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Obstetrical and Perinatal Outcomes of Teenage Pregnant Women Attending a Secondary Hospital in Hyderabad

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Abstract

Objective: To evaluate the frequency of adverse maternal and perinatal outcomes in teenage pregnancies at secondary hospital Hyderabad. **Methods:** Retrospective record review was conducted between January 2012 to January 2016. Total No. of deliveries was 15,395 out of which No. of teenage was 452. **Results**: Rate of teenage pregnancy in our hospital during study period was 2.93%. Majority of women were uneducated. Teenage mother more likely to develop pregnancy induced hypertension 19.5%, frequency of mild, moderate, and severe anemia were reported to be 69.9%, 28.8% and 1.3% respectively. **Conclusion:** Fetal and neonatal outcome was not adversely affected. Teenage pregnancy outcome can be achieved favorable with good antenatal care.

Keywords

Teenage Pregnancy, Maternal and Fetal Outcome

1. Introduction

Teenage age pregnancy is defined by WHO as pregnancy occurring in girls aged between 10 - 19 years [1].

Adolescent pregnancy is a worldwide phenomenon which have various, medical, social and economic implications [2] [3] [4]. An estimated 16 million babies are delivered by adolescent mothers worldwide and majority of these births occur in low and middle income countries putting an enormous burden on already limited resources [5] [6] [7]. According to latest Pakistan Demographic Health Survey, about 16% of women begin child bearing before reaching 18 years of age. The contributing factor to high rate of adolescent pregnancy in Pakistan is deeply rooted cultural practices of child marriage, large family size, and poor access to health care, poverty and low literacy [9].

Teenage pregnancy is high risk pregnancy and is reported to be associated with maternal and fetal factors, like pregnancy induced hypertension, preeclampsia, eclampsia, prolong labor and cephalopelvic disproportion, has been reported by many studies [8] [9].

Fetal and neonatal outcomes associated with teenage pregnancy are preterm delivery, low birth weight infant, respiratory distress syndrome, still birth and perinatal death [5] [7].

Conversely, some studies have actually shown a good outcome of teenage pregnancies in developed countries where high quality maternity care is available [10] [11].

This study aims to determine the rate of teenage pregnancy at Aga Khan Secondary Hospital, Hyderabad and to assess the effects of adolescent deliveries on maternal and perinatal outcome.

2. Material and Methods

This retrospective record review was conducted at Aga Khan secondary hospital from Jan 2012 to Jan 2016.

Data collection procedure was started after permission from Ethical review committee. All nulliparous women aged 13 - 19 years with a singleton pregnancy who delivered at Aga Khan Secondary hospital Hyderabad from January 2012 to January 2016 were enrolled in the study. Women with known comorbid and women with multiple pregnancies were excluded from the study.

Medical record files were reviewed to gather information on a pre-designed questionnaire. Information regarding different conditions arising during pregnancy; pre eclampsia, placental abruption and modes of delivery (instrumental delivery and cesarean section) were recorded. Perinatal outcomes; prematurity, low birth weight, still birth, APGAR scores were recorded on a pre-designed Performa. (*Proforma was designed by the authors after literature review and the information was gathered after medical record files review of the selected women.*)

The data was analyzed with the help of analytical software SPSS version 19. The frequencies for all variables were calculated and expressed as percentage of total sample size. Means and standard deviations for continuous variables and proportions for categorical variables were estimated.

3. Results

Total numbers of deliveries in our study from January 2012 to 2016 were 15,395; out of these teenage pregnant women were 452. Table 1 shows demographic characteristics of teenage mothers. The mean age of adolescent women was 17.76 ± 1.56 (13 - 19 years) and body mass index was 27.84 ± 4.07 kg/m^2 (18.3 - 39.7), in our study population 70.4% (n = 318) were un educated and 29.6% (n = 134) were educated. Majority of the women 82.7% (n = 374) whereas un booked patients were 17.3% (n = 78), 55.3% (n = 250) of women in our study population belonged to urban areas and 44.7% (n = 202) were residing in the nearby rural

Table 1. Demographic characteristics of teenage mothers.

Variables	Point Estimation	Min-Max Or Percentage
Age (Years)	17.76 ± 1.56	13 - 19
Weight (Kg)	152.09 ± 5.41	135 - 183
Height (cm)	64.32 ± 9.49	41 - 94
BMI (kg/m^2)	27.84 ± 4.07	18.3 - 39.7
Education		
Educated	134	29.6%
Uneducated	318	70.4%
Booked Status		
Booked	374	82.7%
Un-booked	78	17.3%
Residency		
Urban	250	55.3%
Rural	202	44.7%
Religion		
Muslim	374	82.7%
Non-Muslim	78	17.3%

areas. The religion of the study population was also recorded, and majority of women 82.7% (n = 374) were Muslim and 17.3% (n = 78) belonged to non-Muslim community and followed Hindu religion.

Maternal outcomes were recorded in adolescent women included in our study. The women developed Pre eclampsia and placental abruption were 19.5% (n = 88) and 4.6% (n = 21) respectively. Frequency of anemia was also recorded in these women, anemia was categorized as mild, moderate and severe the percentage of women developing mild anemia were 69.9% (n = 316), moderate and severe anemia was recorded in 28.8% (n = 130), 1.3% (n = 6) respectively. Mode of delivery was lower segment cesarean section in 41.6% (n = 188), 40.9% (n = 185) were delivered vaginally and instrumental delivery was conducted in 17.5% (n = 79) of patients.

Neonatal outcome in teenage pregnant women was as follows, preterm deliveries were 6.6% (n = 30) and majority of deliveries were at term 93.4% (n = 422). Mean APGAR score at one minute was 6.97 ± 0.51 and mean APGAR score at five minutes was 8.94 ± 0.37. Birth weight of babies delivered to adolescent mothers was also recorded which was >2.3 kg 86.3% (n = 390) low birth weight babies were found to be 13.7% (n = 62) in our study. In our study the neonatal death was found to be 1.8% (n = 8).

4. Discussion

Our study was conducted at Aga khan secondary hospital Hyderabad, the aim was to determine the frequency of teenage hospital deliveries and assess the effects of such births on both mother and child.

Teenage pregnancy is a high risk condition that requires skilled antenatal care

Table 2. Maternal and fetal outcome in teenage mothers.

Variables	Point Estimation	Min-Max Or Percentage
Hb (mg/dl)		
10 - 11	316	69.9%
7 - 9	130	28.8%
<7	6	1.3%
Preclampsia	88	19.5%
Placenta abruption	21	4.6%
Mode of Delivery		
Spontaneous Vaginal Delivery	185	40.9%
Instrumental delivery	79	17.4%
Caesarean section	188	41.59%
Neonatal death/Still birth	8	1.8%
Apgar @ 1 min (n = 444)		
1 - 6	18	4.1%
7 - 10	426	95.9%
Mean ± SD	**6.97 ± 0.51**	**2 - 8**
Apgar @ 5 min (n = 444)		
1 - 6	4	0.9%
7 - 10	440	99.1%
Mean ± SD	**8.94 ± 0.37**	**5 - 9**
Birth weight (kg)		
≤2.3 kg	62	13.7%
>2.3 kg	390	86.3%
Gestational age (Weeks)		
28 - 32 weeks	11	2.4%
32 - 36 weeks	19	4.2%
>36 weeks	422	93.4%

for good maternal and fetal outcome (Table 2), adolescent pregnancies occur throughout the world, with estimated 16 million births to adolescent mothers, most of which occur in middle and low income countries [12].

In our study rate of teenage pregnancy was 2.93%, which is lower compared with a study done in Sindh where frequency was found to be 5.8% [9]. The frequency of adolescence pregnancy was 11.9, which is quite high in a large multi country population based study done in middle and low income countries [13]. These variation may be due to diverse social norms and cultural practices which differ throughout the world.

Education plays an important role in the improvement of maternal health and some reports of developing countries show an inverse relationship of literacy rate and frequency of teenage pregnancy [14] [15] same is true for our study where 70.4% of women did not have any education and 29.6% had at least secondary level education.

Importance of good antenatal care is well established for achieving good feto maternal outcome, and is an important measure for the prevention and early recognition of complications during pregnancy and adolescent mothers are no exception, 82.7% women were booked and had regular antenatal visits at our hospital compared to the 17.3% women having no previous antennal visits, these findings were comparable to a study done in India where 80.6% of the adolescent mothers received regular antenatal care, fewer adverse outcomes in the above mentioned studies, even in teenage mothers support importance of good antenatal care [16].

Teenage pregnancies are more common in rural under developed areas where parents marry their young daughters at an early age due to increased economic burden, a study conducted in Nepal showed teenage pregnancy rate was higher in rural compare with urban areas of the country [17] there was no significant difference regarding rural and urban population of teenage mothers in our study.

Adolescent pregnancies are more prevalent in some cultures throughout Pakistan. Our hospital caters to a wide rural and urban population of Sind including different casts and religions, no previous study reported frequency of teenage pregnancy on the basis of religion, 17.3% women belonged to Hindu religion and most of the mothers included in our study belonged to Muslim religion (82.7%) and out of these women majority belonged to one particular cast which shows that the ritual of marrying young girls at an early age is depends upon cultural practices so, interventions can be planned keeping in mind theses specific sects of society.

Teenage pregnancies are thought to be associated with a variety of maternal and fetal complications. There is conflicting evidence regarding hypertensive disorder in adolescent mothers, some studies reported higher risk of pre eclampsia in teenage mothers. A study conducted in Larkana Pakistan, reported higher frequency of hypertensive disorders compared to adult mothers [18] which was comparable with other studies [19], on the other hand another study reported that the risk of hypertensive disorder was significantly lower among adolescent mothers [13]. Frequency of abruption was 4.6% in our study population, however in multi country study the risk of antepartum hemorrhage was not significant in adolescence women [13].

In our study frequency of anemia varied according to its severity, mild anemia was present in 9.9% of the study population, moderate anemia was observed about in 28.8% of women and severe anemia was present in only 1.3% women. Teenage population is at a higher risk of developing anemia because of frequent dietary deficiency present in this group of women [9].

There is conflicting literature regarding mode of delivery in adolescence mothers, some studies report higher rate of vaginal deliveries possibly due to smaller baby size [20]. Various studies have implied that there is biological immaturity of adolescent pelvis which causes cephalopelvic disproportion leading to increase caesarean section rate [21] [22] [23].

In our study women delivered by Caesarean section were 41.6% and 40.9% women delivered vaginally. The rate of assisted vaginal deliveries also varies in the previous literature, these studies show a higher rate instrumental delivery due to possibility of underdevelopment of female pelvis leading to cephalopelvic disproportion [24] [25]. Rate of instrumental delivery was found to be lower compared to previous literature in our study.

Teenage mothers are also reported to be at higher risk of delivering babies prior to term, with newborns having low birth weight low birth weight. Previous studies show higher rate of preterm 20. However in our study babies born preterm were 6.6% and babies born at term gestation were 93.4%. In our study most babies born with birth weight of >2.3 kg, compared with other studies which show babies born with low birth weight in teen age group [25].

In our study most of babies born with good Apgar score compare with other studies which show low Apgar score at 5 minute [26].

It is evident that the practice of adolescent marriage and pregnancy is more prevalent in some communities, requiring more targeted efforts for shift in cultural paradigm. Favorable fetal and maternal outcome in this study is largely due to the fact that most of the study population was booked and had regular antenatal visits signifying need for proper antenatal care for improvement in feto maternal outcome even in this high risk antenatal population.

5. Conclusion

Adolescent pregnancy is more prevalent communities with low literacy rates. Teenage pregnancy is associated with increased chances of pregnancy induced hypertension and anemia. Good maternal and fetal outcomes can be achieved with proper antenatal and intra partum care.

Limitations

This study was done at secondary care private sector hospital with limited sample size; large multicentric studies are needed to further clarify the results of this study.

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