Prevalence And Outcome Of Adolescent Pregnancy Over 17 years At King Abdul-Aziz University Hospital Jeddah Saudi Arabia.

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Abstract: Background: The growing number of teenage pregnancy cases apparently emerged as a global health problem in this present generation. Pregnancy in early age is associated with poor maternal weight gain, premature birth, gestational hypertension, anemia, and STDs. It is one of the major cause of increased maternal and child mortality. **Objectives:** To determine the prevalence of adolesance pregnancy and associated percentage of mortality and morbidity among pregnant females at King Abdulaziz University Hospital (KAUH) Jeddah, Saudi Arabia. **Materials and Methods:** A chart review study that included (N=3,234) was conducted through data collection for all pregnant adolescents' (ages 12 to 19) chart review who delivered in King Abdulaziz University Hospital (KAUH) Jeddah, Saudi Arabia from January 2000 until December 2016. **Results:** the number of adolescent deliveries and percentage over the years was decreasing in the rate from (5.01%) in 2000 to (2.7%) in 2016. The majority (96%) were late adolescents (16-19y), 73.3% were booked for pregnancy care, 51.2% were Saudi, Two thirds (66.3%) were primigravida., the majority (90%) reported full term without abortion history and (99.5%) had normal infants. **Conclusion:** The prevalence of adolesance pregnancy decreased all over the years of the study. Despite the rampant worldwide issue brought about by the risks of adolescent pregnancy, this study revealed that the mortality and morbidity rates of mothers and their child under this age group is not very high.
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Introduction

Adolescents undergo vast physical changes that tremendously affect ones health and behavior (WHO, 2017). The person's characteristics and their environment also corresponds to these transformations (Eccles et al., 1993). These developments take place gradually and differs from one individual to another.

Lack of social support is associated with teenage pregnancy (Smith, 2001). Culture and tradition also served as contributing factors to early pregnancy, as an evidenced in a study conducted by Sedgh et al., found that adolescent pregnancy birth rates were significantly high in countries like Mexico and Sub-Saharan Africa, where it is a common practice for people to be married and bear a child at a very young age. (Sedgh et al., 2015).

Young pregnancy is associated with several health risks such as poor maternal weight gain, premature birth, gestational hypertension, anemia, and STDs (Klein JD, 2006). According to the World Health Organization (WHO, 2017), adolescent pregnancy is the leading factor causing maternal and child death. Teenagers have higher susceptibility to obstructed labor, fistula, and premature delivery and to deliver children with low birth weights (UNFPA, 2013).

Due to the negative outcome of adolescent pregnancies in the society, there since have been worldwide campaigns to prevent and resolve its impending consequences. Proper education, awareness and information dissemination are vital towards the success of this plan.

In addition, the parents plays an important role in actively monitoring their children as they encounter and undergo the puberty stage. Based on a study made by Sieverding et al., it confers that strict parental monitoring paved its way to reduce motivation of having intercourse, despite the heightened sexual inclination and development of these young individuals. The mothers implies great influence to their children and their relationship are foreseen to render cosmic effect for their young ones to take time before engaging with sexual activities (Sieving et al., 2000).

This study aimed to determine the mortality and morbidity among adolescent pregnant patients at King Abdul-aziz University Hospital (KAUH) Jeddah, Saudi Arabia from January 2000 until December 2016.

Materials and Methods

A cross sectional and cohort study for 3,234 pregnant adolescents was conducted through data collection from the patients' chart review.

Included data were divided to 5 parts:

First part included all deliveries conduct in KAUH from 2000-2016, and the percentage of adolescent deliveries.

Second part (sociodemographic data) included age and nationality.

Third part (medical characteristics data) included chronic illnesses and surgical history.

Fourth part (obstetric history data) included Gestational age, abortion, parity, mode of delivery, indication of C/S.

Fifth part included American Pediatric Gross Assessment Record (APGAR) score, blood loss, Congenital Anomalies, placenta, birth weight at admission.

All pregnant adolescents with ages 12 to 19, from all nationalities, who delivered in King Abdulaziz University Hospital (KAUH) Jeddah, Saudi Arabia from January 2000 to December 2016 were included in the study, while all non-adolescent pregnant patients who delivered in KAUH were excluded.

Data Analysis

The statistical analysis was done using the Statistical package for social science (SPSS) 16.0 software package.

Results

Table (1) showed the number of total deliveries in each year, and the number of adolescent deliveries and percentage for each year, there was decreasing in the rate from (5.01%) in 2000 to (2.7%) in 2016. (Table 1).

The majority of pregnant adolescent (96%) were from late adolescent group age 16-19, 73.3% were booked for pregnancy care, 51.2% were Saudi. Two thirds (66.3%) were primigravida. The majority (90%) reported full term and without abortion history. (Table 2) .

The majority of the participants (93.2%) didn't have any chronic illness, and 97.2% didn't have any surgical history. More than half (56.9%) reported SVD and episiotomy as the mode of delivery. In fourth of the C/S cases (29.1%) the indication was fetal distress and in the other fourth (27.1%) the indication was abnormal presentation. (Table 3).

Almost all the cases reported complete placenta (99.5%) and had normal infants (98.3%) with normal APGAR score, 78.5% of the cases had blood loss <300cc. More than two thirds (71%) had baby with normal birth weight. Only 45 (1.4%) cases dead and 120 (3.8%) admitted to NICU. (Table 4)

Table (1) Total no. of delivery in adolescence and Prevalence of pregnancy in adolescence

Year	Total no. of delivery	Total no. of delivery in adolescence	Prevalence of pregnancy in adolescence per 100
2000	3127	158	5.05
2001	3770	180	4.77
2002	4150	208	5.01
2003	4928	287	5.82
2004	4717	252	5.34
2005	3871	208	5.86
2006	3814	204	5.84
2007	3913	218	5.57
2008	4399	216	4.91
2009	4243	182	4.29
2010	4211	157	3.72
2011	4760	229	4.81
2012	4599	201	4.37
2013	4373	180	4.12
2014	3283	118	3.59
2015	3554	128	3.60
2016	3997	108	2.70
Total	69709	3234	4.63

Table (2) Demographic, clinical characters of the adolescent pregnancy during the period from 2000 to 2016.

Variables	N %
Age group	
12 year	**7 (0.2)**
13-15 year	**122(3.8)**
16-19 year	**3105(96)**
Pregnancy care Booking	
Booked	**2372(73.3)**
Unbooked	**862(26.7)**
Nationality	
Saudi	**1657 (51.2)**
Others	**1577(48.8)**
Parity	
1	**2145(66.3)**
2-4	**1062(32.8)**
5	**27(0.8)**
Abortion	
0	**2913(90)**
1	**275(8.5)**
More than 1	**46(1.4)**
Gestational age	
Full term	**2932(90.7)**
Preterm	**257(7.9)**
Premature	**45(1.4)**

Table (3) Medical characters and obstetric history of the adolescent pregnancy during the period from 2000 to 2016.

Variables Medical characters	N (%)
None	**3012 (93.2)**
DM	**25 (.8)**
HTN, PET, Eclampsia	**100 (3.1)**
Cardiac Disease	**11 (0.3)**
Renal	**1 (0.003)**
CNS (Epilepsy, MS)	**9 (0.3)**
Others	**75(2.3)**
Surgical history	
Yes	**89 (2.8)**
No	**4145(97.2)**
Mode of delivery	
SVD	**416(12.9)**
SVD + Episiotomy	**1841(56.9)**
SVD+ Tear	**405(12.5)**
SVD+ Episiotomy+ Tear	**60 (1.9)**
Elective C/S	**106 (3.2)**
Emergency C/S	**252(7.8)**
Instrumental Delivery	**91 (2.8)**
Vaginal Breech +Episiotomy	**38 (1.2)**
Twins SVD	**25 (.8)**
N= 358 Indication of CS	
Fetal Distress	**104(29.1)**
Preterm	**2(.6)**
Multiple Pregnancy	**9(2.5)**
Failure to Progress	**57 (15.9)**
Abnormal Presentation	**97 (27.1)**
Others	**47(13.1)**
APH (Placenta Previa, Abruptio)	**11 (3.1)**
Previous C/S	**27 (7.5)**
Anomalies	**3 (.8)**
Infections (Hepa, HPV)	**1 (.3)**

Table (4) outcomes of the adolescent pregnancy during the period from 2000 to 2016.

Variables	N %
Placenta	
Complete	**3219 (99.5)**
Incomplete	**6 (0.2)**
Manual Removal	**9 (0.3)**
Blood loss	
<300cc	**2539 (78.5)**
300-600cc	**540 (16.7)**
>600cc	**155 (4.8)**
Birth weight	
<2.5	**55 7 (17.2)**
2.5-3.5	**2297 (71)**
>3.5	**380 (11.8)**
Congenital Anomalies	
None	**3195 (98.8)**
Skeletal	**5 (0.2)**
CNS	**5 (0.2)**
Chromosomal	**1 (0.003)**
GI	**4 (0.1)**
Renal	**4 (0.1)**
Cardiac	**4 (0.1)**
Others	**20 (6)**
Apgar score	
Normal (>= 5 out of 5)	**3180 (98.3)**
Abnormal (<5 out of 5)	**9 (.3)**
Dead	**45 (1.4)**
Admission	
Nursery	**3069 (94.8)**
NICU for distress	**26 (0.8)**
NICU for preterm	**76 (2.4)**
NICU for anomalies	**18 (0.6)**
Dead	**45 (1.4)**

Discussion

Adolescent pregnancy is a worldwide health problem and happens in all communities, which differ from country to country. Despite that adolescent mothers are married and receiving full social, financial and emotional support in Islamic countries, this support cannot protect them from the obstetric complications related to young age and incomplete physical and psychological developing. (Mesleh et al, 2001).

The current study findings showed that the prevalence of adolescent pregnancy decreased during the last seventeen years from 5.01% to 2.7%, with rate of 4.6% during study period. This rate is lower than previous studies, India (10.4%), (Talawar et al, 2013) Riyadh (6%), (Mesleh et al, 2001), Egypt study (7.5%), (Rasheed S et al, 2011), USA (57%) and Switzerland (8%). (Sedgh G et al, 2015), indicating decreasing in the trend of adolescent pregnancy, and increasing in the awareness of the danger of adolescent pregnancy particularly at early adolescence.

Most of the cases were primigravida, with no abortion history. In contrast in USA the rate of abortion was 15%, in Switzerland (5%), (Sedgh G et al, 2015), while in India study there was no abortion among the participants, where all were married. (Talawar et al, 2013) This could be explain by the fact that being married provide the women with a level of financial and emotional supports to keep their pregnancy, where previous studies provide the evidences of unmarried mothers trends to terminate pregnancy. (Rasheed S et al, 2011; Talawar et al, 2013)

Almost three fourth were booked and receiving antenatal care, which is more than Thailand (66.5%).

Indicating family support and good level of health service.

Regarding the mode of delivery, more than half delivered SVD + Episiotomy, and only 11% delivered C/S due to fetal distress and abnormal presentation. Similar results were found in Thailand studies (10%) and (11.8%). (Thaithae S et al,2011; Narukhutrpichai P, 2016) In contrast, in Egypt study (45.9%) had C/s with main reasons cephalopelvic disproportion and dysfunctional labor. (Rasheed S et al, 2011), 26.7% in Portugal, Iran and Mexico, (Azevedo WF et al, 2015), While in India study only 1% had C/S with mean reasons cephalopelvic disproportion and fetal distress. (Talawar et al, 2013). This varies in C/S rate could be explain by the fact that there is widely difference in the opinions of surgical intervention among adolescent mothers. On the other hand, several studies explained the higher rate of using instrumental deliveries in adolescent pregnancies. By the fact that the pelvis of adolescent is under development. (Talawar et al, 2013; Tripathy M et al, 2014; Narukhutrpichai P, 2016).

The findings of the current study showed good outcomes in general, where more than 90% had normal baby with normal APGAR score, good birth weight, no hemorrhage, with nursery admission and complete placenta. Indicating good antenatal and perinatal care, also it could be due to the fact that most of the participants were from late adolescent age group (16-19) were the rate of poor outcomes of delivery stabilized and become near to adult rate.

While in Egypt study the rate of pre-eclampsia, eclampsia, preterm labor and premature rupture of membranes was higher among younger mother. (Rasheed S et al, 2011) Similar results were found in India study (Talawar et al, 2013) and other previous studies, where the main poor outcomes were related to the infants not to the mothers. (Azevedo WF et al, 2015) Several studies attribute poor outcomes to several factors: low socioeconomic status, low educational level, inappropriate antenatal and prenatal care, and inappropriate weight gain during pregnancy. (Narukhutrpichai P, 2016).

Limitation

This study had fewer limitations, first only one center was included in the study, and second all the eight years of adolescent stage considered as one period of time and ignoring the fact that biologic, physiologic, and even anatomic maturation of the human pelvis and reproductive organs may differ from one year to the other during this period.

Conclusion and Recommendation

Despite the rampant worldwide issue brought about by the risks of adolescent pregnancy, this study revealed that the mortality and morbidity rates of mothers and their child under this age group is not high, and decreased from 5.01% in 2000 to 2.7% in 2016. The results of the current study showed low rate of poor outcomes due to good antenatal and prenatal care and as the majority of them are at late adolescence close to adult anatomical, physiological and psychological characteristics. Further studies need to be conducted to clarify the adverse outcomes and to improve the awareness about adolescent pregnancy and the importance of seeking good antenatal and prenatal care.

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