were collected from the hospital records from October 2017 to September 2018.

**Result:** The frequency of teenage pregnancy was 22.6% among total deliveries. Most of them were Primigravida (84.9%). Majority of them were 18 years of age (47.5%). Caesarean section accounted for 10.7%. In perinatal outcome, the incidence of preterm birth was 15.1%, and extremely low birth weight was 2.2%, very low birth weight was 1.4% and low birth weight was 12.2%. Maternal complication accounted for 33.0%.

**Conclusion:** The study concluded that the frequency of teenage pregnancy was considerably high and it was associated with an increases risk of maternal complication and adverse neonatal outcome such as intrauterine fetal death, retained placenta, mapresentations etc. Therefore, education and awareness can be helpful in reducing adolescent pregnancy and its adverse outcomes.

**Keyword:** Adolescent pregnancy, teenage pregnancy, Intrauterine Fetal Death, KAHS

## \*Corresponding Author:

**Dr. Purnima Rai**

Email: rai\_purnima@hotmail.com

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## INTRODUCTION

Adolescence is a transitional period from childhood to adulthood extending from 10 to 19 years of age.<sup>1</sup> World Health Organization has defined adolescence as 15 to 19 years and younger adolescents to be

between 10 to 14 years of age.<sup>2</sup> Globally 16 million girls aged 15 to 19 years and 2 million girls under the age of 15 years give birth each year.<sup>3</sup> An estimate of 3 million girls aged between 15-19 years undergo

unsafe abortion each year.<sup>4</sup> Sub-Saharan Africa has the highest rate of adolescent pregnancy followed by South Asia.<sup>5</sup> Within South Asia, Bangladesh has the highest teenage pregnancy rate (35.0%) followed by Nepal (21.0%) and India (21.0%).<sup>3</sup>

About 23.0% of Nepal's populations are adolescents.<sup>6</sup> Recent report by Nepal Demographic Health Survey (2016) stated that 17.0% of adolescent girls had already delivered or were pregnant with their first child.<sup>7</sup> According to Nepalese Law, the legal age for a girl to marry is 18 years with the consent of parents and 20 years without the consent of parents. Ironically, 43.0% of girls are married between 15-19 years of age.<sup>8</sup> This can be explained by early marriage practice, poverty, illiteracy, lack of knowledge of contraceptives and lack of safe abortion facilities.<sup>5</sup> World Health Organization has stated that girls less than 16 years of age has 4 times the risk of maternal death and 50.0% of neonatal death than those in their 20s.<sup>6</sup>

Karnali Academy of Health Science (KAHS) is the only tertiary hospital in Karnali province representing rural Western Nepal which was established in October 20, 2011. Although teenage pregnancy is common in rural areas, its frequency and outcome aren't known. Hence, this study was conducted to assess the frequency and outcome of adolescent pregnancy in rural teaching hospital, KAHS, Jumla.

## METHOD

This was a retrospective study conducted in Karnali Academy of Health Science, Jumla, Karnali Province, Nepal. The data was collected from the registers in maternity ward and files in record section from October 2017 to September 2018 for duration of 1 year. Approval from Obstetric department and hospital administration of Karnali Academy of Health Science was taken. Women from the age of 15 to 19 years were considered to be the study group. The women whose information was incompletely recorded in the register was excluded. The outcomes and complications of the study group were analyzed. Different variables such as age, gravida, mode of delivery, fetal presentation,

period of gestation, neonatal gender, neonatal birth weight and maternal complications were interpreted. Data were entered in Microsoft Excel and statistical analysis was carried out using SPSS software version 16.

## RESULTS

The total number of obstetric patients that delivered in the hospital during the study period was 615 among which 139 were teenagers. Thus, the frequency of adolescent pregnancy was 22.6%.

Out of 139 teenagers, most of the mothers were 18 years of age (range = 16 – 19). There was only one case of 16 years. In our study, 118 mothers were primigravida (84.9%), while 19 mothers were second gravida (13.7%) and 2 mothers were third gravida (1.4%). Regarding the period of gestation, 15.1% were preterm and 7.9% was postdated while in 4.3% the period of gestation was not known (Table 1).

**Table 1:** Age of mother, Period of gestation and Gravida

Age of Women	Frequency	Percent (%)
≤17 Years	14	10.1
18 Years	66	47.5
19 Years	59	42.4
<b>Total</b>	<b>139</b>	<b>100.0</b>
Period of Gestation		
Preterm	21	15.1
Term	101	72.7
Post Dated	11	7.9
Unknown weeks	6	4.3
<b>Total</b>	<b>139</b>	<b>100.0</b>
Gravida		
Primigravida	118	84.9
2nd Gravida	19	13.7
3rd Gravida	2	1.4
<b>Total</b>	<b>139</b>	<b>100.0</b>

The most common presentation was vertex (90.6%) while 7.9% was breech and 1.4 % was transverse presentation. Cesarean Section (CS) was done in 10.7% of cases. The most common indication of cesarean section was obstructed labor. There was one case of repeat CS done for previous CS. About 5.8% had assisted vaginal breech delivery.

In our study, 12.2% newborn was low birth weight, 1.4% were very low birth weight and 2.2% were extremely low birth weight. Majority of newborns had appropriate birth weight of 2.5kg or more (Table 2).

**Table 2:** Presentation, Mode of delivery and birth weight

Presentation	Frequency	Percentage
Vertex	126	90.6
Breech	11	7.9
Transverse	2	1.4
<b>Total</b>	<b>139</b>	<b>100.0</b>
Mode of Delivery		
Normal Vaginal	116	83.5
Assisted Breech	8	5.8
LSCS	15	10.7
Birth Weight of Infants		
ELBW (<1000gm)	3	2.2
VLBW (1000gm-1500gm)	2	1.4
LBW (<2499gm)	17	12.2
Normal (>2500gm)	117	84.2
<b>Total</b>	<b>139</b>	<b>100.0</b>

Greater proportion of newborn was male (60.4%) while female accounted for 36.6% (Table 3).

**Table 3:** Gender of the newborn

Gender	Frequency	Percent
Male	84	60.4
Female	55	39.6
<b>Total</b>	<b>139</b>	<b>100.0</b>

Maternal complications accounted for 33.0%. Malpresentation was the most common complication which included 1 case of hand prolapse followed by IUFD, obstructed labor and Hypertensive disorder in pregnancy. (Table 4).

**Table 4:** Maternal complications

Maternal Complication	Frequency	Percent
None	93	66.9
IUFD	6	4.3
Retain Placenta	2	1.4
Mal-presentation	13	9.3
Hypertensive Disorder	5	3.6
Anemia	3	2.2
RH Negative	4	2.9
Obstructive Labor	6	4.3
Preterm Rupture of Membrane	4	2.9
Infectious Diseases (HBsAg+ve)	3	2.2
<b>Total</b>	<b>139</b>	<b>100.0</b>

## DISCUSSION

Teenage pregnancy is a rising problem worldwide. It is not only a social issue but also has adverse effect in the infant with increased incidence of preterm birth, low birth weight, intrauterine growth restriction and neonatal mortality.<sup>9</sup> In our study the frequency of teenage pregnancy was 22.6% which was higher compared to study done by Abbas et al (17.0%) in a tertiary university hospital in Egypt.<sup>10</sup> In contrast, the incidence of teenage pregnancy was much lower in other studies done by Lawot et al in Nepal (13.1%), Nair et al in India (8.4%) and Suwal et al in Nepal

(6.8%).<sup>9,11,12</sup> As our study was conducted in rural area of Nepal, the high frequency observed maybe due to early marriage customs, low socio-economic status, illiteracy, lack of knowledge or ignorance of contraceptive use or geographic constraints prevalent in rural areas.

Most of the teenage mothers were 18 years of age which was similar to a study done by Sayem et al.<sup>13</sup> Majority of the women were primigravida. A study done by Atmaja Nair et al. showed that incidence of primigravida was 90.8%, second gravida was 8.3% and third gravida was 0.7%. The reason for multiparity in our study may be due to pressure on the teenage mother to beget a son from the family or society which can relate to our study as about 60.4% of the infants were male and 39.6% of the infants were female.

Cesarean Section was low in our study as compared to studies done by Lawat et al (13.3%) and Pun et al (19.6%).<sup>11,14</sup> The reason behind this may be due to small sample size and also delayed seeking of medical assistance by the women as they usually came to hospital when they were about to deliver.

In our study, maternal complication was 33.0% in contrast to studies done by Pun et al. (14.3%) and Subedi et al. (59.0%).<sup>14,6</sup> Most common complication was mal-presentation with one case of hand prolapsed. IUFD was 4.3 % in our study which was similar to study done by Lawat et al.<sup>11</sup> Obstructed labor accounted for 4.3% in our study in contrast to study done by Shaikh et al. (2.8%). Studies have shown that teenage girls are more at risk of obstructed labor due to under grown pelvic bones.<sup>15</sup> The incidence of hypertensive disorder was 3.6% in contrast to Dutta et al. (18.5%).<sup>16</sup> There was one case of eclampsia, one case of preeclampsia and three cases of pregnancy induced hypertension.

About 15.1% were preterm delivery in contrast to other studies done by Lawat et al.<sup>11</sup> Low birth weight infants comprised of 15.8% (<2.5kg) which was markedly lower than study done by Sah et al. (78.3%). Studies has shown that low birth weight infant are

more at risk of diseases and are more prone to death within one month.<sup>17</sup>

Since this is a hospital-based study with limited sample size it does not reflect the community situation. Most of the pregnant teenagers are unable to attend hospital due to lack of access to transport, illiteracy, low socioeconomic status and geographical barriers.

## CONCLUSIONS

The frequency of teenage pregnancy is considerably high in Karnali Academy of Health Science. Mal-presentation, Intrauterine fetal death and obstructed labor was the most common complications. Pregnant women especially teenage women should be advised to deliver in a hospital setup in order to reduce maternal and fetal complications. Therefore, education and awareness program are necessary to reduce teenage pregnancy and associated maternal and neonatal complications.

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