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Original Research Article

ADOLESCENT PREGNANCY: A STUDY ON SOCIODEMOGRAPHIC CHARACTERISTICS AND PERINATAL BIRTH OUTCOMES

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ABSTRACT

Background: Adolescent pregnancy, defined by the World Health Organization as pregnancy in girls aged 10-19, remains a significant global health issue, especially in low- and middle-income countries (LMICs). Despite a decline in adolescent birth rates globally, approximately 21 million adolescent pregnancies occur annually in LMICs. This study examines the socio-demographic characteristics and perinatal birth outcomes of adolescent pregnancies in India.

Materials and Methods: An observational, cross-sectional comparative study was conducted at the Obstetrics & Gynaecology Department of GGH Vijayawada over two months. The study included 376 antenatal women, divided equally into two groups: adolescents (15-19 years) and adults (>20 years). Data were collected using a pre-tested semi-structured questionnaire covering socio-demographic and obstetric characteristics. Statistical analysis was performed using descriptive statistics, t-tests, and Chi-square tests, with a p-value <0.05 considered statistically significant.

Results: Adolescent mothers had a mean age of 17.15 years, whereas 26.46 years was mean age for adult mothers. A higher percentage of adolescent mothers were housewives and had lower total monthly family incomes. Gestational age at delivery was significantly lower for adolescents (36.32 weeks) compared to adults (37.44 weeks). Maternal complications such as anemia (41.5% vs. 27.7%), hypertensive disorders (11.7% vs. 4.8%), preterm deliveries (47.3% vs. 25%), and prolonged labor (55.3% vs. 36.7%) were significantly higher among adolescents. Neonatal outcomes were also poorer for adolescents, with higher rates of low birth weight (38.3% vs. 22.9%), ICU admissions (62.8% vs. 40.4%), and marginally higher instances of neonatal jaundice and sepsis.

Conclusion: The study highlights significant socio-demographic and perinatal health disparities between adolescent and adult pregnancies. Adolescent pregnancies are associated with higher risks of maternal and neonatal complications, underlining the need for targeted interventions to address the unique challenges faced by young mothers in India. Improving education, economic opportunities, and access to quality healthcare for adolescents could mitigate these adverse outcomes. Further research and policy attention are required to address the complex factors contributing to adolescent pregnancy and its associated health risks.

Keywords: Adolescent Pregnancy, Maternal Outcomes, Perinatal Outcomes.

INTRODUCTION

The World Health Organization categorizes adolescent pregnancy (AP) as occurring in young women between the ages of 10 and 19 years.[1] Over the last twenty years, there's been a notable decline in the worldwide adolescent birth rate by 23.2 births per 1000 women. However, each year approximately 21 million adolescent pregnancies still occur in low- and middle-income countries (LMICs). In line with Sustainable Development Goals 3.1 & 3.7, diminishing the rate of adolescent fertility is crucial for achieving sexual and reproductive health goals of international importance.[2]

The Burdens of Adolescent Pregnancy

In low- and middle-income countries (LMICs), complications during pregnancy and childbirth are the main causes of death among adolescent girls.[3]Adolescent Pregnancy (AP) carries risks such as unsafe abortion, high blood pressure during pregnancy, infection of the uterus post-childbirth, and life-threatening seizures. Infants born to teenagers often face challenges like premature birth, being underweight, having birth defects, immediate health problems, or an increased chance of stillbirth or death within the first week.[4] Adolescent mothers are more likely to drop out of school for childrearing responsibilities, reducing their chances for financial independence due to limited education and job skills. This, coupled with societal pressures, lack of support, and economic difficulties, leads to a higher risk of suicide among these young mothers.[3]

Adolescent Pregnancy in India

A 2010 report by the UNFPA indicated that India recorded the highest instances of women giving birth before reaching the age of 18.[5] A more recent assessment from the 4th National Family Health Survey (NFHS-4) in 2017 showed around 11.8 million cases of adolescent pregnancies in the country.[6] India, being home to a staggering 253 million individuals between the ages of 10 and 19, boasts the world's largest adolescent demographic.[7] Yet, there is a notable gap in comprehensive understanding concerning Indian adolescents' reproductive health. Maternal fatalities among adolescents remain significantly high, constituting about 10 percent of total maternal deaths, even amid notable reductions in overall maternal mortality rates in the last twenty years. In view of these figures, it becomes crucially important to delve into the complexities surrounding adolescent pregnancy in India.[7]This study aims to analyze the societal factors contributing to adolescent pregnancy and to examine if young mothers face a higher risk of negative outcomes during childbirth compared to those who are older than 20 years.

Objectives

1. To know the Socio-demographic factors associated with Adolescent Pregnancy.
2. To know the perinatal adverse outcomes of Adolescent Pregnancies.
3. To compare the perinatal adverse outcomes among Adolescent and Adult pregnant women.

MATERIAL AND METHODS

A. Type of study: Observational study
B. Study design: Cross Sectional Comparative
C. Study Setting: Obstetrics& Gynaecology department**,** GGH.
D. Study duration: Data collection for the study will be done for 2 months
E. Study Population: Antenatal Women.
F. Sample size: Data will be obtained from 376 Antenatal Women.

According to The National Family Health Survey 2019-20 (NFHS-5), Women age 15-19 years who were already mothers or pregnant at the time of the survey are 12.6 %.[6]

Sample size was calculated assuming the proportion of adolescent pregnant as 12.6 %, other parameters considered for sample size calculation were 5% absolute precision and 95% confidence level. The following formula was used for sample size as per the study by Daniel WW et al.[8]

$$n = \frac{Z^2 \times p \times (100 - p)}{d^2}$$

Where n = Sample size
Z= Z statistic for a level of confidence level= 1.960
P = Expected prevalence/proportion of outcome= 12.6
d = Precision= 0.05

- The required sample size as per the above-mentioned calculation was 179.
- To account for a non-participation rate of about 5%, another 8, subjects will be added to the sample size.
- In the present study antenatal mothers with Age between 15-19 years considered as cases and antenatal mothers with Age >20 years will be considered as controls group.
- 188 each in cases and comparison group, with a total of 376 antenatal mothers comprised the study subjects.

Inclusion Criteria

➢ All the pregnant women who attending OPD at GGH.

Exclusion Criteria

➢ Pregnant women who are not willing to participate in the study

G. Data collection procedure& Instruments Used

After brief introduction regarding the study and questionnaire to all the pregnant women Mothers will be interviewed using pre tested, semi structured questionnaire. Those who met inclusion and exclusion criteria will be explained about the study procedure and objectives and are requested for

participation. Those who understands and give consent for participation are included for study. Consent from the guardian will be taken where ever required.

Questionnaire contains two parts:

Part A: Socio-demographic characteristics of the participants.

Part B: Obstetrics characteristics of the participants.

H. Plan of analysis/ Statistical tools:

Data will be entered in excel sheets and Descriptive analysis will be carried out by mean and standard deviation for quantitative variables, frequency and proportion for categorical variables. Data will be represented by using appropriate diagrams like bar diagram, pie diagram and box plots. Statistical tests like t-test, ANOVA, Chi square. test/ Fisher's will be used to test statistical significance. P value < 0.05 will be considered statistically significant.

J. Confidentiality

Questionnaire does not contain any identification details of the study participants and confidentiality will be maintained throughout the study.

K. Ethical Considerations

Written informed consent will be obtained after explaining the importance of the study in detail.

RESULTS

The socio-demographic profile of the study population reveals significant differences between adolescent and adult pregnancies. The average age of adolescent mothers was 17.15 years, while adult mothers had an average age of 26.46 years. A striking difference was observed in the working status of women: 39.4% of adolescent mothers were working (74 out of 188), compared to 60.1% of adult mothers (113 out of 188), with a highly significant p-value of 0.0001. Conversely, 60.6% of adolescent mothers were housewives (114 out of 188), compared to 39.9% of adult mothers (75 out of 188).

Educational status showed that 76.1% of adolescent mothers were literate (143 out of 188), closely mirroring the 68.1% literacy rate among adult mothers (128 out of 188), with no significant difference (p=0.08). Illiteracy rates were also similar, with 23.9% of adolescent mothers (45 out of 188) and 31.9% of adult mothers (60 out of 188) being illiterate. Regarding the occupational status of husbands, 70.2% of adolescent mothers' husbands were employed (132 out of 188), compared to 78.2% in the adult group (147 out of 188), with a p-value of 0.07. Unemployment among husbands was 29.8% in the adolescent group (56 out of 188) and 21.8% in the adult group (41 out of 188).

In terms of husbands' educational status, 67.0% of adolescent mothers' husbands were literate (126 out of 188), similar to the 59.6% literacy rate among adult mothers' husbands (112 out of 188), with a p-value of 0.13. Illiteracy among husbands was slightly higher in the adult group (40.4% or 76 out of 188) compared to the adolescent group (33.0% or 62 out of 188). The total monthly family income was slightly lower for adolescents, averaging 28.89 thousand compared to 31.46 thousand for adults, with a p-value of 0.04 indicating a statistically significant difference.

Antenatal care (ANC) checkups were primarily conducted at government facilities for both groups, with 86.7% of adolescent mothers (163 out of 188) and 85.6% of adult mothers (161 out of 188) attending government clinics (p=0.76). Private ANC checkups were similarly utilized by 13.3% of adolescents (25 out of 188) and 14.4% of adults (27 out of 188). Booking status for ANC was also similar, with 86.2% of adolescent mothers (162 out of 188) and 85.6% of adult mothers (161 out of 188) being booked, and 13.8% of adolescents (26 out of 188) and 14.4% of adults (27 out of 188) being unbooked (p=0.88).

The number of ANC checkups averaged 9.33 for adolescents and 9.46 for adults, with no significant difference (p=0.18). However, the gestational age at delivery was significantly lower for adolescents, averaging 36.32 weeks compared to 37.44 weeks for adults, with a p-value of 0.0001. Family structure showed no significant difference, with 56.4% of adolescents (106 out of 188) and 56.9% of adults (107 out of 188) living in extended families, and 43.6% of adolescents (82 out of 188) and 43.1% of adults (81 out of 188) living in nuclear families (p=0.91).

Socioeconomic status (SES) was similarly distributed, with 63.3% of adolescents (119 out of 188) and 60.1% of adults (113 out of 188) belonging to the lower SES, and 36.7% of adolescents (69 out of 188) and 39.9% of adults (75 out of 188) belonging to the upper SES (p=0.47). Mode of delivery differed significantly, with 40.4% of adolescents (76 out of 188) undergoing normal vaginal delivery (NVD) compared to 54.3% of adults (102 out of 188), and 59.6% of adolescents (112 out of 188) undergoing lower segment cesarean section (LSCS) compared to 45.7% of adults (86 out of 188), with a p-value of 0.007. Lastly, place of residence showed a significant difference, with 25.0% of adolescents (47 out of 188) residing in urban areas compared to 47.9% of adults (90 out of 188), and 75.0% of adolescents (141 out of 188) living in rural areas compared to 52.1% of adults (98 out of 188), with a p-value of 0.0001.

Maternal Complications

The study highlights several significant maternal complications associated with adolescent pregnancies compared to adult pregnancies. Anemia was markedly higher among adolescent mothers, with 78 out of 188 (41.5%) experiencing this condition, compared to 52 out of 188 (27.7%) in the adult group. This difference was statistically significant, with a p-value of 0.004. Anemia in pregnancy can lead to severe fatigue, increased risk of infections, and complications during childbirth. Hypertensive disorders of pregnancy, including

conditions like preeclampsia, were also more prevalent in adolescent mothers, affecting 22 out of 188 (11.7%), whereas only 9 out of 188 (4.8%) adult mothers were affected. This difference was significant, with a p-value of 0.001. Such conditions can result in serious health risks for both the mother and the fetus, including preterm birth and placental abruption.

Preterm deliveries were notably more frequent in adolescent pregnancies, occurring in 89 out of 188 cases (47.3%), compared to 47 out of 188 cases (25%) in adult pregnancies. The p-value for this comparison was 0.001, indicating high statistical significance. Preterm births are associated with a range of complications, including developmental delays and increased infant mortality. Furthermore, prolonged labor was significantly more common among adolescents, with 104 out of 188 (55.3%) experiencing this issue, in contrast to 69 out of 188 (36.7%) adult mothers, with a p-value of 0.001. Prolonged labor can increase the risk of infections, uterine rupture, and need for emergency interventions. Birth asphyxia rates were similar between both groups, with 5 out of 188 (2.7%) adolescent pregnancies and 4 out of 188 (2.1%) adult pregnancies experiencing this complication, indicating no significant difference in this particular outcome.

Neonatal Complications

Neonatal complications were more frequent in births from adolescent mothers, highlighting the additional risks posed to newborns. Low birth weight was significantly higher among infants born to adolescents, with 71 out of 188 (38.3%) falling below the 2.5 kg threshold, compared to 43 out of 188 (22.9%) in the adult group. This difference was statistically significant, with a p-value of 0.004. The need for ICU admission was substantially greater for neonates born to adolescent mothers, with 47 out of 188 (62.8%) requiring intensive care, compared to 76 out of 188 (40.4%) for adult mothers, with a highly significant p-value of 0.001. This high rate of ICU admission underscores the severe health challenges faced by these infants.

Other neonatal complications showed less pronounced differences between the two groups. Congenital anomalies were slightly more common in the adolescent group, with 3 out of 188 (1.6%) compared to 1 out of 188 (0.5%) in the adult group, though this was not statistically significant (p=0.31). Neonatal jaundice was observed in 19 out of 188 (10.1%) infants from adolescent pregnancies and 11 out of 188 (5.9%) from adult pregnancies, with a p-value of 0.12, indicating no significant difference. Similarly, sepsis rates were 7 out of 188 (3.7%) in the adolescent group and 3 out of 188 (1.6%) in the adult group, with a p-value of 0.20. These findings suggest that while some neonatal complications are more common in adolescents, others do not show significant differences, highlighting the complex interplay of factors affecting neonatal outcomes.

Table 1: Socio demographic profile

		Adolescent pregnancy	Adult age pregnancy	p value
Age		**17.15 ± 1.13**	**26.46 ± 2.60**	-
Working status of women	Working	74	113	0.0001*
	Housewife	114	75	
Educational status of women	Literate	143	128	0.08
	Illiterate	45	60	
Occupational status of Husband	Employed	132	147	0.07
	Un employed	56	41	
Educational status of Husband	Literate	126	112	0.13
	Illiterate	62	76	
Total monthly family income in thousands		28.89 ± 11.10	31.46 ± 13.24	0.04*
ANC check-up done	Govt	163	161	0.76
	Private	25	27	
Booking status	Booked	162	161	0.88
	Unbooked	26	27	
Number of ANC checkups		9.33 ± 0.87	9.46 ± 1.04	0.18
Gestational age in weeks		36.32 ± 1.23	37.44 ± 1.22	0.0001*
Type of family	Extended family	106	107	0.91
	Nuclear family	82	81	
SES	Lower	119	113	0.47
	Upper	69	75	
Mode of delivery	NVD	76	102	0.007*
	LSCS	112	86	
Place of residence	Urban	47	90	0.0001*
	Rural	141	98	

Table 2: Maternal complications

	Adolescent (n=188)	Normal (n=188)	P Value
Anemia	**78 (41.5%)**	**52 (27.7%)**	**0.004***
Hypertensive disorder of pregnancy	22 (11.7%)	9 (4.8%)	0.001*
Preterm deliveries	89 (47.3%)	47 (25%)	0.001*

Prolonged labour	104 (55.3%)	69 (36.7%)	0.001*
Birth asphyxia	5 (2.7%)	4 (2.1%)	0.73

Table 3: Neonatal complications

	Adolescent	Normal	P Value
Congenital	3 (1.6%)	1 (0.5%)	0.31
Low birth weight (<2.5kg)	71 (38.3%)	43 (22.9%)	0.004*
ICU admission	47 (62.8%)	76 (40.4%)	0.001*
Neonatal jaundice	19 (10.1%)	11 (5.9%)	0.12
Sepsis	7 (3.7%)	3 (1.6%)	0.20

DISCUSSION

Age

In the present study, the mean age of Adolescent mothers was 17.15 ± 1.13 years compared to adult mothers (26.46 ± 2.60 years). This is consistent with findings from Paladugu et al,[9] (2018) where the mean age for adolescent mothers was 18.2 years compared to 23.2 years for adult mothers. For instance, in the study by Kamini and Avvaru[10] (2014), the mean age of adolescent mothers was 19 years compared to 22 years for adult mothers.

For instance, Uzunov et al,[11] (2022) found that adolescent mothers were more likely to be in the younger age bracket (10-19 years), which is consistent with the definition and findings across different regions

Educational Status

In terms of educational status, Table 1 shows that 143 adolescent mothers were literate compared to 128 adult mothers, though this difference is not statistically significant (p=0.08). A similar pattern is seen in the study by from Paladugu et al,[9] where the prevalence of illiteracy was high in both groups, with 32% of adolescent mothers and 34% of adult mothers being illiterate. This educational disparity underscores the socio-economic challenges faced by adolescent mothers, further exacerbated by their lower engagement in formal employment.

Diabelková et al,[12] (2023) also found that adolescent mothers were significantly younger and more likely to have only basic or no education (OR = 16.8; 95% CI = 11.5–24.6; p < 0.001) compared to adult mothers.

Additionally, Dutta et al.[13]. (2013) reported that a significant portion of teenage mothers had not attended school (53.6%) compared to only 8.9% of adult mothers. Zhang et al,[14] (2020) also highlighted that adolescent mothers had lower educational attainment, with more than 60% having only 7-9 years of education compared to 34.3% of adult mothers. This educational gap is a critical factor influencing the overall health and well-being of adolescent mothers and their children.

Working Status

The working status reveals a significant difference, with a higher percentage of adolescent mothers being housewives (114) compared to adult mothers (75), and fewer adolescent mothers being employed (74) compared to adult mothers (113) (p=0.0001). This trend is also observed in the study by Tanveer and Fatima[15] (2016), where 65.6% of adolescent mothers were unbooked, highlighting lower economic engagement.

This disparity in educational attainment underscores the socio-economic challenges faced by adolescent mothers, which can have cascading effects on their health and that of their newborns.

Employment status

Employment status differs notably between the two groups. Adolescent mothers are less likely to be employed, with only 74 employed adolescent mothers compared to 113 employed adult mothers (p=0.0001). In contrast, 114 adolescent mothers were housewives compared to 75 adult mothers. This aligns with findings from Tahir et al.[16] (2022), where adolescent mothers showed lower engagement in the workforce, reflecting their early entry into motherhood which hampers their educational and professional development. Employment status shows notable differences, with adolescent mothers being less likely to be employed. In the present study, only 74 adolescent mothers were employed compared to 113 adult mothers, while 114 adolescent mothers were housewives compared to 75 adult mothers (p=0.0001). This trend is supported by the findings of Zhang et al.[14] (2020), where adolescent mothers were less likely to be employed and more likely to be engaged in household activities.

The occupational status of husbands also shows minimal differences between the groups, with 132 husbands of adolescent mothers being employed versus 147 of adult mothers, and 56 husbands of adolescent mothers being unemployed compared to 41 of adult mothers (p=0.07). Similarly, the educational status of husbands does not differ significantly, with 126 literate husbands in the adolescent group and 112 in the adult group (p=0.13). This trend aligns with the findings of Tanveer and Fatima,[15] where socio-economic factors, including the husband's occupation and education, did not significantly differ between adolescent and adult pregnancies.

Family income and Socio economic status

Family income is another significant differentiator. Adolescent mothers typically come from families with a lower average monthly income (28.89 ± 11.10 thousand) compared to those of adult mothers (31.46 ± 13.24 thousand) (p=0.04). This income disparity is reflected in the study by from Paladugu et al,[9] where 72% of adolescent mothers belonged

to the upper-lower socio-economic class compared to 68% of adult mothers.

Adolescent mothers typically come from families with a lower average monthly income (28.89 ± 11.10 thousand) compared to adult mothers (31.46 ± 13.24 thousand) (p=0.04). This financial disparity affects access to quality healthcare and nutritional resources. Dutta et al,[13] (2013) emphasized that teenage pregnancies are more common in lower socio-economic groups, where financial constraints can further complicate pregnancy outcomes. Studies such as the one by Permana et al,[17] (2019) highlight that lower socio-economic status is a common trait among adolescent mothers, which correlates with poorer pregnancy outcomes.

Antenatal checkup and place of residence

Both groups in the present study show similar patterns regarding antenatal check-ups and the type of healthcare facility used, but a significant difference is observed in the place of residence. More adolescent mothers reside in rural areas (141) compared to adult mothers (98), while more adult mothers live in urban areas (90) compared to adolescents (47) (p=0.0001). Uzunov et al.[11]. (2022) reportedsimilarfindings, where a higherprevalence of adolescent pregnancieswasobserved in rural settings, highlighting the challenges of accessingqualityhealthcare in these areas. Zhang et al,[14] (2020) also noted that adolescent mothers were more likely to give birth in secondary hospitals or at home compared to adult mothers.

A significant difference is observed in the place of residence, with a higher number of adolescent mothers residing in rural areas (141) compared to adult mothers (98), and more adult mothers living in urban areas (90) compared to adolescents (47) (p=0.0001). This rural-urban divide is also noted by from Paladugu et al,[9] where 88% of adolescent mothers and 84% of adult mothers came from rural areas. Family type did not show significant variation between the groups, with similar distributions in extended and nuclear families.

Maternal complications

Anemia

Anemia is significantly more prevalent among adolescent mothers, with 41.5% affected compared to 27.7% of adult mothers (p=0.004). This finding is consistent with Tanveer and Fatima,[15] (2016), who reported anemia in 41.2% of adolescent mothers versus 17.6% of adult mothers. from Paladugu et al.[9]. (2018) also found a higher prevalence of mild anemia in adolescent mothers (68%) compared to adults (52%). Kamini and Avvaru[10](2014) reported severe anemia in 16% of teenage mothers compared to 8% of adult mothers. Similarly, Tahir et al.[16]. (2022) found the mean hemoglobin concentration in adolescent mothers to be significantly lower (9.25 ± 0.75 mg/dl) than in adult mothers (12.50 ± 0.50 mg/dl) (p<0.003). Dutta et al,[13] (2013) noted anemia in 68.4% of teenage mothers compared to 33.32% of adult mothers. Zhang et al,[14] (2020) also observed higher anemia incidence in adolescent pregnancies, though regional variations affected the overall prevalence.

Hypertensive Disorders

Hypertensive disorders are more common in adolescent pregnancies, affecting 11.7% compared to 4.8% of adults (p=0.001). This is supported by Tanveer and Fatima,[15] study where pregnancy-induced hypertension was higher in adolescent mothers (14.4% vs. 1.6% in adults). Tahir et al.[16]. (2022) reported preeclampsia in 10% of adolescent pregnancies compared to 4% in adult pregnancies. Kamini and Avvaru,[10] (2014) noted that while pregnancy-induced hypertension and eclampsia were higher in adults, this might vary regionally. Uzunov et al,[11] (2022) found preeclampsia in 18.5% of teenage mothers versus 7.1% of adult mothers. Zhang et al.[14]. (2020) also indicated increased preeclampsia risk among adolescent mothers.

Preterm Deliveries

Preterm deliveries are significantly higher in adolescent pregnancies, with 47.3% experiencing preterm birth compared to 25% of adult mothers (p=0.001). The Tanveer and Fatima[15] study supports this, showing higher preterm delivery rates among adolescents (21.6% vs. 13.6% in adults). from Paladugu et al.[9]. (2018) observed a higher incidence of preterm deliveries in adolescents (30% vs. 16%), although not statistically significant. Permana et al[17] (2019) found preterm infants were more common in adolescent mothers, with a relative risk (RR) of 1.2 (p=0.008). Diabelková et al[12]. (2023) reported more low birth weight and preterm births among infants born to adolescent mothers.

Prolonged Labor

Prolonged labor is more common in adolescent mothers, affecting 55.3% compared to 36.7% of adult mothers (p=0.001). This is corroborated by the Tanveer and Fatima[15] study, where instrumental deliveries, often resulting from prolonged labor, were more common in adolescent pregnancies (6.4% vs. 1.6%). Kamini and Avvaru[10](2014) noted significant obstructed labor in teenage mothers, likely due to physical immaturity and smaller pelvic dimensions. Dutta et al.[13]. (2013) also found high rates of obstructed labor in teenage mothers.

Birth Asphyxia

Birth asphyxia rates do not significantly differ between the groups, with 2.7% of adolescent mothers and 2.1% of adult mothers affected (p=0.73). Tahir et al.[16]. (2022) noted a higher incidence of birth asphyxia in adolescents, although not significantlydifferentfromadults. Permana et al[17]. (2019) reported asphyxia was 1.5 times more likely in infants born to adolescent mothers (RR: 1.48 [95% CI: 1.15-1.91]).

Neonatal Complications

Congenital Anomalies

Congenital anomalies are slightly more prevalent in neonates born to adolescent mothers (1.6%) compared to those born to adult mothers (0.5%),

though this difference is not statistically significant (p=0.31). Tanveer and Fatima,[15] (2016) found similar rates of congenital anomalies between adolescent and adult pregnancies.

Low Birth Weight (LBW)

Low birth weight (LBW) is significantly more common among neonates born to adolescent mothers, with 38.3% affected compared to 22.9% of adult mothers (p=0.004). from Paladuguet al.[9]. (2018) reported that 28% of neonates from adolescent mothers had low birth weight compared to 16% from adult mothers. Tanveer and Fatima[15](2016) reported low birth weight in 20.4% of neonates from adolescent mothers versus 8% from adult mothers. Diabelková et al,[12] (2023) and Permana et al,[17] (2019) foundsimilar trends, with the latter noting a 1.25 times higherrisk of LBW in neonatesborn to adolescent mothers (RR: 1.25 [95% CI: 1.07-1.46]).

ICU Admissions

Neonatal ICU admissions are significantly higher among neonates born to adolescent mothers (62.8%) compared to those born to adult mothers (40.4%) (p=0.001). This is supported by a Tanveer and Fatima[15] study, where NICU admissions were significantly higher in neonates from adolescent pregnancies (19.2% vs. 8%). Kamini and Avvaru[10](2014) and Dutta et al.[13]. (2013) also noted higher NICU admissions among neonates from adolescent mothers, reflecting greater medical needs.

Neonatal Jaundice

Neonatal jaundice occurs in 10.1% of neonates born to adolescent mothers and 5.9% of those born to adult mothers, though this difference is not statistically significant (p=0.12). This condition appears relatively common in both groups, with no significant age-related trend.

Sepsis

Sepsis rates do not significantly differ between the groups, affecting 3.7% of neonates born to adolescent mothers compared to 1.6% of those born to adult mothers (p=0.20). Kamini and Avvaru,[10](2014) noted higher infection rates in neonates from adolescent pregnancies. Dutta et al,[13] (2013) also observed higher infection rates, indicating the need for vigilant neonatal care in this group. Tahir et al,[16] (2022) reported intrauterine death (IUD) rates of 8% in adolescent pregnancies compared to 3% in adults (p<0.05). Permana et al[17]. (2019) also found higher perinatal mortality, including stillbirths, in adolescent pregnancies.

CONCLUSION

The study highlights significant socio-demographic and perinatal health disparities between adolescent and adult pregnancies. Adolescent pregnancies are associated with higher risks of maternal and neonatal complications, underlining the need for targeted interventions to address the unique challenges faced by young mothers in India. Improving education, economic opportunities, and access to quality healthcare for adolescents could mitigate these adverse outcomes. Further research and policy attention are required to address the complex factors contributing to adolescent pregnancy and its associated health risks.

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