

# Awareness regarding Maternal Mortality in Adolescent Pregnancy among Students Studying in Selected Higher Secondary Schools of Kamrup Metro, Assam: A Cross Sectional Study

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**Abstract:** Every pregnant women hopes pregnancy to be a smooth process and expect to give birth safely. Globally, about 800 women die every day of preventable causes related to pregnancy and childbirth; 20 per cent of these women are from India. (1) Assam has the highest maternal mortality ratio in India. (229 as against 122 at national level) and the 2<sup>nd</sup> highest infant mortality rate in India (44 infant deaths per 1000 live birth) as against 30 at the national average in 2017. (2). The objectives of the study were to assess awareness regarding maternal mortality in adolescent pregnancy among students studying in selected institutes of Kamrup Metro. A cross-sectional study was done among 236 students who were willing to participate from randomly selected five higher secondary schools in Kamrup Metro; Five higher secondary schools were selected randomly for the conduction of the study. If there is more than one section in each standard, then one section was taken randomly. From each selected class, the lottery method was used to select the students from the register. A pre- tested, predesigned self administered questionnaire was used to collect the data. The students were briefed before the questionnaire. The questionnaire was distributed to the randomly selected students using the attendance register. Data were analysed using the SPSS 22 Chi-square test were used to test the significance. It was found that out of 236 respondents, majority i.e. 169 (71.6%) of the respondents having moderate awareness (score ranging 6-25marks) and 35(14.8%) respondents have inadequate awareness and only 32 (13.6%) respondents have adequate knowledge. The overall mean of the knowledge score is 15.8, with SD  $\pm 9.36$  and SE  $\pm 0.61$ . There is significant association of the awareness scores regarding maternal mortality in adolescent pregnancy with education of the respondents ( $p < 0.01$ ), occupation of the father ( $p < 0.05$ ) and occupation of the mother ( $p < 0.001$ ).

## 1. Introduction

Adolescents comprise 20% of the world's total population. Out of 1.2 billion adolescents worldwide, about 85% live in developing countries. In India, there are 190 million adolescents comprising 21% of India's total populations, in which 10 to 15 years old comprise 10.5% (girls-4.5%) and 15 to 19 years old comprise 10% (girls- 4.3%)<sup>1</sup>. Child marriage is a violation of child rights whether it happens to a girl or a boy; it denies the child the basic right to good health, nutrition, education and freedom from violence, abuse and exploitation. Early marriage is cited as 'a barrier to continuing education for girls'<sup>2</sup>. Parents also feared that unmarried daughters are more likely to face sexual violence, a problem India has been grappling in the wake of the gang rape of a young women in December 2012 that led to the national wide protest<sup>3</sup>. Each country has its own legal age for having sex. The child marriage Restrains Act of 1978, the minimum age for marriage has been raised to 21years for boys and 18 years for girls<sup>4</sup>. In India every 3<sup>rd</sup> adolescent girl in the age group of 15-19 years was married. Mean age at marriage among female adolescent is 14.7 and men age at cohabitation slightly higher (15.5 years)<sup>5</sup>. It is hard to know the number of early marriage as so many are unregistered and unofficial. For every 1000 girls aged 15-19, there were 76 adolescent birth in India in 2010 as compared to 49 worldwide and 53 in less developed regions. As per the annual health survey 2011-2012 the maternal mortality rate in Assam is 347/100000 live birth is the highest in the

country<sup>6</sup>. About 78, 000 women die in childbirth every year in India. Early marriage seriously affects the health of the girls. Most girls in our country, especially Bengal are anaemic, their haemoglobins are low. The reproductive organs of the girls are not fully developed when they are in the adolescent period. Their lives becomes at the risk during the pregnancy. Even those girls, who deliver successfully, suffer from pain in the back and waist, poor immunity and severe anemia for the rest of their lives. Their children too are often unhealthy and susceptible to infections. This can be the reasons for the infant mortality. As per the annual health survey 2011-2012 the infant mortality rate in Assam is 38/1000 live birth<sup>7</sup>. According to the United Nation, maternal mortality is 25 times higher for the girls under 15 years and two times higher for 15-19years old<sup>5</sup>.

## 2. Objectives

- To assess awareness regarding maternal mortality in adolescent pregnancy among students studying in selected higher secondary schools of Kamrup Metro Assam.
- To associate the awareness scores regarding maternal mortality in adolescent pregnancy with selected demographic variables of the students studying in selected higher secondary schools such as age, educational status of the respondents, educational status of the parents and occupation of the parents.

### 3. Materials and Methods

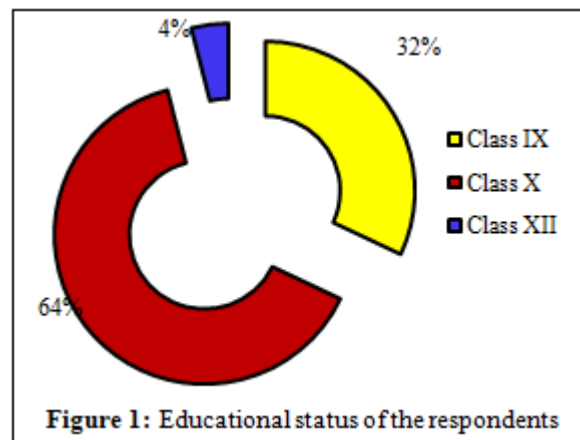
A cross-sectional study was done among 236 students from randomly selected five higher secondary schools in Kamrup Metro, Assam from May 2019- to December 2019. The study was approved by the Ethic committee INS trust, GNRC. Permission for conducting the study in the higher secondary schools was taken from the Director of Higher Secondary Education, Kahilipara, Guwahati, Assam. Those students who were willing to participate were included in the study. Informed written consent was obtained from the students as well as the Principal. 5 higher secondary schools were selected randomly for the conduction of the study. If there is more than one section in each standard, then one section was taken randomly. From each selected class, the lottery method was used to select the students from the register. A pre- tested, predesigned self administered questionnaire was used to collect the data. The students were briefed before the questionnaire. The questionnaire was distributed to the randomly selected students using the attendance register. Data were entered in the MS Excel sheet and analysed the SPSS 22 (Statistical Package for the Social Science) software developed by IBM, Chicago, Illinois, USA. Chi-square test was used to test the significance.

### 4. Results

**Table 1:** Frequency and Percentage distribution of the respondents according to their age n= 236

S. No.	Age in years	Frequency (f)	Percentage (%)
1.	13	12	5
2.	14	63	27
3.	15	107	45
4.	16	32	14
5.	17	16	6
6.	18	4	2
7.	19	2	1

Table no 1. depicts that out of 236 respondents, majority ie 107(45%) of the respondents were in the age of 15 years, 63 (27%) respondents were 14years, 32 (14%) respondents were 16 years, 16 (6%) respondents were 17 years, 12 (5%) respondents were 13 years, four respondents (2%) and only two (1%) respondents was 19 years



**Figure 1:** Percentage distribution of the respondents according to the educational status. n= 236

Figure 1 represents the educational status of the respondents. It was found that out of 236 respondents, majority (ie 64 %) of the respondents were in class X, (32%) of the respondents were in class IX and only (4%) of the respondents were in class XII

**Fig ii :** Percentage distribution of the respondents according to the educational status of the father

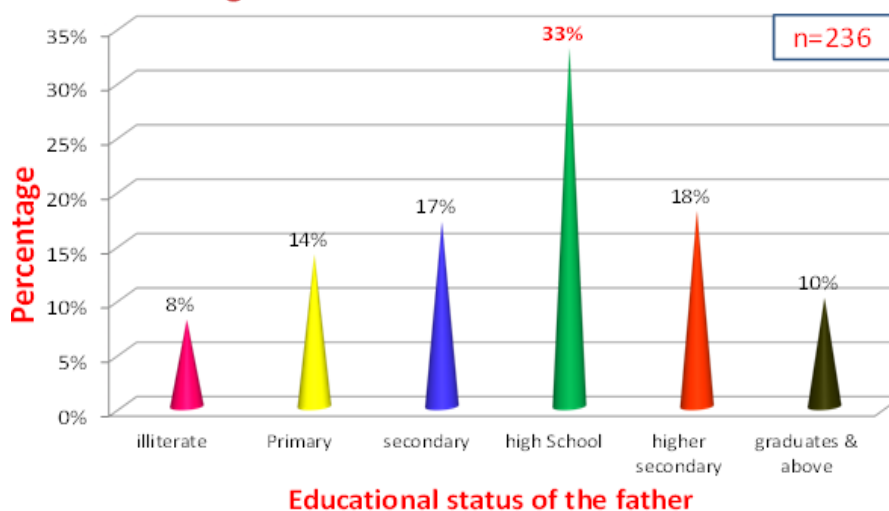


Fig II. Represents the educational status of the respondent’s father. It was found that out of 236 respondents, majority ie (33 %) of the respondent’s father were educated up to high school, (18 %) of the respondent’s father were educated up

to higher secondary, (17 %) of the respondent’s father were educated up to secondary level, (14 %) of the respondent’s father were educated up to primary level, (10 %) of the respondent’s father were educated up to graduates and

above. And only (8 %) of the respondent’s father were illiterate

**Table 2:** Frequency and Percentage distribution of the respondents according to the educational status of the mother  
n=236

S no	Educational status of the Mother	Frequency (f)	Percentage (%)
1.	Illiterate	30	13
2.	Primary	33	14
3.	Secondary	46	20
4.	High school	86	34
5.	Higher secondary	35	15
6.	Graduates	3	1
7.	Not answered	3	1
	Total	236	100

Table 2 represents the educational status of the respondent’s mother. It was found that out of 236 respondents, majority ie 86 (34 %) of the respondent’s mother were educated up to high school, 46 (20 %) of the respondent’s mother were educated up to secondary level, 35(15 %) of the respondent’s mother were educated up to secondary level, 33 (14 %) of the respondent’s mother were educated up to primary level. But 30(13 %) of the respondent’s mother were illiterate. And only three (1 %) of the respondent’s mother were educated up to graduate level. However three (1%) respondents

**Fig iv :Percentage distribution of the respondents according to mother’s occupation**

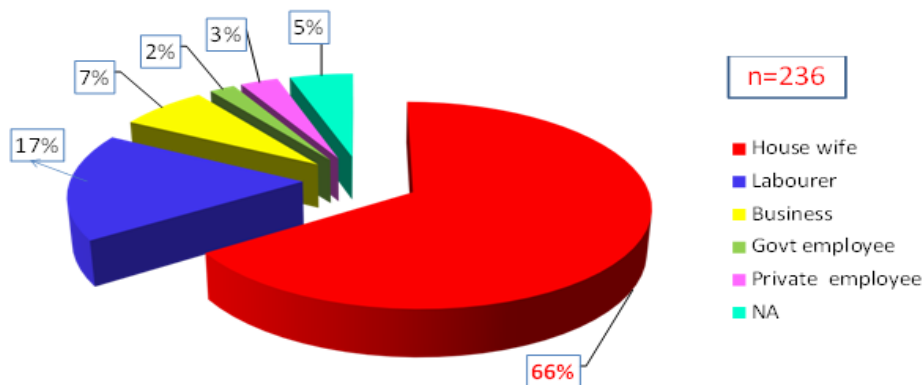


Fig iv. Represents the percentage distribution of the respondents according to the mother’s occupation. The findings reveals that out of 236 respondents, majority i.e. (66%) of the respondent’s mother were house wife, (17%) of the respondent’s mother were labourer, (7%) of the respondent’s mother were business, (3%) of the respondent’s mother were private employee and only (2%) of the respondents were government employee. However (5%) of the respondent were single parent.

**Table 3:** Frequency and percentage distribution of the respondents according to the monthly family income

Sl. no	Total monthly family income (in Rs)	Frequency (f)	Percentage (%)
1	Not answered	33	14
2	<2091	18	8
3	2091-6213	19	8

4	6214-10356	29	12
5	10357-15535	54	23
6	15536-20714	61	26
7	20715-41429	15	6
8	>41430	7	3
9	Total	236	100

Table 3 depicts the monthly family income of the respondent. It was found that out of 236 respondents, majority i.e. 61 (26%) of the respondent monthly family income was in the range of Rs 15536-20714, however seven (3%) of the respondents monthly family income was above Rs 41430.

But 33 (14%) respondents did reveal their monthly family income.

**Table 4:** Descriptive statistics showing the mean, range, standard deviation and standard error on the different areas.

Section	Range	Mean	Standard deviation (SD)	Standard Error (SE)
Legal age for marriage	0-2	1.45	0.87	0.06
Complications during pregnancy to the mother	0-10	1.46	2.51	0.16
Complication for the foetus and baby	0-7	1.01	1.71	0.11
Possible causes of death for the mother	0-18	2.36	4.6	0.30
Preventive measures	0-16	9.49	5.23	0.34
Overall	0-46	15.8	9.36	0.61

Table 4 reveals out of total 53 score, that the overall mean of the knowledge score is 15.8, with SD ±9.36 and SE ±0.61

**Table 5:** Frequency and percentage distribution of awareness level of the respondents, n=236

S. No	Awareness level	Frequency (f)	Percentage (%)
1.	Inadequate awareness- (<6 marks) i.e. score below (mean - SD)	35	14.8
2.	Moderate awareness – (6-25marks) i.e. score between (mean – SD) to (mean +SD)	169	71.6
3.	Adequate awareness(> 25marks) i.e. score above (mean + SD)	32	13.6
	Total	236	100

The above table 5, shows the awareness level. it was found that out of 236 respondents, majority i.e. 169 (71.6%) of the respondents having moderate awareness (score ranging 6-25marks ) and 35(14.8%) respondents have inadequate awareness and only 32(13.6%) respondents have adequate knowledge.

**Table 6:** Showing the association of the awareness score with demographic variables of the respondents

Sl. No	Demographic data	Tabulated chi square value	Degree of freedom (df)	p-value	Remarks
1.	Age	14.704	12	0.258	*NS
2.	Education	13.572	4	0.009	**S (p<0.01)
3.	Education of the father	19.444	12	0.078	*NS
4.	Education of the mother	8.742	12	0.725	*NS
5.	Occupation of the father	23.162	12	0.026	**S(p<0.05)
6.	Occupation of the mother	42.742	12	0.0001	**S(p<0.001)

\*\*NS- Non Significant: \*\* S- Significant

Table no: 6 reveals that there is significant association of the awareness scores regarding maternal mortality in adolescent pregnancy with education of the respondents (p<0.01), occupation of the father (p<0.05) and occupation of the mother (p<0.001).

However there was no significant association of awareness score with other demographic variables such as age of the respondents and education of the parents.

## 5. Discussion

The finding of the present study revealed that in the section awareness about legal age for marriage the range of score was 0-2 and mean was 1.45. This is comparable with the study conducted by Gupta, N., Mathur, A.K., Singh, M.P. *et al.* on reproductive health awareness of school-going, unmarried, rural adolescents which revealed that awareness of legal minimum age of marriage was present in more than half of adolescents. A result which is in accord with our study findings as education about legal age for marriage is included in the main stream education in India. (8). The present study showed that in the section awareness on complication during pregnancy to mother (range : 0-10) and complication for the fetus and baby (range :0-7) the mean score was 1.46 and 1.01 respectively. This is in contrast with the study conducted by Sushila Devi Bhandari on awareness on Consequences of teenage Pregnancy among adolescent at Ampipal VDC, Gorkha which revealed that more than half (74%) had adequate knowledge on consequences of teenage pregnancy to mother and baby with mean score 12.34. The difference in the present study could be due to geographical variation. (9)

## 6. Conclusion

It was concluded there is very less awareness regarding maternal mortality in adolescent pregnancy among the students. There is a need for giving awareness to the adolescence regarding the complications of early pregnancy to both mother and children so that there can be healthy mother and healthy baby. The students need to be more intrusive in learning so that they can educate the adolescent in future.

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