



STUDY OF MATERNAL AND NEONATAL OUTCOME OF ADOLESCENT PREGNANCY

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ABSTRACT

Background: To study the maternal and foetal outcome in adolescent age group of pregnancy

Methods: A prospective case control study consist of an analysis of pregnancy outcome in 200 adolescent pregnant cases (below 19 year age) compared to 200 adult pregnant women

Result: There is increased chances of adolescent pregnancy. The selected outcome showed significant variations in both group with increase rate of caesarean sections, mortality, foetal distress and NICU admissions

Conclusion: In conclusion, we should consider that Adolescent pregnancy is a high risk condition having serious physical, mental & social impact on both, the mother & child.

KEYWORDS :

INTRODUCTION

ADOLESCENCE is a period of transition from childhood to adulthood. According to WHO, the period of adolescence extends from 11-19 years. Pregnancy during this period is called adolescent pregnancy. It is one of the most important social and public health problems all over the world with a varying prevalence rate. Adolescent pregnancy represents a high risk group in reproductive terms because of the double burden of reproduction and growth¹. Adolescents make up more than one billion i.e. nearly one fifth of the world population². According to UNICEF, **worldwide every 5th child is born to a adolescent mother**. Worldwide 13 million births each year occur to younger than 19 years girls. The incidence of adolescent pregnancies varies dramatically between different countries³. Approximately 90% of the adolescent births occur in developing countries. Nevertheless, there is also a significant variation in adolescent pregnancy and birth rates between developed countries, although the adolescent pregnancy and birth rate are significantly lower in developed than in developing countries⁵.

Take these numbers: 11 per cent of all pregnancies in world are linked to adolescents. India is home to 33 percent of child brides on earth; 16 million girls between 15 and 19 in India become pregnant each year. Half of the 4.85 crore pregnancies in India were unintended; delaying the onset of child bearing could reduce India projected 2050 population of 1.7 billion by 25.1 percent.

Ninety-five per cent of these births occur in low-income and middle-income countries⁶. Although adolescents aged **10-19 years account for 11% of all births worldwide**, they account for **23% of the overall burden of disease**. Due to pregnancy and childbirth, **14 % of all unsafe abortions** in low-income and middle income countries are among women aged 15-19 years⁷. Stillbirths and death in the first week of life are 50% higher among babies born to mothers younger than 20 years than among babies born to mothers 20-29 years old. The rates of preterm birth, low birth weight and asphyxia are higher among the children of adolescents, all of which increase the chance of death and of future health problems for the neonate⁸.

Adolescent pregnancies result from poverty, underage marriage, rape, peer pressure on girls and boys to engage in sex, which mostly is unprotected because of their lack of knowledge of contraceptives and contraceptive services.

Although **child marriage is a cognizable offence in India**, it is still a common practice in many parts of the country. A high fertility rate, social customs, poverty and ignorance make

early marriage a common feature in this part of the world. So, this adolescent group is most vulnerable and maximum attention should be diverted to them⁹. With modernization, adolescent pregnancy rate is rapidly declining in developed countries, but it is still high in developing countries like India. **Within South Asia, the recorded adolescent pregnancy is highest in Bangladesh 35% followed by Nepal 21% and India 21%**¹⁰. Complications of pregnancy and childbirth in women between 15-19 years of age are the leading cause of mortality among women in India. Hence adolescent pregnancy is a serious problem today all over the world and more so in developing countries like India¹¹.

Some important factors have strongly influenced the adolescent pregnancy rate in recent decades¹¹. The first factor is the **declining age of menarche**. Historical data from the United States and several European countries show a clear secular trend, with age at menarche declining at a rate of 2-3 months per decade since the 19th century, resulting in overall decline of about 3 years¹³. The decline in the age of menarche is attributed mostly to improved health and nutrition¹⁴. The second factor is the **first sexual activity**, initiated at a much younger age. The youth risk behaviour study (YRBS) suggested that almost one-half of the United States high school students have had sexual intercourse in their lifetime, while ~7% initiated sexual intercourse before the age of 13 years¹⁵. The third factor is the **low usage of contraception**. Although knowledge and use of contraception has been increasing globally, many adolescents have inadequate protection against pregnancy and contraception use among adolescents is still very low. For example, in 2005, only 51.8% adolescents consistently used contraception in Italy¹⁶.

This may be related to less education awareness about contraception, and less access to contraceptives and emergency contraception. Approximately one million adolescents become pregnant in the United States every year, with ~500,000 births occurring to school age mothers with 11-19 years old¹⁷. Although recent USA data have shown a decrease in the proportion of adolescent births over the last 10 years, adolescent childbirth rate in the United States remained at least five times greater than that of other industrialized countries¹⁸.

Objective of this study is to find out the incidence and to evaluate the effect of pregnancy in adolescent girls (13-19 years) and its maternal and neonatal outcomes.

AIMS AND OBJECTIVES

- To study the neonatal morbidity and mortality associated with adolescent pregnancy.
- To study the maternal risk factors associated with adolescent pregnancy.
- To study the sociocultural parameters like age, parity, education, religion, socioeconomic condition, marriage status and contraception awareness in adolescent pregnancy
- To study the maternal complications of adolescent pregnancy.

MATERIALS AND METHODS

This is a prospective study of Feto-maternal outcome in adolescent pregnancy.

The study was carried out in Department of Obstetrics and Gynaecology of tertiary care hospital, after the approval of college ethical committee between 1st Jan 2019 to 31st Nov 2020 fs.

- Study area: The study was conducted in tertiary care hospital.
- Study design: Prospective, Cohort, Observational.
- Sample size: Patient fulfilling all the above eligibility criteria were included. Sample size was 200
- Study period and population:

It was a prospective study between 1st Jan 2019 to 30 Nov 2020. All patients from OPD and IPD screened for adolescent pregnancy according to the document proof supporting their age like Adhaar card and Birth certificate.

All patients below and including 19 years of their age (at the time of delivery) were taken into the study group and evaluated for the results supporting adolescent pregnancy and its foetal & maternal outcome and the complications were studied in detail.

200 patients were found to be adolescents who had correct age proof document.

METHODOLOGY

- A complete obstetrics history was taken.
- Age was documented on the basis of age proof document.
- Detailed clinical, past, personal, marital, socioeconomic history, family, menstrual, obstetrics history was noted.
- General physical examination –temperature, pulse, BP, height and weight was noted. Systemic examination was done.
- Sterile per speculum examination was conducted for any leak/bleed.
- Sterile digital examination was done to assess cervical dilatation, effacement, station, consistency and position of cervix.
- USG Obstetrics & Doppler was carried out accordingly.
- Patient was followed up for mode of delivery, if LSCS then indication of LSCS, any maternal complication, whether they required blood transfusion, baby status, baby cried immediately after birth or not, whether any NICU admission, if yes, then cause of NICU admission, any neonatal death and if yes, its cause.

INCLUSION CRITERIA

- All patients <20 years of age who attend the ANC clinic-booked unbooked and referred in tertiary care hospital.
- All patients whose age can be confirmed by any of the age proof document.

EXCLUSION CRITERIA

- All patients who do not have any age proof document.
- Patients with abortion and MTP

DATA ANALYSIS

- Qualitative data was represented in the form of frequency and percentage.
- Qualitative data included parity, gestational age by LMP

and USG, occupation, maternal risk factor, clinical findings on admission, mode of delivery, maternal trauma, cause of NICU admission and cause of neonatal death.

- A tabulated master chart was used in analysing the collected data. The collected information was entered into master chart and each similar variable were tabulated and made into graph.
- Results were graphically represented.
- Appropriate statistical software, including but not restricted to MS excel, SPSS was used for statistical analysis. Graphical representation was done in MS excel 2010.

The database was then compared with similar studies published previously.

OBSERVATION & RESULTS

1) Incidence of adolescent pregnancy

Total cases	No of adolescents	Percentage
2110	200	9.4

Out of the total 2110 cases, from above mentioned study period of one and a half years, 200 were adolescents that is 9.4 %.

2) Age distribution of the adolescent mother

Age of mother	No of cases	Percentage
<16	6	3.24
16-19	194	96.76
TOTAL	200	100

3) Comparison between ANC registration of adolescent mothers & adult mothers (20-30yrs)

ANC visit	Cases	%	Control	%
Booked	154	78.7	144	62.03
Unbooked	46	21.2	56	37.9
Total	200	100	200	100

4) Socioeconomic status of adolescent mothers

Socioeconomic status	No of cases	Percentage
Lower class	144	72
Middle class	48	24
Upper class	8	4
Total	200	100

5) Body Mass Index in Adolescent pregnancy

BMI	No of cases	Percentage
<18.5	33	16.2
19-24	101	50
25-<30	54	27
>30	12	6
Total	200	100

6) Comparison of residential status between adolescent mothers & adult mothers (20-30yrs)

Residence	Cases	%	Control	%
Rural	168	84	118	59
Urban	32	16	82	41
Total	200	100	200	100

7) Marital status of the adolescent mothers

Marital status	No of cases	Percentage
Unmarried	12	6
Married	188	94
TOTAL	200	100

8) Gravidity of adolescent mothers

Gravida	No of cases	Percentage
Primigravida	182	91
Multigravida	18	9
TOTAL	200	100

9) Comparison of mode of delivery between adolescents & adult (20-30yrs) pregnancy

Mode of delivery	Cases	%	Control	%
Vaginal	136	68	190	87.9
LSCS	56	28	22	10.1
Instrumental	8	4	4	1.85
TOTAL	200	100	200	100

10) Comparison between the risk factors of Adolescent pregnancy and Adult pregnancy (20-30yrs age)

Complications	Cases	Percentage	Control	Percentage
Anemia	43	21.5%	24	11.1%
Preterm	28	14%	12	5.5%
Pre eclampsia	30	15%	15	6.9%
Eclampsia	12	6%	8	3.7%
IUGR	10	4.6%	6	2.7%
PROM	46	23%	20	9.2%
Oligohydraminos	8	4%	5	2.3%
Polyhydraminos	6	3%	1	0.46%
Multiple pregnancy	4	2%	2	0.9%
GDM	3	1.2	5	2.3%
APH	5	1	5	2.3%
Chronic HTN	0	0	6	2.7%

11) Comparison of indication for caesarean section between adolescent & adult (20-30yrs) pregnancy

Indication for LSCS	Cases	%	Control	%
Fetal distress	9	5%	8	36.3
Malpresentation	4	2.24%	3	13.6
Cephalopelvic disproportion	9	16%	8	36.3
Pre-eclampsia+ Eclampsia	14	25%	1	4.5
Oligohydraminos	3	1.3%	2	9.0
Prolong PROM	8	14%	0	0

12) Comparison between adolescent & adult mothers for NICU admission

NICU admission required	No of cases	Percentage	Control	Percentage
Yes	44	22	35	17.5
No	156	78	165	82.5
TOTAL	200	100	200	100

13) Comparison between the reason for NICU admission in adolescent pregnancy and Adult (20-30yrs) pregnancy

Reason for NICU admission	Cases	Percentage	Control	Percentage
Preterm	16	36.4%	10	28.5%
LBW	15	34%	6	17.1%
MAS	6	13%	5	14.2%
RD	7	15.9%	5	14.2%
PROM	9	17.0%	6	17.1%
IUGR	2	3.8%	2	5.7%
Congenital anomaly	1	1.9%	1	2.8%

14) Baby weight in adolescent pregnancy

Baby weight	No of cases	Percentage
<1.5	12	6
1.5-2	21	10
2-2.5	40	19
2.5-3	117	58.5
>3	20	9
TOTAL	200	100

DISCUSSION

Adolescent pregnancy have negative social and economic effects on girls and is of serious concern because maternal age plays a significant role in adverse outcome and complications of pregnancy. Adolescent pregnancy represents a high-risk group in reproductive terms because of the double burden of reproduction and growth. The combination of poor nutrition and early child bearing expose young women to serious health risks during pregnancy and

childbirth, including damage to the reproductive tract, pregnancy related complications, such as anaemia, preeclampsia, preterm labour, perinatal and neonatal mortality, and low birth weight.⁵⁸

Adolescent unmarried pregnancy face stigma or rejection by parents and peers and threat of violence and it has an impact on society, for when individuals cannot realize their full educational and occupational potential, society loses their economic contributions. First, most of the impacts on later economic well-being are indirect. That is to say, an early birth reduces schooling and increases later family size. It is these variables that reduce later labour force participation, earnings and family income, not the early birth per se. This implies that if the links between an early birth and schooling or family size could be broken, so would the link between an early birth and economic disadvantage. This is the optimistic part. It has proved difficult, in fact, to break these links. Second, the factors that disadvantage early child bearers relative to later child bearers in economic well-being are the same factors that discriminate the more from the less successful early child bearers. One difference is that for certain types of adolescent programs eligibility depends on childbearing status.⁵⁹

Child marriage and early confinement is a long established custom in India, with poverty and ignorance magnifying the problem. In our country, adolescent pregnancies after marriage, have social approval but have an adverse impact on maternal mortality and perinatal morbidity. Pregnancy in very young women is generally considered to be a very high risk event, because adolescent girls are physically and psychologically immature for reproduction. In addition, there are some extrinsic factors such as inadequate prenatal care, illiteracy, and poor socio-economic conditions that affect the outcome of pregnancy in adolescent girls.

If early marriages cannot be discouraged, as the situation still prevails in rural areas of India, three steps can be taken for prevention of complications of adolescent pregnancy through enhanced Family Welfare measures:

- Delay marriage as much as possible
- Delay the first pregnancy
- Delay subsequent pregnancies

Peoples are particularly sensitive and defensive about sex education , The physical body , attitudes, powerful feelings aroused particularly in adolescents need to be discussed at home .Sex education that is responsible and medically accurate, begins in kindergarten, and continues in an age-appropriate manner through the 12th grade is necessary given the early ages at which young people are initiating intercourse. In fact, the most successful programs aimed at reducing adolescent pregnancy are those targeting younger adolescents who are not yet sexually experienced. Sex education programs that are balanced and realistic, encourage students to postpone sex until they are older, and promote safer-sex practices among those who choose to be sexually active have been proven effective at delaying first intercourse and increasing use of contraception among sexually active youth. These programs have not been shown to initiate early sexual activity or to increase levels of sexual activity or numbers of sexual partners among sexually active youth.

The present study was undertaken to study the maternal & foetal outcome of adolescent pregnancy in parturient admitted to the tertiary care hospital from January 2016 to July 2017 after obtaining institutional ethical committee approval. In the present study, 216 cases were included who fulfilled the inclusion criteria.

1) Table no.1 represents Incidence of adolescent pregnancy

Sr. No	Author	INCIDENCE	STUDIED ON	Percentage	TYPE OF STUDY
1.	Pathak et al 2003	151	Randomly from village	22%	QUANTITATIVE AND EXPERIMENTAL
2.	Thikira Najim et al 2015 ³⁸	220	1200	11%	QUANTITATIVE
3	Present study	200	2100	5.4%	QUANTITATIVE AND QUALITATIVE
4	Shreshtha 2001	575	1150	50%	QUANTITATIVE
5	Ganatra and Hirve 2002	226	1491	15.15	QUALITATIVE
6	Weerasekera 1997	1600	14699	10.8	quantitative

2) Table no.2 represents the age group of the adolescent patients.

Sr. No	Author	Age	N	Percentage
1.	Shagufta Tabassum et al 2014 ⁴²	<16	12	5.8
		16-19	195	94.2
2.	Present study	<16	15	6.94
		16-19	201	93.05

3) Table No.3 represents whether the adolescent was ANC registered or not

Sr. No	Author	Booked/ Unbooked	N	Percentage
1.	Thikira Najim et al 015 ³⁸	Booked	16	65.2
		Unbooked	30	34.8
2.	Ibrahim Isa Ayuba et al 2012 ⁵²	Booked	35	42.2
		Unbooked	48	57.8
3.	Present study	Booked	154	77
		Unbooked	46	23

4) Table no.4 represents the BMI of the adolescent mothers.

Sr.no	Author	BMI	Percentage
1.	Aiste Ugianskiene, et al 2015 ³⁹	<18.5	12 9.6
		19-24	69 55.2
		25-30	27 21.6
		>30	17 13.6
2.	Present study	<18.5	33 16.2
		19-24	101 50.5
		25-30	48 22.2
		>30	12 6

5) Table no.5 represents educational status of adolescent mothers

Sr. No	Author	N	Percentage
2.	Thikira Najim 2015 ³⁸	Literate-10	21.7
		Illiterate-36	78.3
3.	Sana Zahiruddin, et al 2017 ³⁴	Literate-134 Illiterate 318	29.6% 70.4%
4.	Present study	Literate-50	23.1
		Illiterate 166	76.8

6) Table no.6 represents residence status of the adolescent mothers

Sr. No	Author	N	Percentage
1.	Pikee Saxena, S. Salhan, et al 2010 ⁵³	Rural 576 Urban 30	95 5

2.	Mahmoud Edessy, et al 2014 ⁴⁴	Rural 809 Urban 144	84.9 15.1
3.	Sana Zahiruddin, et al 2017 ³⁴	Rural 250 Urban 202	55.3 44.7
4.	Present study	Rural 168 Urban 32	84 16

7) Table no.8 represents relation between the married status and adolescent pregnancy

Sr. No	Author	Percentage
1.	Ibrahim Isa Ayuba et al 2012 ⁵²	72.3 (Unmarried)
2.	T Ganchimeg, et al 2013 ⁴⁶	16.1 (Unmarried)
3.	Present study	14.81 (Unmarried)

Ibrahim Isa Ayuba et al 2012⁵² had 72.3% unmarried in their study.

Whereas, T Ganchimeg et al 2013⁴⁶ had 16.1% unmarried in their study.

Our study had unmarried rate of 14.81%.

8) Table no.9 represents the relation of gravida and adolescent pregnancy

Sr. No	Author	N	Percentage
1.	L Lama, et al 2013 ⁴⁸	Primi 325	93.1
		Multi 25	6.9
2.	Present study	Primi 189	87.5
		Multi 27	12.5

L Lama, et al 2013⁴⁸ studied pregnancy outcome in 350 adolescents of which 325 were primigravidas which accounted to 93.1% and 25 multigravida patients which accounted for 6.9%

My study included 216 adolescents, of which **87.5% were primigravidas and 12.5 were multigravidas** which is similar to the above study.

9) Table no.10 represents relation between the mode of delivery & adolescent pregnancy.

Sr. No	Author	N	Percentage
1.	Gazala Yasmin, et al 2014 ⁸	Vaginal 540	88.38
		LSCS 71	11.62
2.	Florent Ymele Fouelifack Email author 2014 ⁴³	Vaginal 462	83.4
		LSCS 92	16.6
3.	Aiste Ugianskiene, et al 2015 ³⁹	Vaginal 108	80.6
		LSCS 26	33.33
4.	Present study	Vaginal 176	81.48
		LSCS 36	16.66

Incidence of vaginal delivery was 88.38% more than LSCS 11.62% in the study done by Gazala Yasmin, et al 2014⁸. Also, Florent Ymele Fouelifack Email author 2014⁴³ had rate of vaginal delivery (83.4%) more than LSCS (16.6%). Similarly, Aiste Ugianskiene, et al 2015³⁹

Aiste Ugianskiene, et al 2015³⁹ had vaginal delivery rate 80.6% more than LSCS 33.33%.

In our study also, vaginal delivery rate was 81.48% which was much higher than LSCS rate 16.66%.

10) Table no.11 represents Risk factors of adolescent pregnancy

15) ANEMIA

Sr. No	Author	Percentage
1.	Soubhagya Talawar, et al 2012 ⁵¹	30
2.	Ibrahim Isa Ayuba et al 2012 ⁵²	22.9
3.	Ezegwui HU et al 2015 ⁴⁰	32.4
4.	Sana Zahiruddin, et al 2017 ³⁴	28.8
5.	Present study	18.05%

16) Pregnancy Induced Hypertension

Sr. No	Author	Percentage
1.	Ezegwui HU et al ⁴⁰	13
2.	Aparna J. ⁴⁵	13.3
3.	Shagufta Tabassum Shumaila Tabassum Sept 2014 ⁴²	18.4
4.	Seneesh KV and Shah M ³⁷	17.1
5.	Present study	12.5

Incidence of Pregnancy induced Hypertension in our study was 12.5% which was similar to other studies.

17) Preterm

Sr. No	Author	Percentage
1.	Shagufta Tabassum Shumaila Tabassum ⁴²	10.4
2.	Mahmoud Edessy, et al ⁴⁴	13.4
3.	L Lama, et al ⁴⁸	10.9
4.	Aparna J ⁴⁵	11.7
5.	Present study	6.5

Incidence of Preterm was 6.5% which was similar to various other studies.

18) Oligohydraminos

Sr. No	Author	Percentage
1.	Seneesh KV and Shah M ³⁷	4.2
2.	Present study	3.7

19) Polyhydraminos

Sr. No	Author	Percentage
1.	Ekachai Kovavisarach , et al 2013 ⁵⁰	0.1
2.	Present study	0.4

20) PROM

Sr. No	Author	Percentage
1.	Nill F , et al 2002 ⁵⁶	20.3
2.	Pun KD, Chauhan M 2011 ³	29
3.	Present study	18.9

21) IUGR

Sr. No	Author	Percentage
1.	Gazala Yasmin , et al 2014 ⁸	8.4
2.	Thikra Najim et al 2015 ³⁸	8.7
3.	Present study	4.6

15) Multiple pregnancy

Sr. No	Author	Percentage
1.	Dr. Rupakala B ,et al 2013 ⁴⁷	1
2.	Gazala Yasmin et al 2014 ⁸	0.5
3.	Present study	0.4

11) Table no.12 represents the relation between indication of caesarean section & adolescent pregnancy

a) CPD

Sr. No	Author	Percentage
1.	Prianka Mukhopadhyay et al 2010 ²	22.8
2.	Present study	25

CPD was the most common indication of LSCS in our study 25%. Similarly Prianka Mukhopadhyay, et al 2010 had incidence of 22.8%.

b) Malpresentation

Sr. No	Author	Percentage
1.	Gazala Yasmin , et al 2014 ⁸	19.7
2.	Anwar N. Al-Bassam 2014 ⁴¹	20.6
3.	Present study	11.1

Malpresentation accounted for 11.1% of the indication of LSCS in our study.

Incidence in various studies like Gazala Yasmin , et al 2014⁸ & Anwar N. Al-Bassam 2014⁴¹ was 19.7% & 20.6% respectively.

c) Fetal distress

Sr. No	Author	Percentage
1.	Gazala Yasmin , et al 2014 ⁸	9.4
2.	Present study	11.1

Incidence of Fetal distress in our study was 11.1%.

Incidence of fetal distress in Gazala Yasmin , et al 2014⁸ was 9.4%.

12) Table no.13 represents relation between NICU admissions and adolescent pregnancy

Sr. No	Author	Percentage
1.	Nill F et al 2002 ⁵⁶	38.3
2.	Mahmoud Edessy, et al 2014 ⁴⁴	37.2
3.	Present study	24.53

The incidence of NICU admission in our study was 24.53%.

The incidence in Nill F et al 2002⁵⁶ was 38.3% and in Mahmoud Edessy, et al 2014⁴⁴ was 37.2%.

13) Table no.14 represents relation between the cause of NICU admission and adolescent pregnancy

a) LBW

Sr. No	Author	Percentage
1.	Nill F et al 2002 ⁵⁶	32
2.	Soubhagya Talawar, Venkatesh G 2012 ⁵¹	27
3.	Rajal V Thaker, et al 2013 ⁴⁹	17.1
4.	Present study	28.3

Most common reason of NICU admission was LBW, incidence was 28.3% which was similar to Nill F et al 2002⁵⁶ that was 32% & in Soubhagya Talawar, Venkatesh G 2012⁵¹ was 32%.

Incidence in Rajal V Thaker, et al 2013⁴⁹ was 17.1%.

b) Preterm

Sr. No	Author	Percentage
1.	Aparna J.2013 ⁴⁵	11.7
2.	Mahmoud Edessy, et al 2014 ⁴⁴	13.1
3.	Seneesh KV and Shah M 2015 ³⁷	17.1
4.	Present study	26.4

Incidence of preterm babies in our study 26.4%.

14) Table no.15 represents relation between baby weight and adolescent pregnancy

Sr. No	Author	Baby wt range	Percentage
1.	Rajal V Thaker, et al 2013 ⁴⁹	<1.5	6.6
		1.5-2	11.9
		2-2.5	30.8
		2.5-3	35.4
		>3	15.2
2.	Anita Valsaladevi, et al 2017 ³⁵	<2.5	29.9
		2.5-3	46.0
		3-3.5	24.1
		>4	0

3.	Present study	<1.5	6
		1.5-2	10
		2-2.5	19
		2.5-3	57
		>3	9

Maximum babies were in the weight group 2.5-3Kg i.e. 57%.

Similarly, Rajal V Thaker, et al 2013⁴⁹ in the weight group 2.5-3Kg was 35.4%.

Incidence of babies in the weight group 2.5-3Kg in Anita Valsaladevi, et al 2017³⁵ was 46.0%.

15) Table No.16 represents APGAR Score of the babies delivered by adolescents

a) APGAR AT 1 MIN <7

Sr. No	Author	N	Percentage
1.	Mahmoud Edessy, et al 2014 ⁴⁴	74	7.8
2.	Sana Zahiruddin, et al 2017 ³⁴	18	4
3.	Present study	21	9.7

b) APGAR AT 5 MIN <7

Sr. No	Author	N	Percentage
1.	Aparna J 2013 ⁴⁵	1	1.7
2.	Mahmoud Edessy, et al 2014 ⁴⁴	55	5.8
3.	Sana Zahiruddin, et al 2017 ³⁴	4	0.9
4.	Present study	15	6.9

RESULT

This is a prospective study of feto-maternal outcome in adolescent pregnancy.

This study was carried out in Department of Obstetrics and Gynaecology of tertiary care hospital, after approval of college ethical committee between 1st Jan 2020 to 30th November with the aims -

1. To study the sociocultural parameters like age, parity, education, religion, marriage status and contraception awareness in adolescent pregnancy.
2. To study the maternal risk factors associated with adolescent pregnancy.
3. To study the maternal complications of adolescent pregnancy.
4. To study the neonatal morbidity and mortality associated with adolescent pregnancy.

The following observations were made:-

1. The incidence of adolescent pregnancy was 5.4%.
2. Majority of the adolescent mothers were of the age group 16-19yrs (n=194) (96.76%).
3. Majority of the adolescents were booked i.e. 154 (77%).
4. Majority of the adolescents had a BMI ranging in the group of 19-24 i.e. 50% (n=108).
5. Majority of the adolescent mothers (n=168) belonged to rural population 84%. Majority of the adolescent mothers were married (n=184) 92%.
6. Out of the 200 cases, majority of them were primigravida (n=173) 86.5% and 13.5% (n=27) were multigravida.
7. Majority of the adolescents underwent normal vaginal delivery i.e. 68% (n=136) Followed by LSCS i.e. 28% (n=56) and Instrumental delivery accounted for 4% (n=8).
8. Incidence of anemia in our study was 21.5%.
9. Incidence of Preclampsia in our study was 15% & Eclampsia was 12%.
10. Incidence of PROM was 18.9%.
11. Incidence of Preterm delivery was 14%.
12. Incidence of Oligohydramnios was 4% & polyhydramnios 3% was in our study.
13. Preclampsia + eclampsia was the most common indication for LSCS i.e. 25% followed by cephalopelvic disproportion (16%) , Prolong PROM (14%),

Malpresentation (2.24%), Oligohydramnios (1.3%).

14. Out of 200 babies delivered, there were 53 who required NICU admissions.
15. Out of all the babies that went to NICU, the commonest reason for admission was found to be Preterm (16%) followed by LBW(15%) ,PROM(17%), Respiratory distress(15%), Meconium aspiration syndrome(13%), IUGR(3.8%), Congenital Anomaly(1.9%).
16. Maximum babies (n=117) (58.5%) were found to be in the weight group of 2.5-3 Kg.

CONCLUSION

In conclusion, we should consider that Adolescent pregnancy is a high risk condition having serious physical, mental & social impact on both, the mother & child.

The reasons for adolescent pregnancy included early marriage, lack of parental guidance, inadequate knowledge about safe sex, low socio economic status, peer pressure, etc. Amongst the risk factors, premature rupture of membranes is more common followed by anaemia, pre eclampsia, eclampsia, intra uterine growth retardation, multiple pregnancy, oligohydramnios & polyhydramnios in adolescent mothers as compared to the adult mothers (age group- 20-30yrs).

On the other side, amongst the neonates of adolescent mothers, low birth weight was the commonest reason for NICU admission followed by respiratory distress, meconium aspiration syndrome, PROM & congenital anomaly. Whereas in adult mothers (age group 20-30yrs), preterm followed by low birth weight was the commonest reason for NICU admission.

However, it is evident that adolescent pregnancy rates could be reduced by effective measures like sex education in schools, community based programs, widespread awareness about contraception.

Early ANC registration and good antenatal care with effective intrapartum & post partum monitoring along with contraceptive advice on discharge help reduce maternal and neonatal morbidity & mortality associated with adolescent pregnancy.

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