



Influence of Teenage Pregnancy on Maternal and Neonatal Outcomes

K Dr. Sally Yaseen kdair*

Corresponding Author: Dr. Sally Yaseen kdair, MBCHB. Higher Diploma in Obstetrics and Gynecology. Iraqi Ministry of Health, Al- Rusafa Health Directorate / Al- Numan General Hospital. Baghdad –Iraq

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Abstract

Adolescent mothers face substantially higher maternal and perinatal morbidity and mortality than adult women. The purpose of the study is to determine the frequency of teenage pregnancies, and the associated maternal and perinatal outcome. Across sectional study was conducted at two maternal hospitals in Baghdad city. Two hundred eighteen pregnant women were chosen according to specific formula and invited to complete a face to face questionnaire. Participant were inquired about the demographic data and pregnancy history (age, parity, antenatal care, last menstrual period, chronic medical disease) after taking verbal consent from them. Pregnancy outcomes and neonatal outcomes were obtained from mother and child sheets.

The results showed that mean maternal age was 17.5 ± 1.4 years; 59.7% had primary education; 96.8% were housewives and 11.5% had history of abortion. 56.4% of them were living under low socioeconomic levels. 39.4% of them had cesarean section delivery. Anemia was found higher in (22%). Preterm labour was a significant complication associated with teenage pregnancy it was observed in (25.7%). The mean of low birth weight was 2.716 ± 0.30 and 36.7% of neonatal need to get admission to NICU. In conclusion , adverse pregnancy outcomes among teenage pregnant women is an important health problem and a considerable number of teenage pregnant women had experienced two or more forms of unfavorable pregnancy outcomes. Results of this study provide that adolescent pregnancy is associated with increased risk of adverse pregnancy in maternal and neonatal outcomes.

Keyword: - Teenage pregnancy, Maternal, Neonatal, Preterm labour, Outcomes

Introduction

Teenage pregnancies are a global problem in high-, middle- and low-income countries [1]. However, teenage pregnancies are more likely to occur in marginalized communities around the world, due to poverty and lack of educational and employment opportunities [1]. It is estimated that around 21 million girls between the ages of 15 and 19 become pregnant each year in developing regions of the world, of which approximately 12 million girls are born [2]. There are at least 777,000 births to adolescent girls under the age of 15 in developing countries [3].

World Health Organization (WHO) defines teenage pregnancy as “any pregnancy from a girl who is 10-19 years of age”, the age being defined as her age at the time the baby is born [4]. Pregnancy among very young adolescent is a significant problem, in low & middle income countries [5], almost 10% of girls become mothers by age 16 years, with the highest rates in sub-Saharan Africa and south central and south eastern Asia [6]. Rates range from 143 per 1000 in some sub-Saharan African countries to 2.9 per 1000 in South Korea [7]. Early marriage often leads to a higher total number of lifetime births due to a longer period of exposure to the risk of pregnancy.

According to the annual statistical report in Iraq the female adolescent fertility rate (15-19) years was 56.6 (birth for 1000 adolescent) in 2019 and 34.8 (birth for 1000 adolescent) in 2020 this picture shows that the problem is increasing over years [8-9].

Many people believe that young adolescent mothers are at high risk for poor health outcomes during pregnancy and childbirth. There is much controversy over, whether the risks associated with teenage motherhood are attributable to biological factors, lifestyles and socioeconomic conditions [10-11].

Teenage pregnancies have been associated with adverse pregnancy outcomes, specifically with low birth weight, small for gestational age infants, prematurity, and higher rates of neonatal and post-neonatal mortality [12-14]. Other medical problems associated with teenage pregnancy include anemia, urinary tract infection and hypertension. With the exception of the very young adolescent, teenage pregnancy in itself is not biologically harmful [15]. In this study, the objectives were to determine the frequency of teenage pregnancies, and the associated maternal and perinatal outcome in our set-up.

Methodology

This prospective and cross-sectional study was undertaken at Fatima Al-Zahra and Ibn Al-Baladi Hospitals for Women and Children in Baghdad from 1st January to 30th of April 2022. Formal administrative approval is obtained to contact the study from the Ministry of planning - Central Statistical Organization (CSO) which accepted the study questionnaire.

A total of 218 teenagers were included. We included the teenagers who were aged 12-19 years and the women in labour with single viable pregnancy. Multiple pregnancies; intrauterine death and those with chronic illnesses were excluded from this study. A draft of the questionnaire was presented to seventeen experts in order to review and evaluate its contents, clarity relevancy and adequacy to achieve the present study objectives. All of the expert's comments were taken into consideration for modification and revision. The majority of them had agreed that the questionnaire was clear and adequate for the study.

For socio-demographic information we included the age during present pregnancy, age of marriage, age of the menarche, age of the husband, socioeconomic status which included educational status and occupation of wife and husband. For previous obstetric history we included number of pregnancy, history of abortion, and mode of delivery. Maternal outcome measures included presence of anemia, urinary tract infection, preterm labour, and intra-uterine growth retardation, abruptio placentae, post-partum hemorrhage, and gestational age, duration of labour and indication of operative delivery if performed. Perinatal outcome measures included weight and Apgar score of the neonate, perinatal deaths and perinatal morbidities leading to admission to the neonatal care unit like respiratory distress syndrome, neonatal sepsis, meconium aspiration syndrome, congenital anomaly and hypoglycemia.

Data were collected through direct interview of pregnant women and from surveying their medical records using questionnaire form, which was designed for the study purpose.

The purpose of the study was clearly explained to all pregnant women and their verbal consent were obtained, before filling the questionnaire. Antenatal complications of pregnancy were recorded either from antenatal record if available, All women were send for laboratory investigations including hemoglobin level and general urine examination as routine exam and the result were taken from the antenatal record.

The information regarding each case was transferred into code sheets and data entry was done using laptop and statistical analysis of data was carried out using the available statistical package of SPSS-22 (Statistical Packages for Social Sciences- version 22). Data was presented in simple measures of frequency, percentage, mean.

Results

Out of two hundred and eighteen teenager were included in this study, the mean age was 17.5 with Sd 1.4 with the age range from 12 to 19 years, 93.6% were in the age 16 to 19 years old and only 6.4% were in the age group 12-15 years old. The mean age at marriage was 15.4 with Sd 1.3. 67.4% were marriage at age of 11 years followed by 24.3% at age 12 and 1.8% in the age 14 years. 59.7% of them had primary education and 31.7% had intermediate education. 96.8% were housewives and 11.5% of them had a history of abortion [Table1]. In [Table 2] shows the age of husband 44.5% were still in the 20 to 24 years old and 23.9% in the age group 25 to 29 years, 51.4% of them had intermediate education and 69.3% were employed. In [Figure 1] we shows 56.4% of them had low socioeconomic status and 34.9% had moderate SES. In [Figure 2] we show the 88.5% of teenagers had number of pregnancy for one to two and 11.5% for more than 3. In [Figure 3] we show the bar chat for mode of delivery 60.6% of them had normal delivery and 39.4% had cesarean section. Preterm labour 25.7% was the main cause of complication; followed by anemia 22% and 16.5% were abruption placentae [Figure 4]. 51.6% of newborn had weight for 2.5 kg followed by 26.8% of them had weight for 3kg [Figure 5]. The higher percentage of fetal complication was 36.7% had admission to NICU; followed by 33% had low birth weight [Figure 6].

Characteristics of teenage pregnancy		Frequency (218)	Percent
Age	Mean ±Sd	17.5±1.4	
Age groups (years)	12-15	14	6.4
	16-19	204	93.6
Age at marriage	Mean ±Sd	15.4±1.3	
Age at marriage (year)	11	147	67.4
	12	53	24.3
	13	14	6.4
	14	4	1.8
Education of teenage	Primary	130	59.7
	Intermediate	69	31.7
	Secondary and Above	19	8.8
Occupation	Housewives	211	96.8
	Student	7	3.2
History of abortion	Yes	29	11.5
	No	189	86.7

Table 1: Characteristics of teenager's pregnancy

Characteristics of husband		Frequency (218)	Percent
Age groups (years)	<20	23	10.6
	20-24	97	44.5
	25-29	52	23.9
	≥30	46	21.1
Education	Primary	84	38.5
	Intermediate	112	51.4
	Secondary and Above	22	10.1
Occupation	Employed	151	69.3
	Unemployed	67	30.7

Table 2: Characteristics of husband

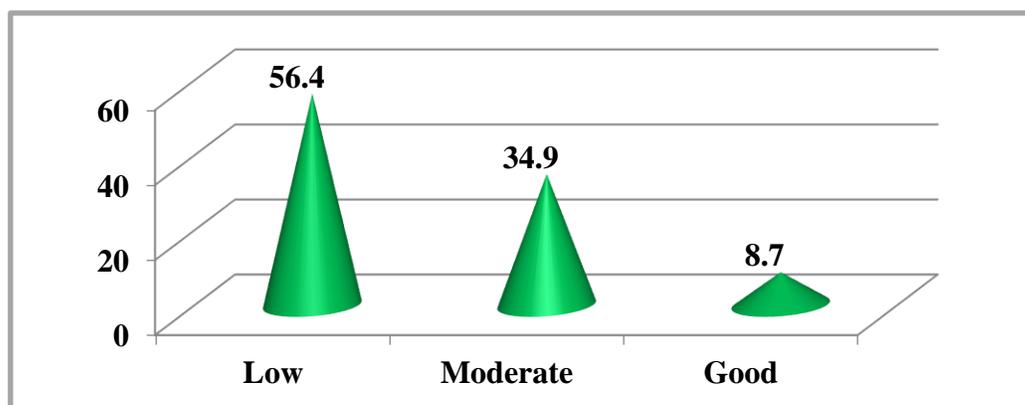


Figure 1: Socioeconomic status among teenagers pregnancy

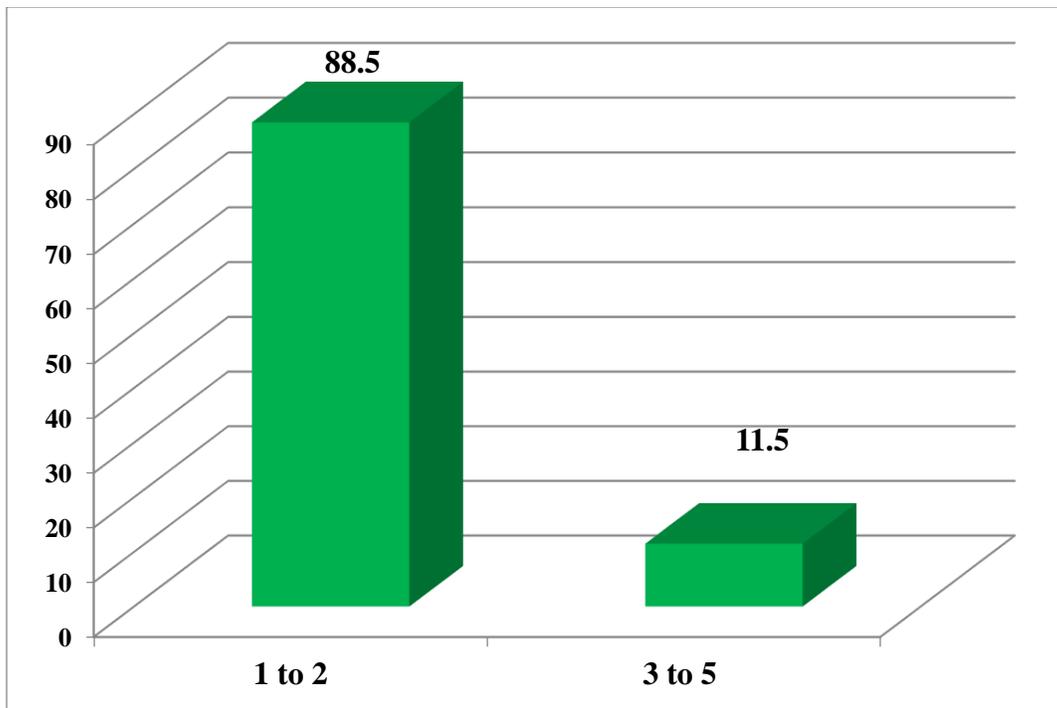


Figure 2: Distribution of teenager's pregnancy according to gravida

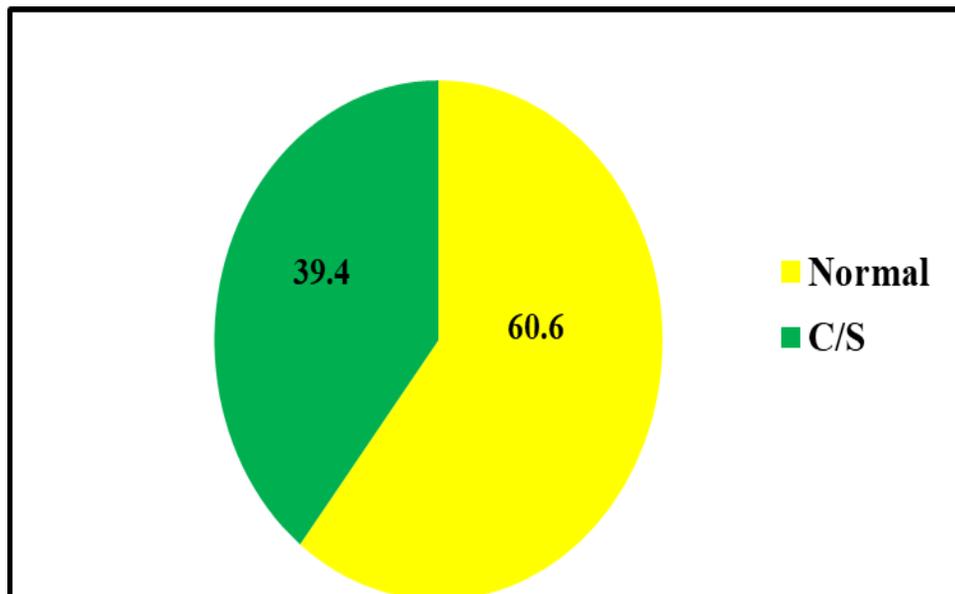


Figure 3: Bi -chart of mode of delivery among teenagers pregnancy

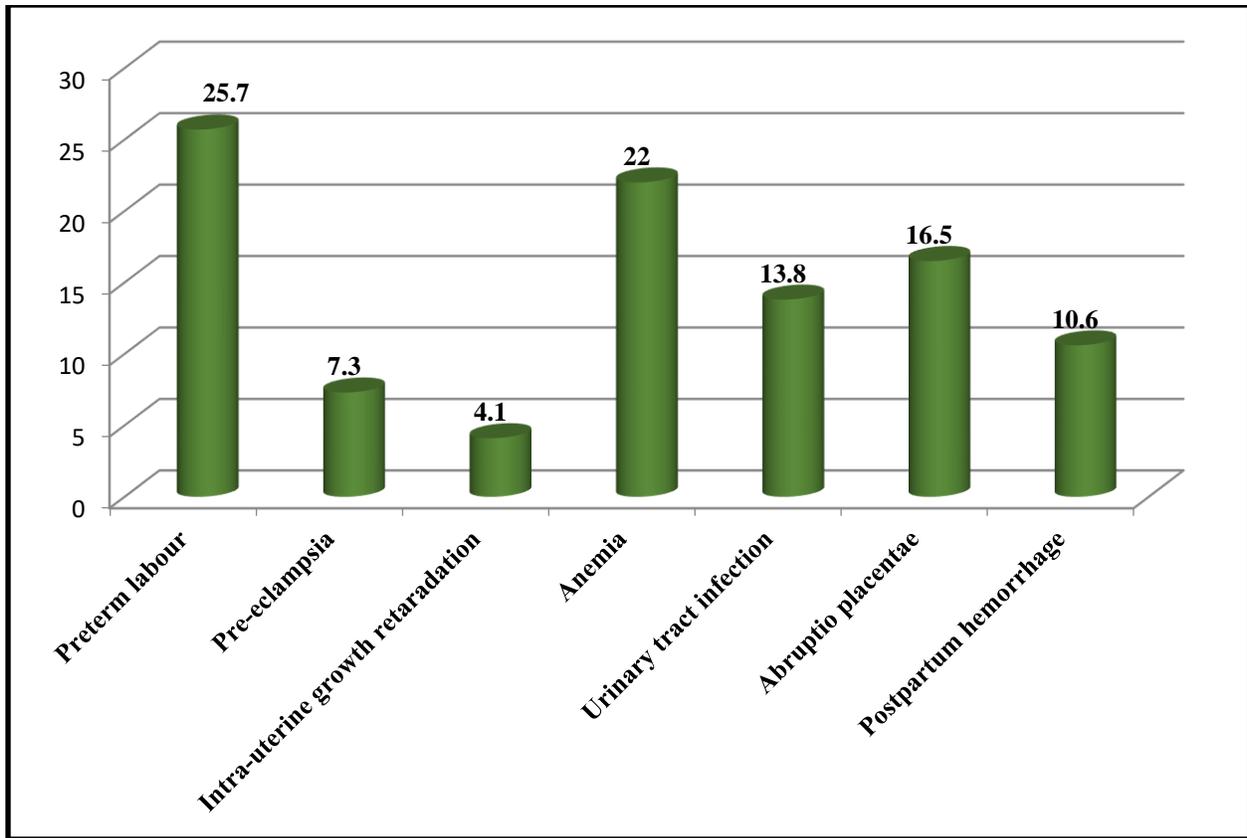


Figure 4: Complication of pregnancy and labour

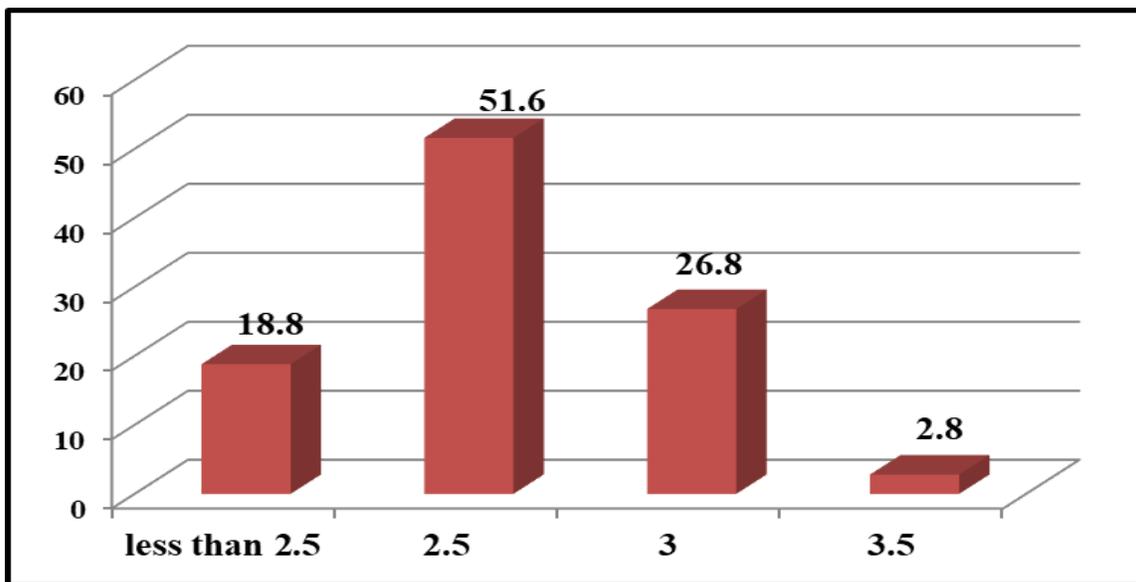


Figure 5: Birth weight of newborn babies

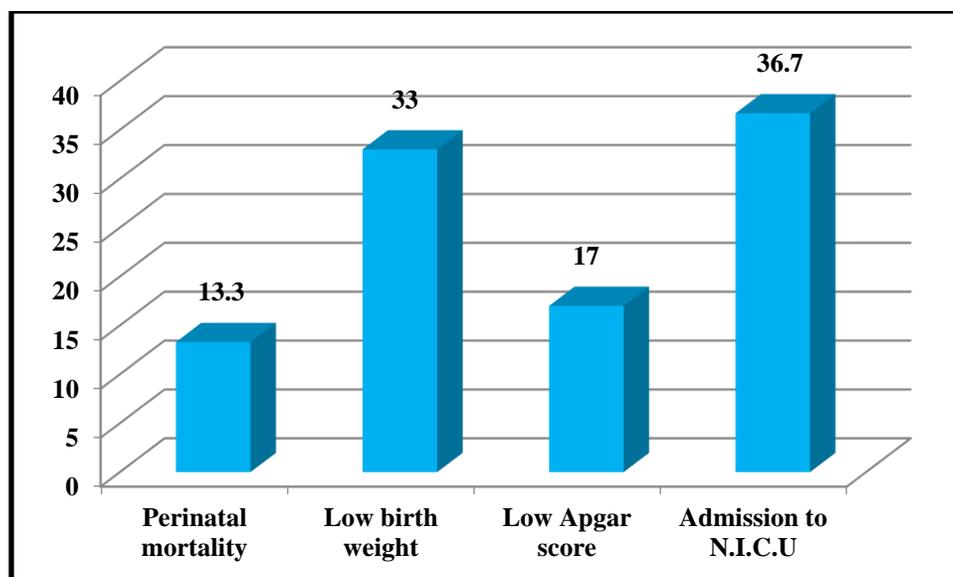


Figure 6: Fetal and Neonatal Complications

Discussion

Adolescent pregnancy is considered a public health problem with social and health impact on quality of the life for both individual and family [16]. Amorin et al suggest that less 15 year age at marriage, low education, maternal history of pregnancy in adolescent and lack of knowledge and access to contraceptive methods are the most significant factors for adolescent pregnancy [17], these factors collectively may influence the maternal and neonatal complication during adolescent pregnancy and must considered in prevention programme.

In the present study the mean age of adolescent mothers was (17.5±1.4) years and the mean age of marriage was 15.4±1.3 years and the menarche age was 11.47 years. This figures indicating that the mean of marriage was just about four years beyond the menarche mean age and thus they still not fully sound physiologically for pregnancy. As a results the teen age pregnant are at high risk of complication development for both women and fetus. This was similar to the mean age reported by other local study done in Baghdad that found the mean age adolescent mother was (17.59±1.27) years[18], and the other study that done in Jordan that reported the mean age of adolescents was (17.4±0.8) years[19]. While of India was (18.46) years and (18.1) years for Turkey [20]. Early age at marriage is culturally acceptable, mean age at marriage in teenage group was (15.4±1.3)years which is comparable to the mean age at marriage in other local study done by Naif which reported the mean age of teenage marriage was (15.84±2.27[18]. The results of the present study also suggest that teenage pregnant women were more likely to live in low socioeconomic status (56.4%).

Many study shows that those in low socioeconomic status are twice more likely to get pregnant as a teenage when compared to those from high socio-economic status [21]. In this study, the education level of (58.3%) of teenage pregnant women was primary, this result agree with other local study done in Basrah that reported (53.4%) of teenage pregnant women had primary education [22]. This present finding also support other study which done in Baghdad that concluded (55.7%) of teenage pregnant women were primary education level [23]. Most of teenage mother's education level did not correlate with their age since they had left school when they got married.

Low education standards are more likely in adolescents and this agreed with the results of study done in Turkey which shows that there was a higher proportion of inappropriate education for age in adolescents [24]. The majority of adolescent pregnant mothers were housewives 96.8%, the finding is consistent with the finding of the past study which done in Baghdad that reported (98.6%) of adolescent mothers are housewives [18], and other study in Saudi Arabia that reported (91.1%) of them were housewives [25]. Regarding to the number of gravida, more than half of the teenage group (55.5%) were primigravida, multigravidity and multiparity were also documented in local study done in Baghdad which reported that (57.8%) of teenage pregnant women were primigravida and (30.6%) were gravida two [18]. The results of this study differs from study carried out in India which found than (83.2%) of teenage pregnant women were primigravida as compared to (41.1%) of adult women with P value <0.01 [26].

This study indicated that abortion history was (13.4%) in teenage group. This results differ from a study done in Finland which estimated that abortion rate was (7.3%) in teenage mothers [27]. In addition other study which done in Latin America reported a lower abortion rate (6.2%) that of the present study [28]. Most studies in the literature, concludes that teenage women are at lower risk of operative delivery [29-30]. However in our study teenagers were found to be 39.4% more prone to operative delivery as compared to normal delivery.

Pregnant teenagers are also more likely to be anemic suggesting a poor nutritional status [31-32]. In our study we found 22% of teenagers had anemic and it's one of the main complications of pregnancy. Urinary tract infection was detected in 13.8% of our adolescent mothers. This increased risk of infection can be explained on the basis that pregnant women under 18 have reduced resistance to infection; whether this is caused by immaturity of the immune system, more pronounced physiologic immunosuppression of pregnancy, poorer nutritional status, or some other mechanism, is not known [32].

Intra-uterine growth retardation was four times more common among teenage mothers and the increased risk is only for the first but not the second live born infant [33]. More cases of placental abruption were seen in this result. Previous studies have mentioned that placental abruption is less common among teenagers [34].

Primary postpartum haemorrhage had complicated deliveries among teenage mothers, though the difference was insignificant. In general uterine hypotonia is one of the major causes of primary postpartum haemorrhage, hence better myometrial function and a decreased incidence is expected in teenagers [31]. In our study postpartum haemorrhage has complicated more labours in the teenagers and it was showed in 10.6%. This study has shown that teenagers are more likely to have low birth weight infants, which is comparable to other finding of results [32, 35, 36,37]. Neonatal morbidities necessitating NICU admission were 36.7% more common among neonates belonging to teenage mother's .However; our reported NICU admission rate was lower when compared to a Nigerian study [38].

Conclusion

we concluded the teenage pregnancy is associated with increased risks to the mother of conditions like anemia, urinary tract infection, pregnancy induced hypertension and operative delivery. There is also an increased risk to the neonate of having low birth weight, intrauterine growth retardation, and prematurity of repeated admissions to the neonatal care units.

Recommendation: - we need to awareness of teenage pregnant women to have more number of antenatal visits so that the sign and symptoms of various complications of teenage pregnancy could recognize at the earliest. Also , we need to educate the family and this may be play a significant role in delaying marriage and hence delaying childbearing, thus protecting the young girl from being exposed to the various complication of teenage pregnancy.

Conflict of interest: Nill

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