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FETOMATERNAL OUTCOME OF TEENAGE PREGNANCY IN A TERTIARY CARE CENTRE.

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ABSTRACT:

BACKGROUND: Teenage pregnancy is one of the major public health problems in the world. Both teenage mothers and the fetuses are at high risk of developing various health problems both during antenatal and postnatal period.

AIM: The aim of the study is to find out how teenage pregnancy affects the maternal and fetal wellbeing.

METHODOLOGY: My study was a prospective study and was conducted in the Department of Obstetrics and Gynaecology in Sree Mookambika Institute of Medical Sciences from February 2023 till January 2024.

RESULT: Teenage pregnancy was more common among rural women (58%), in age group of 18 to 19 years (82%) with lower socio-economic status (30%) and poor educational status (32%). It resulted in adverse effects on both the mothers and the babies.

CONCLUSION: My study has shown that teenage pregnancy had a negative impact not only on the foetus but also on the mothers. It is very much essential to spread awareness in society to prevent teenage pregnancies and avoid the consequences due to it. Practices like preventing teenage marriages, spreading awareness about the contraceptive methods and encouraging education among girls should be undertaken effectively.

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KEY WORDS: Pre-eclampsia, maternal mortality, contraceptives, non-reassuring fetal status, cephalo-pelvic disproportion.

INTRODUCTION:

According to UNICEF, teenage pregnancy is defined as an age, usually within the age group of 13-19 years, becoming pregnant and referring to girls who have not yet attained legal adulthood which varies across the world. Though it is a global public health issue, 95% cases of teenage pregnancy are reported in developing countries [1]. Comparing to women in twenties, teenage girls between the age group of 15- 19 years are at higher risk of death duringpregnancy[2]. Bangladesh, Brazil, the Demographic Republic of Congo, Ethiopia, India, Nigeria and the United States of America are the seven countries, that constitute for almost more than half of world's adolescent pregnancies, according to WHO [3,4]. Lack of knowledge on contraceptive utilization, socioeconomic dependence of women on men and peer influence were found to be the determinants of teenage pregnancies in developing countries [5]. United States had the highest rateof teenage pregnancy with 57 pregnancies per 1000 adolescents in 2010[6]. Eventhough, marriage before the age of 18 is pronounced illegal in India, as updated in the Child Marriage Act, 2006, girls from poor rural areas continue to get married at an early age. Owing to the poor knowledge on sexual and reproductive health and societal pressure, 31% of Indian women deliver before the age of 18 years. Studies from various parts of the world had shown that babies born to adolescent mothers are at higher risk of prematurity and Intrauterine fetal death[7,8,9]. Globally, the maternal mortality rate was estimated to be 211 deaths per 100,000 live births, in 2017,which showed a reduction of 38% since the year 2000 [10]. Further reduction in maternal mortality rate can be achieved by preventing teenage pregnancies. Complications resulting from pregnancy and delivery among teenage mothers are the major cause of death among them[11]. Teenage pregnancy is considered as a high-risk condition with adverse maternal and perinatal outcome[12]. Anemia,prematurity, fetal growth restriction, low birth weight, congenital anomalies and NICU admissions were reported at a higher rate[13]. Adolescent pregnancies also prevent the teenagers from reaching their full potential and enjoying their basic human rights[14]. Pregnancy at an early age can affect their future earning potential, leading to lifelong poverty[15]. Adolescent pregnancies decreasethe learning potential, with increased likelihood of dropping out from high school[16]. Studies have showed that establishing teenage antenatal clinics would result in better pregnancy outcomes[17].

AIM:

To assess the effects of adolescent pregnancies on maternal and perinatal outcome.

METHODS:

This was a prospective study carried out in the Department of Obstetrics and Gynaecology, Sree Mookambika Institute of Medical Sciences, Kulasekharam, Kanniyakumari district, for a period of one year from February 2023 to January 2024. The study was performed among teenage antenatal mothers attending our Out Patient Department, with singleton pregnancy, more than 28 weeks of gestation. Informed written consent were obtained from all study participants. Patients referred from other hospitals were also thoroughly examined. Reasons for referral were noted and previous reports were reviewed. Detailed history including age, parity, age at menarche, booking status, years of marriage, last menstrual period, gestational age, past medical, surgical and obstetric history were recorded. Necessary investigations were done. General physical, systemic and obstetric examinations were done. Antenatal corticosteroids were administered for gestational age < 34 weeks. Fetal condition was evaluated using FHR monitoring, CTG and Ultrasound. Patients were kept

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on regular follow up to detect pregnancy related complications. The mode of delivery they underwent and the maternal and perinatal outcomes among the teenage mothers were recorded.The data was analyzed by SPSS version 20. The study was approved by our Institutional Ethics and Research Committee.

Inclusion criteria:

Age between 13 - 19 years.

Primigravida / multigravida

Singleton pregnancy

Gestational age of 28 weeks and above

Exclusion criteria:

Age > 20 years

Unreliable menstrual dating

Multiple pregnancy

Any chronic medical or bleeding disorders.

RESULTS:

This was a hospital based prospective study to assess the fetomaternal outcome of women with teenage pregnancy.

TABLE 1		
Age (years)	No of patients	Percentage %
<15	-	-
16-17	8	8.8
18-19	82	91.1
Booking status		
Booked	77	85.5
Un-booked	13	14.4
Residence		
Urban	32	35.5
Rural	58	64.4
Socio economic status as per K.S classification		
Upper	9	10
Upper middle	11	12.2
Lower middle	21	23.3
Upper lower	19	21.1
Lower	30	33.3
Educational status		
Illiterate	5	5.5
Primary	32	35.5
Middle school	33	36.6
Higher secondary	20	22.2
Marital status		

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Married	82	91.1
Unmarried	8	8.9
GRAVIDA		
Gravida 1	81	90
Gravida 2	9	10
Gestational age		
28– 32	13	14.4
33 – 36	32	35.6
37 – 40	43	47.8
≥40	2	2.2

During the study period, 2110 deliveries were conducted in our institution, out of which 106 deliveries were by teenage mothers. Hence the rate of teenage pregnancy over the study period was 5.1%. After satisfying the inclusion and exclusion criteria, 90 teenage antenatal mothers were included in the study. The mean age of the study participants was 17.52 ±1.34 and the mean gestational age was 36 weeks.

The demographic characteristics of the antenatal mothers are depicted in Table 1.

Majority of the study participants were in the age group of 18- 19 years (91.1%) and 8 (8.8%) were in the age group 16-17 years. None of the women were less than 15 years.

Out of the 90 cases, 77 (85.5%) cases were booked and 13 (14.4%) were referred from peripheral hospitals for various reasons. 58 (64.4%) women were from rural and 32(35.5%) were from urban areas.

Most of the women (33.3%) were belonging to lower socioeconomic status(Modified Kuppuswamy scale).

Regarding educational status, majority of the teenage mothers (36.6%) in my study had middle school education, followed by 35.5% of them with primary school education and 22.2% with higher secondary school education. About 5.5% of teenage mothers were illiterates too.

Majority of the teenage mothers in my study were married (91.1%) whereas the remaining 8.9% were unmarried. Eighty-one (90%) out of ninety women were primigravida and the remaining 9 (10%) were gravida 2. All these second gravidae had past history of one abortion.

Out of the 90 study participants, most of the women (47.8%) came under the gestational age group of 37 to 40 weeks, followed by 35.6% between 33 to 36 weeks of gestation and 14.4% of women between the gestational age of 28 to 32 weeks. Only 2.2% of the women were more than 40 weeks of gestation.

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TABLE 2:		
Mode of delivery	No. of patients	Percentage %
Spontaneous vaginal delivery	61	67.7
Instrumentation	17	18.8
Caesarean section	12	13.3

Out of the total 90 teenage mothers, 61 (67.7%) went into spontaneous vaginal delivery. Instrumental delivery was performed for 17 (18.8%) women and the remaining 12 (13.3%) ended up in Caesarean Section.

TABLE 3:

INDICATIONS FOR CAESAREAN SECTION:		
INDICATIONS	NUMBER	PERCENTAGE%
Pre-eclampsia with failed induction	25	27.7%
Non-Reassuring Fetal Status	19	21.1%
Malpresentation	17	18.8%
Cephalo-pelvic disproportion	08	8.9%
Contracted pelvis	02	2.2%
Obstructed Labour	04	4.4%

Preeclampsia was the most common indication (27.7%) for Cesarean Section in my study. Women who were overweight and obese before pregnancy had a greater risk of developing pre-eclampsia. Following Preeclampsia, Non-reassuring fetal status was the next common indication covering 21.1% of cases. Seventeen teenage mothers (18.8%) who underwent Caesarean Section had Malpresentation as the indication, while 8.9% had Cephalo-pelvic disproportion and 4.4% had Obstructed labour. Contracted pelvis was the indication in about 2.2%.

TABLE 4:

Maternal complications	No. of patients	Percentage %
Anaemia	31	34.4%
Preterm delivery	30	33.3%
Post partum hemorrhage	21	23.3%
Hypertensive disorders	19	21.1%
Instrumental delivery	17	18.8%
Gestational Diabetes Mellitus	15	16.6%
Postpartum psychosis	09	10.0%

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Amongst the 90 participants, 34.4% of them ended up in anaemia, which is the most common complication of teenage pregnancies, due to poor nutrition and poor intake of iron tablets. 33.3% of the women had preterm deliveries, while 23.3% of them had Post partum haemorrhage. 19 women out of ninety (21.1%) had hypertensive disorders. Instrumental deliveries were conducted in 18.8% while Gestational Diabetes Mellitus was diagnosed in 16.6% of women. The most alarming maternal complication of postpartum psychosis was encountered in 10% of study participants.

TABLE 5:

Neonatal complications	No. of neonates	Percentage%
Low birth weight	35	38.8%
Perinatal asphyxia	20	22.2%
Hyperbilirubinemia	12	13.3%
Sepsis	3	3.3%

The most common neonatal complication encountered in my study was Low birth weight because of improper nutrition intake. 38.8% of the neonates born to teenage mothers had Low birth weight. Perinatal asphyxia was found in 22.2% of babies and Hyperbilirubinemia in 13.3% of them. To the least, 3.3% of them had Neonatal sepsis.

DISCUSSION:

Total number of deliveries over the study period was 2110, out of which 106 were teenage pregnancies, giving an incidence of 5.1%. This was comparable to the findings by Devi G et al, [18] where the incidence was being 5.56%. But the rate was less compared to that given by the NFHS-59[19]which was 7% (in 2019-2021) and 8% (in 2015-2016). It is considered that this change is because of women's move to become more educated. The mean age of the adolescent mothers in the study group was 17.52±1.34, whereas the mean age was 18.5 years in a study by Farida Wagan et al.[20]

Similar to the results of my study, Abebe AM et al [5]also showed that the majority of teenage mothers had their residence in rural areas.

Educational status of teenage mothers played a major role in my study which showed that educational status was inversely proportional to incidence of teenage pregnancies. Similarly, Mohr R et al [21] also had the result that women with low educational status had higher incidence of teenage pregnancies.

In contrast to the results of my study,Ijarotimi et al[22] states that majority(51.76%) of the teenage mothers were un-booked cases while my study results showed that only 14.4% of teenage mothers were un-booked and the remaining 85.5% were booked cases.

Similar to the study results of Ijarotimi et al[22],in which 92.12% of the study participants were primigravidas, my study also had 90% of primigravida women whereas only 10% were gravida 2 mothers.

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My study results showed that Spontaneous vaginal delivery was more common than Caesarean Section. This was in par with Zhang T et al [23]conclusion which stated that adolescents were less likely to have failure to progress or cephalopelvic disproportion and hence less Caesarean Sections.

Anaemia (34.4%) and preterm delivery (33.3%) were the major maternal complications in my study whereas Baloch S et al [24] had Pre term labour(20%) and Cephalo Pelvic Disproportion (15.38%) as the major problems.

In my study 38.8% babies were of low birth weight. This was almost in co-relation with the findings of Kassa GM et al[25].

CONCLUSION:

In a developing country like India, teenage pregnancy is still a challenging public health problem. My study on fetomaternal outcome of teenage pregnancy revealed that the most common causes of teenage pregnancy are low socioeconomic status and poor educational qualification among rural women. Teenage pregnancy had its negative impact not only on the teenage mothers but also on the babies. While the mothers were suffering from anaemia and post partum hemorrhage, the babies had low birth weight and perinatal asphyxia. So, the solution to minimize teenage pregnancy is to provide awareness about the maternal and fetal complications of teenage pregnancies, by improving the educational status of women. Their knowledge about various contraceptive methods should be improved. Delaying the average age of marriage among rural women would thus result in better enhancement of maternal and neonatal outcome. Hence, the maternal and fetal morbidities among teenage pregnancies can be minimized.

REFERENCES :

1] Ochen AM, Chi PC, Lawoko S. Predictors of teenage pregnancy among girls aged 13-19 years in Uganda: a community based case-control study. BMC pregnancy and childbirth. 2019 Dec;19(1):1-4.

2] Omar K, Hasim S, Muhammad NA, Jaffar A, Hashim SM, Siraj hh. Adolescent pregnancy outcomes and risk factors in Malaysia. International Journal of Gynecology & Obstetrics. 2010 Dec 1;111(3):220-3.

3] World Health Organization, WHO Guidelines on Preventing Early Pregnancy and Poor Reproductive Health Outcomes among Adolescents in developing Countries, World Health Organization , Geneva , Switzerland, 2011.

4] World Health Organization, World Health Statistics, World Health Organizations, Geneva , Switzerland, 2014.

5]Ababe AM, Fitie GW, Jember DA, Reda MM, Wake GE. Teenage pregnancy and its adverse obstetric and perinatal outcomes at Lemlem Karl Hospital, Tigray, Ethopia, 2018. Biomed research International.2020 Jan 19,2020.

6]Nagandla K, Kumar K. Prevalence of teenage pregnancy in 2015-2016 and its obstetric outcomes compared to non-teenage pregnancy at Hospital TuankuJa'afar Seremban(HTJS), Negeri Sembilan, Malaysia:A retrospective case-control study based on the national obstetric registry, Malaysian family physician: the official journal of thr Academy of Family Physicians of Malaysia.2020;15(2):2

ISSN: 0975-3583,0976-2833 VOL15, ISSUE 10, 2024

7] Demirci O, YILMAZ E, Tosun O, Kumru P, Arinkan A, Mahmutoglu D, Dolgun ZN, Arisoy R, ERDOGDU E, TARHAN N. Effect of young maternal age on obstetric and perinatal outcomes: results from the tertiary center in Turkey, Balkan medical journal.2016 May 1:33(3):344-9.

8] Kawakita T,Wilson K, Grantz KL, Landy HJ, Huang CC, Gomez-Lobo V. Adverse maternal and neonatal outcomes in adolescent pregnancy. Journal of Pediatric and adolescent gynecology.2016 Apr 1;29(2):130-6.

9] Lee SH, Lee SM, Lim NG, Kim HJ, Bae SH, Ock M, Kim UN, Lee JY, Jo MW. Differences in pregnancy outcomes, prenatal care utilization , and maternal complications between teenagers and adult women in Korea: a nationwide epidemiological study. Medicine. 2016 Aug;95(34).

10]WHO. Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division.2019

11] Ogunwale OI, Rangiah S. Profile and obstetric outcome of teenage pregnancies compared with pregnant adults at a district hospital in KwaZulu- Natal. South African Family Practice.2021 Sep 7;63(3)

12] Ampiah MK, Kovey JJ, Apprey C, Annan RA. Comprehensive analysis of trends and determinants of anaemia between adult and teenage pregnant woman in two rural districts of Ghana. BMC public health. 2019 Dec;19(1):1-9.

13] Karai A, Gyurkovits Z, Nyari TA, Sari T, Nemeth G Orvos H. Adverse perinatal outcome in teenage pregnancies: an analysis of a 5 year period in Southeastern Hungary, The Journal of Maternal-Featl&Neoanatal medicine, 2019 Jul 18;32(14):2376-9.

14]Mezmur H, AssefaN, Alamayehu T. Teenage pregnancy and its associated factors in eastern Ethiopia: a community-based study. International Journal of Women's health.2021 Feb 26:267-78.

15] Akella D, Jordan M. Impact of social and cultural factors on teen pregnancy. Journal of Health Disparities Research & Practice.2015 March 1;8(1).

16] Lin CJ, Nowalk MP, Ncube CN, Aaraj YA, Warshel M, South-Paul JE. Long term outcomes for teen mothers who participated in a mentoring program to prevent repeat teen pregnancy. Journal of the National Medical Association.2019 Jun 1;111(3):296-301.

17] Indarti J, Al Fattah AN, Dewi Z, Hasani RD, Mahdi FA, Surya R. Teenage pregnancy: obstetric and perinatal outcome in a tertiary care center in I ndonesia. Obstetrics and Gynecology international.2020 Mar 26;2020.

18] Devi G, Kayalvizhi, Poovathi M. Study of fetomaternal outcome of teenage pregnancy in a tertiary care hospital-MGMGH. Int J Reprod Contracept ObstetGynecol2019;8:303-7.

19] Govt of India, National family health survey NFHS-5 2019-2021. Available at: https://main.mohfw.gov.in/sites/default/files/HealthandFamilyWelfarestatisticsinIndia201920.pdf

20] Wagan F, Ali R, Naqib M, Hashmi IQ, Naqvi HR, Hashmi KT, Hashmi AR. Fetomaternal Outcome of Teenage Pregnancy among Women Attending Antenatal Clinic at Peoples Medical College Hospital Nawabshah. PAKISTAN JOURNAL OF MEDICAL & HEALTH SCIENCES. 2018 Jul1; 12(3):1106-8.

21] Mohr R, Carbajal J, Sharma BB. The influence of educational attainment on teenage pregnancy in low-income countries: A systematic literature review. Journal of social work in the global community. 2019;4(1):2.

ISSN: 0975-3583,0976-2833 VOL15, ISSUE 10, 2024

22] Ijarotimi OA, Biobaku OR, Badejoko OO, Loto OM, Orji EO. Obstetric outcome of teenage pregnancy and labour in Obafemi Awolowo University Teaching Hospitals complex, Ile-Ife: A ten year review. Tropical Journal of Obstetrics and Gynaecology. 2019 Apr 23;36(1):105-11.

23] Zhang T, Wang H, Wang X, Yang Y, Zhang Y, Tang Z, Wang L. The adverse maternal and perinatal outcomes of adolescent pregnancy: a cross sectional study in Hebei, China. BMC pregnancy and childbirth. 2020 Dec;20(1):1-0.

24] Baloch S, Farooq S, Awan S. Study of Fetomaternal Outcome of Teenage Pregnancy. Pakistan Journl of Medical & Health Sciences. 2022 Jun 16;16(05):606-.

25]Kassa GM, Arowojolu AO, Odukogbe AA, Yalew AW. Adverse neonatal outcomes of adolescent pregnancy in Northwest Ethiopia. PloS one. 2019 Jun 13;14(6):e0218259.