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Knowledge Regarding Teenage Pregnancy and its Possible Outcome Among Adolescent Girls: An Experience from Rural West Bengal

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ABSTRACT

Pregnancy during adolescent phase can be very stressful for a girl as they are not physically and mentally mature enough to handle the demands of pregnancy. Each year, at least 10 million unintended pregnancies occur among 15- to 19-year-old adolescent girls of developing world. Of the estimated 5.6 million abortions that occur each year among adolescent girls aged 15-19 years, 3.9 million are unsafe, contributing to maternal mortality, morbidity and lasting health problems. To assess the knowledge regarding teenage pregnancy among study population. To know the outcomes of teenage pregnancies. The study was a prospective observational study. It was done in Rural field practice area of Medical College, Kolkata. A total of 93 teenage pregnant women, aged between 14 and 19 years were selected and information on sociodemographic variables, knowledge regarding teenage pregnancy and pregnancy outcome was recorded in 3 visits with a help of a pre designed, pre tested structured schedule. Among the 93 participants mean age was 17.58±1.22 years, maximum belonged to age group of 18-19 years, with 30.1% belonged to socioeconomic class I and III. Participants overall knowledge score regarding teenage pregnancy was 4.25±1.88 with 62.4% having good knowledge. Regarding pregnancy outcome 31.2% had preterm delivery with 39.8% having low birth weight babies. The present study recommends that programs that encourage parent-teenage communication of reproductive health issues, starting from early adolescence, in order to build skills to prevent pregnancy in the late teenage years. In addition, multi-pronged activities must be undertaken across sectors that encourage delayed marriage and improve health service utilizations for girls are essential.

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Key Words
Adolescent girls, teenage pregnancy, rural west bengal, knowledge

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INTRODUCTION

Teenage pregnancy is a global public health concern with far-reaching social, economic and health consequences, particularly in rural areas where educational resources, awareness programs and healthcare services may be limited. In India, teenage pregnancy remains a persistent issue, particularly in rural areas, where young girls may face cultural, economic and social pressures that contribute to early motherhood. In West Bengal, a state with diverse rural populations, the rate of adolescent pregnancy is higher compared to urban regions, making it crucial to investigate the level of knowledge adolescent girls in these areas possess regarding teenage pregnancy and its possible outcomes. Adolescent pregnancy is defined as pregnancy occurring in females under the age of 19. In India, according to the National Family Health Survey (NFHS-4), 7.9% of women aged 15-19 years have already started childbearing. Despite the improvement in various health indicators, teenage pregnancy continues to be a major issue due to inadequate sexual education, early marriage and limited access to contraception. Research shows that adolescents in rural areas of India often lack proper knowledge about reproductive health, contraception and the potential risks associated with early pregnancies[1]. The consequences of teenage pregnancy can be severe, both for the young mother and her child. Health risks, such as pre-eclampsia, anaemia and premature delivery, are higher among teenage mothers. Moreover, the socio-economic impact can be devastating, as many adolescent mothers drop out of school, lose employment opportunities, and face social stigma[2]. Studies have shown that lack of awareness regarding the potential outcomes of teenage pregnancy can contribute to the perpetuation of this issue in rural communities[3]. This study aims to assess the knowledge of adolescent girls in rural West Bengal regarding teenage pregnancy, its potential consequences and factors influencing their awareness. By understanding the gaps in knowledge, this research will help to identify critical areas for intervention, including the need for comprehensive sexual education and community-based health initiatives.

Objectives:

- To assess the knowledge regarding teenage pregnancy among study population.
- To find out the reproductive outcomes of teenage pregnancies.
- To assess the prevalence of low-birth weight babies among the study population.

MATERIALS AND METHODS

This study is a prospective observational, longitudinal study conducted in the rural field practice area of Medical College, Kolkata, with a study period spanning one year, from December 2023 to December 2024. The study focuses on adolescent pregnant mothers aged 14-19 years who reside within the study area during the data collection period. The estimated sample size for this study is 93, determined through simple random sampling to ensure unbiased selection. The inclusion criteria consist of teenage pregnant mothers who are residing in the study area and enrolled during their first trimester, while mothers who are seriously ill and unable to give consent are excluded from the study. The data collection tool used in the study is a pre designed, pretested semi-structured form, which includes sociodemographic details, as well as questions related to knowledge about teenage pregnancy and its outcomes. A set of seven questions is used to assess knowledge, with responses coded as dichotomous variables: "1=good knowledge" and "0=poor knowledge." The total score for each participant is calculated based on these responses, with a maximum score of 7 and a minimum score of 0. Good knowledge is defined as scoring above the mean, while poor knowledge is defined as scoring below the mean. The study involves three visits: the first visit at enrolment, the second visit between 28 and 36 weeks of gestation, and the third visit during the postpartum period, between 0 and 30 days, to record the health outcomes of both the mother and the baby. Any participants lost to follow-up will be noted and the reasons for dropout will be carefully considered. The collected data will be compiled and analyzed using SPSS software version 20. Ethical approval for the study has been obtained from the Institutional Ethics Committee of Medical College, Kolkata, ensuring adherence to ethical standards throughout the research process.

RESULTS AND DISCUSSIONS

The demographic and socio-economic characteristics of the study participants are summarized as follows. Among the adolescent mothers, 2.2% were below 15 years of age, 41.9% were between 15 and 17 years, and 55.9% were aged 18-19 years. Mean age of respondents were was 17.58±1.22 years. Regarding educational attainment, 65.6% had completed up to 10^{th} grade or lower, while 34.4% had completed education beyond the 10^{th} grade. The majority of participants identified as Islamic (76.3%), with 23.7% identifying as Hindu. In terms of school attendance, 51.6% of the participants were school dropouts, 46.2% had not dropped out and 2.2% had never attended school. Socio-economic class distribution showed that 30.1% of participants belonged to Class I, 19.4% to Class II, 30.1% to Class III and 20.4% to Class IV. Additionally, 87.1% of participants reported not being in consanguineous marriages, while 12.9% were in consanguineous marriages. (Table 1).

Table 1: Distribution of Study Population According to Different Socio-Demographic Variables (n=93)

Variables	Frequency	Percentage
Age in years		
<15	2	2.2
15-17	39	41.9
18-19	52	55.9
Last Class Passed		
≤10	61	65.6
>10	32	34.4
Religion		
Hindu	22	23.7
Islam	71	76.3
School Dropout		
Yes	48	51.6
No	43	46.2
Did not Attend	2	2.2
Socio economic class		
Class I	28	30.1
Class II	18	19.4
Class III	28	30.1
Class IV	19	20.4
Consanguineous marriage		
No	81	87.1
Yes	12	12.9

The reproductive characteristics of the study participants are presented as follows. 17.2% of the participants reported their first pregnancy at or before the age of 15, while 82.8% had their first pregnancy after the age of 15. Regarding gravida, 48.4% were primigravida, 40.9% were secundigravida, 4.3% were gravida 3 and 6.5% were gravida 4. In terms of pregnancy registration, 82.8% of the participants registered their pregnancy before 12 weeks of gestation, while 17.2% registered after 12 weeks. 74.2% of the participants had adequate antenatal care (ANC) visits, while 25.8% had inadequate ANC visits. As for the type of delivery, 6.5% of the participants had an assisted delivery, 17.2% underwent a caesarean section, 6.5% did not require a delivery and 69.9% had a normal delivery. (Table 2).

Table 2: Distribution of Study Population According to Different Pregnancy Associated Variables (n=93)

Variables	Frequency	Percentage
Age at 1st Pregnancy		
≤15	16	17.2
>15	77	82.8
Gravida		
1	45	48.4
2	38	40.9
3	4	4.3
4	6	6.5
Pregnancy registration		
<12 weeks	77	82.8
>12 weeks	16	17.2
ANC visits		
Adequate	69	74.2
Inadequate	24	25.8
Type of delivery		
Assisted	6	6.5
Caesarean section	16	17.2
Not Applicable	6	6.5
Normal Delivery	65	69.9

The mean knowledge score regarding teenage pregnancy was 4.25±1.88. The findings indicate that 55.9% of respondents had poor knowledge about teenage pregnancy, while 44.1% demonstrated good knowledge. These results highlight a significant gap in awareness, suggesting the need for targeted educational interventions to enhance understanding and promote informed decision-making among adolescents. (Fig. 1).

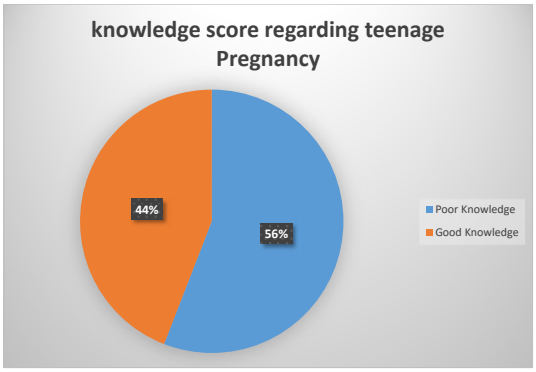

Fig. 1: Pie Diagram Showing Participants Knowledge on Child Rearing Practice. (n=99)

The study findings reveal that 31.2% of participants experienced preterm delivery, while 69.9% of mothers had a normal delivery. 6.5% of the mothers had an abortion(Fig. 2) Additionally, 43% of mothers gave birth to low birth weight babies. (Fig. 3) These results highlight the prevalence of maternal and neonatal health concerns, emphasizing the need for improved prenatal care and awareness to reduce the risks associated with preterm births and low birth weight infants.

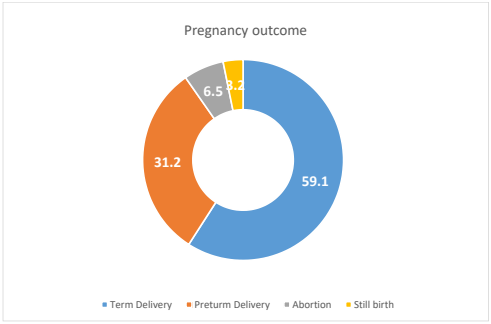

Fig. 2: Figure Showing Distribution of Study Participants According to Pregnancy Outcome. (n= 93)

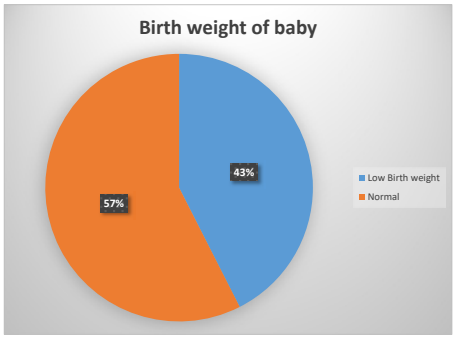

Fig. 3: Pie Diagram Showing Distribution of Study Participants According to Weight of their Newborn. (n=87)

Table 3: Association Between Knowledge Regarding Teenage Pregnancy with Variables (n=93)

Attributes	Categories	Poor Knowledge	Good Knowledge	χ2 value	P Value
Age in years	<15	2	0	12.047	.002*
		100.0%	0.0%		
	15-17	29	10		
		74.4%	25.6%		
	18-19	21	31		
		40.4%	59.6%		
Last Class Passed	<=10	37	24	1.617	.204
		60.7%	39.3%		
	>10	15	17		
		46.9%	53.1%		
Age at 1st Pregnancy	<=15	10	6	.340	0.56
		62.5%	37.5%		
	>15	42	35		
		54.5%	45.5%		
Religion	Hindu	10	12	1.279	.258
		45.5%	54.5%		
	Islam	42	29		
		59.2%	40.8%		
Gravida	1	31	14	7.578	.056
		68.9%	31.1%		
	2	15	23		
		39.5%	60.5%		
	3	2	2		
		50.0%	50.0%		
	4	4	2		
		66.7%	33.3%		
Socio economic class	Class I	19	9	2.356	.502
		67.9%	32.1%		
	Class II	9	9		
		50.0%	50.0%		
	ClassIII	14	14		
		50.0%	50.0%		
	Class IV	10	9		
		52.6%	47.4%		
School Dropout	Yes	24	24	4.695	.096
		50.0%	50.0%		
	No	28	15		
		65.1%	34.9%		
	Did not Attend	0	2		
		0.0%	100.0%		
Pregnancy registration	<12 wks	41	36	1.93	0.256
		53.2%	46.8%		
	>12 wks	11	5		
		68.8%	31.3%		
ANC visits	Adequate	37	32	0.596	0.451
		53.6%	46.4%		
	Inadequate	15	9		
		62.5%	37.5%		
Type of delivery	Abortion	3	3	14.36	0.002*
		50.0%	50.0%		
	Preterm	25	4		
		69.0%	31.0%		
	Stil-birth	3	0		
		100.0%	0.0%		
	Term	26	29		
		47.3%	52.7%		
Birth weight of newborn	LBW	25	12	2.56	0.109
		67.6%	32.4%		
	Normal	24	26		
		48%	52%		

Among the demographic variables Age category distribution of the participants were statistically significant with the knowledge regarding teenage pregnancy (p=0.002). Also, there was significant relationship between Knowledge regarding teenage pregnancy and pregnancy outcome (p=0.002). Also, it was evident from the result that 67.6 % of the participant's newborn having low birth weight (LBW) had poor knowledge though it was not statistically significant. (Table 3). The findings suggest that a majority of adolescents lack adequate knowledge about teenage pregnancy, which could contribute to higher rates of early pregnancies. The mean knowledge score of 4.25±1.88 further highlights the knowledge gap. The prevalence of poor knowledge among 59.6% of participants aligns with previous studies, reinforcing the need for educational interventions to enhance awareness and understanding among adolescents. The demographic analysis indicated that 55.9% of participants were aged 18-19 years, with a mean age of 17.58±1.22 years. Educational attainment was low among many participants, with 65.6% not progressing beyond the 10th grade, mirroring findings from studies conducted in low-resource settings, which emphasize

the strong link between lower education levels and inadequate reproductive health knowledge[4]. The high rate of school dropouts (51.6%) further exacerbates the lack of awareness and access to reproductive health education, as similarly observed in research by Johnson and Brown[5]. Additionally, pregnancy outcomes demonstrated considerable variation. A significant proportion of participants (31.2%) experienced preterm delivery, which is concerning due to the associated health risks for newborns. The high rate of normal deliveries (69.9%) is encouraging, but the 39.8% incidence of low birth weight babies suggests that prenatal care and maternal nutrition require greater attention. Similar results were found in a study by Miller[6] where inadequate maternal education correlated with a higher prevalence of preterm births and low birth weight infants. The study also revealed that 67.6% of mothers who gave birth to low birth weight infants had poor knowledge about teenage pregnancy, though this relationship was not statistically significant. This finding aligns with research by Thompson[7] which suggested that maternal education and awareness directly impact neonatal health outcomes. Furthermore, significant relationships were found between knowledge about teenage pregnancy and pregnancy outcomes ($p=0.002$), as well as between knowledge scores and age categories ($p=0.002$). This is consistent with previous research by Garcia and Patel *et al* indicating that age and awareness levels play crucial roles in influencing reproductive health behaviors and outcomes[8]. Overall, these findings emphasize the need for improved educational programs on teenage pregnancy, targeted prenatal care and better maternal health interventions. Addressing these gaps through policy changes, community engagement and school-based sexual health education can contribute to reducing teenage pregnancy rates and improving maternal and neonatal health outcomes.

CONCLUSION

The study underscores the critical need for improving knowledge and awareness about teenage pregnancy among adolescents. The significant proportion of participants demonstrating poor knowledge highlights the necessity for enhanced educational interventions tailored to this demographic. Strengthening school -based reproductive health education, community awareness programs and accessible prenatal care services can play a pivotal role in mitigating the adverse consequences associated with teenage pregnancy. Moreover, addressing socio-economic disparities and ensuring that adolescents receive comprehensive maternal health support will further contribute to positive pregnancy outcomes and improved neonatal health. Future research should focus on evaluating the effectiveness of intervention programs and identifying additional factors that influence adolescent pregnancy knowledge and outcomes.

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