

RESEARCH ON HOW SOCIO-DEMOGRAPHIC FACTORS AFFECT TEENAGE PREGNANCIES AND THEIR FETAL AND MATERNAL OUTCOMES

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Abstract

Background: Teenage pregnancies are becoming more common worldwide. It is a condition with a high risk of having negative perinatal and obstetric outcomes. Teenage pregnancy has been linked to a variety of social, familial, and individual factors, according to analysis. To look into the socio-demographic factors that influence teen pregnancy and the complications that arise as a result. **Materials and Methods:** Over a December 2021 to November 2022 period, a cross sectional observational study was conducted at the Department of Obstetrics and Gynecology, Government Medical College Nalgonda, Telangana, India. Three hundred pregnant women who had been admitted for delivery and met the criteria for inclusion were part of the study group. There were 150 in group A (teenagers aged 13 to 19) and 150 in group B (adults aged 20 to 29). **Result:** The average age at delivery for teen mothers is significantly lower than that of adults (18.61±72 vs. 23.87±2.8yrs. P.001), and 74% of them were Hindu, with 69% hailing from rural and slum areas. 92% of people in this group were housewives, 7.3% were employed, and 64.7% had only completed their primary education. 70% of teen mothers are low income, compared to 30% of adult mothers. Contraceptive use (21.3% vs. 72%) and planned pregnancy (18.7% vs. 24.7%) in group A were both significantly lower than in group B. They also have less frequent antenatal checkups (10% vs. 26%, P001). (47% vs. 30%) More anemic teen mothers were discovered. Unproductive labor (14.2% vs. 10.6%) In comparison to group B, group A experienced higher rates of eclampsia (3.9% vs. 2.1%), fetal distress (24.2% vs. 17.1%), and prolonged labor (45.5% vs. 55.3%). However, group B experienced lower rates of hemorrhage (5.2% vs. 14.2%). Contrary to adult mothers, teen mothers have significantly higher rates of Caesarean sections and instrumental deliveries (59.3% vs. 48.7%, 6% vs. 2.3%), and their fetal outcomes are less favorable. **Conclusion:** Finally, concluded that low socioeconomic status, a lack of education, as well as cultural, religious, and factors all seemed to be connected to teen pregnancy and its unfavorable outcome. To improve the adolescent's reproductive health, a multidisciplinary team effort involving educators, health and social workers, obstetricians, and gynecologists is needed.

INTRODUCTION

The term "teenager" refers to the period of time between the ages of 11 and 19 during which a carefree child develops into a responsible adult. Teen pregnancy rates have been rising recently as a result of early puberty, girls' sexual behavior, and a relative lack of knowledge about contraceptive options.^[1] Teenagers make up 32% of other country 160 million population, according to BMH & MMS 2010, and the birth rate is 126/1000 live births. In some other, marriage occurs frequently between the ages of 15 and 19; 69% of women marry before age

20. Additionally, according to Barkat A, an immature birth canal results in a labor that is obstructed or prolonged.^[2] Before she is an adult, a girl gives birth to a child, and the mother and fetus fight for food.

Every year, between 15 and 19-year-old women give birth to about 14 million children. Nearly 2.5 million births of girls under the age of 16 took place in low- and middle-income countries. Both in developed and underdeveloped nations, the number is rising. Socioeconomic issues and low educational attainment are most likely contributing factors.^[3] Teenagers are more likely to experience perinatal

complications and increased surgical interference if they are uninformed, illiterate, and have poor socioeconomic conditions.^[4] In the current study, evaluation of some socio-demographic factors was conducted, including socioeconomic status, education attainment, religious and cultural backgrounds, occupation, and place of residence. Analyzed were clinical conditions and the use of healthcare services like antenatal care and contraception.

In India and the West, various factors can result in teen pregnancy, but these factors differ. Early marriages and childbearing in India are the main causes of teenage pregnancy. Whatever the reason, teenage pregnancies have an impact on the young woman and her future offspring. Girl children's education is impacted by teenage pregnancy. She would have more opportunities to develop her skills with better education and a delayed start to family life. Children are less likely to be educated by mothers who have less education. Frequently, teenage wives of older men become pregnant. This significant age difference between the girl's spouse and herself facilitates power differentials. Pregnancy complications like anemia and preterm labor are more common among adolescent mothers. Poor socioeconomic conditions, a lack of education, and insufficient prenatal care have an impact on the outcome as well.^[5-7]

MATERIALS AND METHODS

A cross-sectional observational study at a hospital was carried out in Department of Obstetrics and Gynecology, Government Medical College Nalgonda, Telangana, India, from December 2021 to November 2022. The purpose of this study was to compare teen pregnancy with adult pregnancy in terms of sociodemographic factors and complications related to teen pregnancies. In this study, 300 consecutively admitted pregnant women to the labor ward were examined. 150 of them were

teenagers (ages 13 to 19), and 150 were adults (20 to 29).

Inclusion Criteria

- 13 to 19 years old is considered to be a teenager.
- Adults range in age from 20 to 29.
- Primigravida were the only pregnant teenagers included in the study and control groups because they made up the majority of the population. This is done primarily to remove parity's impact on maternal complications and newborn birth weight.
- Only primi-gravidae carrying singletons who are otherwise healthy.

Exclusion Criteria

- Teenage multi-mother.
- Twin pregnancy.
- Cardiovascular disorders, among other related medical conditions.
- Disordered hypertension.
- Respiratory conditions.
- Endocrinological conditions.
- Investigations and the past suggestive of medical disorders.

RESULTS

[Table 1] shows that the comparison group had a mean age of 23.87 years and the study group had an age range of 16 to 19 years, with a P value of 0.001 indicating a highly significant difference.

[Table 2] displays the sociodemographic context of teen pregnancies. 74% of teen mothers were Hindu, and the majority of them (59.3%) were from rural areas, 10% were from slums, and the remaining 30.7% were from urban areas, with no difference from the adult group. Ninety-two.7% of teen mothers were housewives, and 51.3% of their husbands were in the military. The remaining mothers worked as drivers, day laborers, and business owners while living abroad.

Table 1: Age distribution

Groups	Age (yrs)	Mean \pm SD
Study group	16-19	18.61 \pm 0.72
Comparison group	20-29	23.87 \pm 2.8

Table 2: Socio-demographic variable distribution across the study groups (n = 300)

Other Social variable		Study Group A		Study Group B		Total	
		n	%	n	%	n	%
Mothers occupation	House Wife	139	92.7	139	92.7	278	92.7
	Service	11	7.3	11	7.3	22	7.3
	Service	77	51.3	73	48.7	150	50.0
Husband occupation	Business	28	18.7	23	15.3	51	17.0
	Living abroad	24	16.0	40	26.7	64	21.4
	Driver	13	8.7	9	6.0	22	7.3
	Laborer	8	5.3	5	3.3	13	4.3
	Illiterate	14	9.3	6	4.0	20	6.7
Mothers Educations	Primary Education	97	64.7	95	63.4	192	64.0
	Secondary Education	35	23.3	47	31.3	82	27.3
	Higher Secondary	04	2.7	02	1.3	6	2.0
Husband Education	Illiterate	15	10.0	6	4.0	21	7.0
	Primary Education	59	39.4	48	32.0	107	35.7

	Secondary Education	69	46.0	91	60.7	160	53.3
	Graduation	5	3.3	5	3.3	10	3.3
	Masters	02	1.3	00	0.0	02	0.7
Religion	Hindu	111	74.0	107	71.4	218	72.7
	Muslim	34	22.7	38	25.3	72	24.0
	Buddhist	5	3.3	5	3.3	10	3.3
Habitation	Rural	89	59.3	81	27	170	56.7
	Urban	46	30.7	58	38.7	104	34.7
	Slum	15	10	11	7.3	26	8.6
Family income	< 5000 rupees	105	70	81	54	186	62
	>5000 rupees	45	30	69	46	114	38

Table 3: Distribution of ANC use, planned pregnancies, and contraceptive use

Pregnancy related variable		Study Group A		Study Group B		Total		SIG
		n	%	n	%	n	%	
Ante natal Check up	Regular	15	10	40	26.7	55	18.3	P = 0.036 S
	Infrequent	108	72	87	58	195	65	
	None	27	18	23	15.33	50	20	
Status of pregnancy	Planned	28	18.7	37	24.7	65	21.7	P = 0.207
	Unplanned	122	81.3	113	75.3	235	78.3	NS
Contraceptive history	Used	32	21.3	42	28	74	31.3	P = 0.213
	Not Used	118	78.7	108	72	226	68.7	NS
Parity	Para-1	146	97.3	126	84	272	90.7	P<0.001
	Para-2	4	2.7	24	16	28	9.3	HS
Anemia	Present	71	47.3	46	30.7	117	39	P <.003
	Absent	79	52.7	104	69.3	183	61	HS

According to [Table 3], group A received antenatal checks less frequently than group B (10% vs. 26.7%, P0.001), which was highly significant. Teenage mothers are significantly less likely than adult mothers to use contraception (21.3% vs. 72%, P 0.001), and planned pregnancies were insignificant in both groups (18.7% vs. 24.7%, P.207). Primi para and para 2 were present in group A (97%) and group B (84%) respectively. (47.3% vs. 30.7%, P.003) It was discovered that the majority of teen mothers were significantly anemic.

Table 4: The study group's distribution of complications during labor (n = 124)

Complications during labour	Study Group A		Study Group B		Total	
	n	%	n	%	n	%
Prolonged labour	35	45.4	26	55.3	61	49.2
Obstructed labour	11	14.3	5	10.6	16	12.9
Fetal distress	19	24.7	4	17.0	23	21.8
Hemorrhage	4	5.2	7	14.9	11	8.9
Genital tract injury	5	6.5	00	0.0	5	4.0
Eclampsia	3	3.9	1	2.1	4	3.2

[Table 4] lists the complications that occurred during labor. Obstructed labor affected teenage women more than group B (14.2% vs. 10.6%), as did fetal distress (24.2% vs. 17.1%). Contrarily, hemorrhage and prolonged labor occur more frequently in the adult group (5.2% vs. 14.9% and (45.5% vs. 55.3%)). Only teen mothers (6.5%) experienced genital tract injuries. More eclampsia (3.9% vs. 2.0%) was found in group A.

Table 5: Distribution of the study group's fetal outcomes (With significance determined by the X2 test)

Fetal outcome		Group A		Group B		Total		SIG
		N	%	N	%	N	%	
Baby alive		133	88.6	141	94	274	91.33	
Still born		6	4	02	1.3	8	2.6	P=0.049
Neonatal death		11	7.3	7	4.6	18	6.0	Significant
Total		150	100.0	150	100.0	300	100.0	
Birth asphyxia (n=586)	Present	29	20.0	22	14.9	51	17.4	P=0.024
	Absent	116	80.0	126	85.1	242	82.6	Significant
Birth Weight	< 2.5 kg	18	12.4	8	5.4	26	8.8	Significant
	=>2.5 kg	127	87.6	140	94.6	267	91.2	P= <.03

The results for both groups are shown in Table 5. Compared to the adult group (94%), babies born to teenagers (88.6 %) were still alive. It was statistically significant that teenage girls had higher rates of stillbirth and neonatal death (4% vs. 1.3%) and (7.3% vs. 4.6%, P0.049). Furthermore, there was more birth asphyxia in group A (20% vs. 14.1%, P=0.024). This observation revealed that

group A had a higher incidence of low birth weight (12.4% vs. 5.4%, P=0.03).

DISCUSSION

The current study demonstrates that teenagers' socioeconomic situations are a major contributor to

the increased risks for poor pregnancy outcomes associated with low maternal age. Teen pregnancy appeared to be associated with low socioeconomic status, limited education, religious, and cultural factors.^[8-11] Young women who experience gender bias typically have limited decision-making power because they are socially marginalized and economically underprivileged. Low levels of education appeared to be linked to a higher likelihood of teenage pregnancy and childbirth.^[11] Education may have a big impact on boosting self-esteem, advancing the age of first sex, and delaying marriage.^[12] According to the results of the current study, teenage mothers were more likely than adults to have finished their secondary education (23% vs. 31.3%). The best way to prepare girls for later marriage, planned and delayed pregnancies, and better motherhood is to empower them, which is made possible by mandatory sex education.^[13] According to the current study, rural areas are home to 59.3% of teenage mothers, 10% from slums and 30.7% from cities, while in the comparison group, 54% from rural areas and 7.3% from slums were almost exactly the same. Since both groups share the same residence, Abul Barkat's observation,^[2] is supported. 74% of the mothers of teenage daughters in the current study were from Muslim families, 22.7% were Hindu, and 3.3% were Buddhist. Muslim women are more likely than non-Muslim women to become pregnant earlier. Because of their early birth practices, Muslims make up the majority of the population in these countries.^[14] This study also revealed that 92% of mothers with teenage children were housewives with only 7.3% of them working, almost the same as the comparison group. Gaining employment can boost self-assurance and decision-making skills, allowing you to put off getting married and having kids. A significant factor is the husband's line of work. Husbands who were living abroad, illiterate, or less educated want a child sooner without taking the wife's young age into consideration. Most of the teenage husbands in the current study had completed their secondary education. Only a small percentage (3.3%) and 1.3%, respectively, had graduate degrees. Regarding financial circumstances, 54% of adult mothers came from financially precarious backgrounds, compared to 70% of adolescents from poor families. According to Shrestha's research, teen pregnancies are significantly more common in lower social classes (52%) than in higher social classes (26%).^[15] Early pregnancy risk among young people was made worse by structural and social inequality, poverty, and low educational attainment.^[16] In the current study, compared to group B (81.3% vs. 75.3%), the majority of teenage pregnancies were unplanned. When compared to group B, teenage mothers used contraceptives less frequently (21.3% vs. 72%, P.001), which is statistically significant. According to a 2003 WHO discussion paper, only 18% of teenagers in Uganda and 89% of those in Kenya had ever used birth control. According to the

BDHS, 15.3% of teenagers do not use any form of contraception, which is almost identical to the results of the current study.^[17] The lack of education, lack of counseling on contraception, and fear of future fertility are the main reasons why teenage use of contraception is lower. Delaying marriage would give women the chance to pursue higher education, increasing their chances of becoming empowered and having a planned pregnancy.

Only 10% of adolescent mothers and 26.7% of adult women, according to a recent study, receive regular prenatal care. According to Nahathi W et al., adolescent mothers received less antenatal care than adults (13.4% vs. 25.9%).^[18] Antenatal care in developing nations is frequently subpar, but the care provided to teen mothers (48%) is insufficient even by national standards. Due to different access to health services among teen mothers, socioeconomic deprivation continues to be of significant importance. In this study, 97.3% of the primipara were statistically significant, compared to 2.7% of the second para, and 16% of the adult group. Adolescents may have less time to become pregnant a second time due to their age limit. The majority of the mother, 47.3% vs. 30.7%, was found to be significantly anemic (P.003). The prevalence of anemia among teenage mothers is high (46%) according to a study from north India, which was similar to the findings of the current study.^[19] This is because teen mothers typically consume low amounts of dietary iron.

Teenage mothers had higher rates of instrumental delivery (6% vs. 2.6%) and cesarean section (59.3% vs. 48.7%) in group A than in group B (SVD: 33.7% vs. 48.7%; SVD: 48.7%; SVD: 59.3%; SVD: 59.3%). As a result, the number of operations delivered to teen mothers was significantly (P.03) higher. In one study by Amber T et al., C S was the primary route of delivery in teenagers (43.6% vs. 10.6%, P0.001) and SVD was lower (60% vs. 85%, P0.001). Another study conducted at BSMMU found that 44% of mothers had CS, which was more common in adolescents.^[20] According to a study conducted in Bangkok's Rajavithi Hospital, teenage girls are more likely than adults to develop CS (18.7 vs. 13.3%, P0.006) and use it as a major route.^[21] These studies and the current study are comparable. Obstructed labor and fetal distress were more prevalent in group A in the current study when compared to group B (14.3% vs. 10.6%) and (24.7% vs. 17%), which was consistent with a previous study that found cephalic pelvic disproportion and longer labor times in adolescent mothers.^[22] Contrarily, the incidence of hemorrhage was higher in the adult group (5.2% vs. 14.9%) as well as prolonged labor (45.5% vs. 55.3%). In comparison to an adult mother, eclampsia is also more prevalent in teenagers (3.9% vs. 2.1%).

In the current study, 88% of babies were delivered alive, stillbirth rates were 53.3% vs. 33%, and deaths within 7 days of delivery were 6.7% vs.

3.9%. So the overall perinatal death rate was (12% vs. 6.6%). P.0.049) significantly higher in teenagers; similar findings have been reported in some studies from Jordan and South Asia.^[23,24] Group A has been linked to higher rates of fetal and neonatal mortality, according to Kumar A et al. (1.9% vs. 3%, 3.8% vs. 5%, P.05), respectively.^[25] Birth asphyxia was significantly more common in group A (20% vs. 14.91%). P.0.024) in the current research. Some studies have shown a higher prevalence of birth asphyxia and a low Apgar score. In the current study,^[26] the baby in group A had a birth weight that was significantly lower than that of the adult group (2.78 vs. 2.88, P.01). Low birth weight is also more common in teenagers (12.4% vs. 5.4%, P=.03). Low birth weight incidence was reported to be 30% in India and 9.9% in Pakistan by Saria B et al.^[27] This discovery agreed with a recent study. This study and others have found the same results, according to Judith B et al., who found that babies born to teenage mothers in the Philippines had lower birth weights than babies born to adult mothers (2.7 vs. 2.8, P.0.01). Perinatal mortality and morbidity are more likely in infants with low birth weight. By receiving adequate prenatal care and a nutritional supplement, the mean birth weight was increased.^[31]

CONCLUSION

Teenage pregnancy is one of the major issues facing the world today, and this is especially true in developing nations like India. Many different actions are being taken globally to prevent teenage pregnancy. Educating people about the dangers of teenage pregnancy is the best strategy for solving this problem. Teenagers from socially disadvantaged backgrounds, which are characterized by deprivation, reliance on public assistance, academic underachievement, and low parental educational aspirations, are more likely to get pregnant young. Teenage pregnancy should therefore be treated as high risk, and the causes must be eliminated. To improve the adolescent's reproductive health, a multidisciplinary team effort involving educators, health and social workers, obstetricians, and gynecologists is needed.

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