NAPTA COLLEGE

FACULTY OF MEDICINE

DEPARTMENT IF COMMUNITYT MEDICINE

INCIDENCE & COMPLICATIONS OF DELVERY IN WOMEN UNDER 20 YEARS

IN ELSAUDI TEACHING HOSPITAL 2021

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Dedication

To our families

Mothers, fathers, sand brothers,

I gladly present this work

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Abbreviations

ANC: Antenatal Care

CS: cesarean section

ICU: Intensive Care Unit

IUGR: Intrauterine Growth Restriction

LBW: low birth weight

LSCS: lower section caesarean section

PPH: Postpartum hemorrhage.

PPROM: preterm pre-labor rupture of membranes

PROM: Premature Rupture of Membrane

SGA: small for gestational age

SPSS: Statistical Packages for Social Sciences.

UK: United Kingdome

VLBW: very low birth weight

Acknowledgements

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Finally, my deep appreciation goes to anyone who supported me in this research until it reached its final steps.

Abstract

Background: Maternal age is a determining factor for pregnancy outcomes. The impact of maternal age on obstetric and neonatal outcomes was evaluated by several studies from many settings, especially among early teenagers..

Objective: To estimate the incidence and complication of delivery women under 20 years.

Methods: This was a cross sectional hospital based study,. The sample size was 120 women aged less than 20 years. The data was collected using a questionnaire filled with women after taking informed consent.

Results: During the study period the total number of deliveries in the study area was 12387, of them 120 were aged less than 20 years, accordingly the incidence of delivery women under 20 years in Al-Saudi Maternity Hospital 2021 was found 9.7%. Participants aged 16 – 19 years were 105(87.5%) and who aged 13 – 14 years were 15(12.5%). The mode of delivery under 20 years, results showed that the mode of delivery was vaginal 77(64.2%), emergency cesarean section 23(19.1%) and elective cesarean section 20(16.7%). The type of vaginal delivery (n=77) was spontaneous 62(80.5%), induced 13(16.9%) and instrumental 2(2.6%). Majority of the participants 88(73.3%) had no complications. Maternal complications were postpartum hemorrhage 21(17.5%), perineal tear 9(7.5%) and uterine complications 2(1.7%). The majority of fetus 105(87.5%) were alive, 13(10.9%) had congenital anomalies, 1(0.8%) macerated stillbirth and fresh stillbirth 1(0.8%).

Conclusion: The study revealed that delivery of women under 20 years was 9.7% , 80% of deliveries were preterm , 19.1% were under went emergency c/s >and associated with maternal complications PPH in 17.5 % and 10.9 % with congenital anomalies So we recommend Child health program at Federal Ministry of Health(adolescent health Reproductive health program at Federal Ministry of Health should be activated.

Key wards : Pregnancy, Age under 20 years, Maternal and Fetal outcome

Chapter One

Introductoon

1.1 Introduction

Maternal age is a determining factor for pregnancy outcomes. The impact of maternal age on obstetric and neonatal outcomes was evaluated by several studies from many settings, especially among early teenagers. The age of motherhood is underpinned by complex socioeconomic, educational and cultural factors, which differ significantly for different communities[1]. Furthermore, at the same maternal age group, the pregnancy outcome is determined by many factors, most important of which is the availability, access and use of health services [2].

There is a paucity of research in Sub-Saharan Africa on the pregnancy outcomes of teenage pregnancy, a region with high rates for both maternal and neonatal mortality and regionally highly variable rates of early teenage pregnancies [3].

Poor economic status at the family and community levels, low education achievement and lack of sex education are recognized factors behind teenage pregnancy in some communities in USA and UK[4]. Adolescents' pregnancy in many low and middle-income countries is mostly recognized among less educated and low socioeconomic sectors of the community and is associated with poor use of health services, poor maternal nutrition and high rate of maternal, neonatal and infant morbidities and mortality[5].

Many studies examined the influence of maternal age on the pregnancy outcomes [6.7]. Other studies indicated that, children of teenager's pregnancy are more likely to be born pre-term, have lower birth weight, and higher neonatal mortality, while mothers experience greater rates of post-partum depression and are less likely to initiate breastfeeding[8]. Early teenage mothers are less likely to complete high school, are more likely to live in poverty, and have children who frequently experience health and developmental problems [9]. Understanding the risk factors for teenage pregnancy is a prerequisite for reducing rates of early teenage motherhood. Various social and biological factors influence the odds of early teenage pregnancy; these include exposure to adversity during childhood and adolescence, a family history of early teenage pregnancy, conduct and attention problems, family instability, and low educational achievement[10].

Early Teenage pregnancy is an important public health problem worldwide as it often occurs in the context of poor social support. It has been associated with maternal

complications, premature birth, low birth weight, perinatal mortality and increased infant mortality. It has also been observed that in developing countries, teenage mothers were at increased risk of maternal anemia, pre-term birth and Caesarean delivery. Thus, Sudanese teenage pregnant ladies face the same mentioned threatening. Several researchers reported that pregnancy among adolescents is associated with maternal complications, premature birth, low birth weight, perinatal mortality and increased infant mortality [6, 7]. Other study attributed more adverse effect to teenage pregnancy; adolescents aged 15 years or younger had higher risk of maternal death, early neonatal death, and anemia compared with women aged 20 to 24 years. Moreover, all age groups of adolescents had higher risks for postpartum hemorrhage, puerperal endometritis, operative vaginal delivery, episiotomy, low birth weight, pre term delivery, and small-for- gestational-age infants [8].

Some studies have suggested that first teenage pregnancies have a higher frequency of adverse perinatal outcomes [9]. However, there is argument about whether this is an independent association or explained by confounding factors [10].

1.2 Statement of the problem

Age is expected to be associated with increased risk for pregnant women and young ladies under 20 years develop a lot of complications of delivery with higher perinatal mortality rate.

When young women under 20 years get pregnant has a high risk of developing complication than those of old one, because they are physically, socially and psychological unprepared for pregnancy.

Most reports of birth to teenagers indicate an increased risk of developing at least some complications of pregnancy and poor neonatal outcome especially preeclampsia and low birth weight infants.

Recent articles have stressed disadvantage and disquieting circumstances resulting from unstable relationship, and pregnancy is often unplanned and the result in early mother becoming is often further concomitant of this situation, and may well significantly influence the outcome of pregnancy by contrast that where the teenage mother supported and satisfactory care are given the outcome is better.

1.3 Reseacrh question

What are the incidence and complications of delivery among women under 20 years in Al-Saudi Maternity Hospital.2020 ?.

1.4 Research hypothesis

The study hypothesized that there delivery among the women under 20 years associated with complications

1.5 Justification

Adolescent child bearing has been often associated with unfavourable outcome in terms of increased risk of complications, low birth weight and maternal and perinatal morbidity and mortality. However the degree of increased risks and the type of risks for pregnant adolescents and their offspring's are not consistent in all studies., we conducted the following study because little had been done to investigate such a problem.

1.6 Objectives:

1.6.1 General Objectives:

To estimate the incidence and complication of delivery women under 20 years in Al-Saudi Maternity Hospital.2021

1.6.2 Specific Objectives

1. To determine the incidence of delivery of under 20 years in Al-Saudi Maternity Hospital.2021
2. To assess the Mode of delivery under 20 years in Al-Saudi Maternity Hospital.2021
3. To identify the maternal and fetal complications in Al-Saudi Maternity Hospital under 20 years.
4. To evaluate the influence of age on the outcome of pregnancy in Al-Saudi Maternity Hospital under 20 years.

Chapter Two

Literature Review

2.1 Background

Marriage before the age of 18 is a fundamental violation of human rights. Many factors interact to place a girl at risk of marriage, including poverty, the perception that marriage will provide 'protection', family honour, social norms, customary or religious laws that condone the practice, an inadequate legislative framework and the state of a country's civil registration system. Child marriage often compromises a girl's development by resulting in early pregnancy and social isolation, interrupting her schooling, limiting her opportunities for career and vocational advancement and placing her at increased risk of domestic violence. Child marriage also affects boys, but to a lesser degree than girls' [(11)].

Cohabitation — when a couple lives bin union', as if married — raises the same human rights concerns as marriage. When a girl lives with a man and takes on the role of his caregiver, the assumption is often that she has become an adult, even if she has not yet reached the age of 18. Additional concerns due to the informality of the relationship — in terms of inheritance, citizenship and social recognition, for example — may make girls in informal unions vulnerable in different ways than girls who are married [(11)].

The issue of child marriage is addressed in a number of international conventions and agreements. The Convention on the Elimination of All Forms of Discrimination against Women, for example, covers the right to protection from child marriage in article 16, which states: "The betrothal and the marriage of a child shall have no legal effect, and all necessary action, including legislation, shall be taken to specify a minimum age for marriage" The right to 'free and full' consent to marriage is recognized in the Universal Declaration of Human Rights, which says that consent cannot be 'free and full' when one of the parties involved is not sufficiently mature to make an informed decision about a life partner. Although marriage is not mentioned directly in the Convention on the Rights of the Child, child marriage is linked to other rights — such as the right to freedom of expression, the right to protection from all forms of abuse, and the right to be protected from harmful traditional practices —and is frequently addressed by the Committee on the Rights of the Child.

Other international agreements related to child marriage are the Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriages, the

African Charter on the Rights and Welfare of the Child and the Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa"1.

Across the globe, rates of child marriage are highest in sub-Saharan Africa, where around 4 in 10 girls marry before age 18; about one in eight were married or in union before age 15. This is followed by Latin America and the Caribbean and the Middle East and North Africa, where24 per cent and 18 per cent, respectively, of women between the ages of20 and 24 were married in childhood[(1)].

Pregnancy in this period of life is often associated pregnancy related complications, such as such as anaemia, pregnancy induced hypertension, preterm delivery, low birth weight (LBW) babies and small for gestational age (SGA) babies, maternal mortality, perinatal and neonatal morbidity and mortality. [(12, 13)] There is higher number of premature and low birth weight (LBW) in this group seen even in the developed countries. [(14, 15)]

Adolescent pregnancy are at increased risk for neonatal complications as prematurity, low birth weight, IUGR, neonatal mortality and still birth. [(16)]The maternal complications like PIH, preeclampsia, and anemia in pregnancy, perineal tear and episiotomy are also common among adolescents. [(17)] However, cesarean section (CS), instrumental delivery and premature rupture of membrane, APH and postdated were not found significantly associated with adolescents pregnancy. [(18)]

However, the evidence for major impairment of pregnancy outcome among teenage mother with provision of high-quality maternal care is not found.

Though adolescents have more adverse pregnancy outcomes than adult women, it is not known if these complications are related to biological or socioeconomically factors. Similarly adolescent pregnancies was concerned more as public health issue than clinical practice.28Otherreports suggested that adolescent pregnancies have favourable obstetric outcome and are not considered as high risk pregnancies. [(19)]

2.2 Outcome of teenage pregnancy

In a study performed with 2,357 pregnant women, the frequency of adolescent women (aged less than 18 years) was 4%. The most noted maternal complication was prolonged rupture of the membrane, with20.3%, followed by pre-eclampsia (7.1%), thyroid diseases (7.1%), heart diseases (3%), and urinary tract infections (2%). Among the neonatal complications, the highlights were prematurity (39%), LBW(32%), and delayed intrauterine growth (12%). Neonatal mortality was

described in6.9% of the cases, and was significantly higher than the neonatal complications of the other deliveries. [20]

Another study performed with 265 adolescent mothers (aged l9 years)and with 832 mothers aged between 20 and 29 years showed that of the pregnancy-related maternal complications, the most frequent were eclampsia , pre-eclampsia, perineal tear , and episiotomy; while fetal complications were LBW, prematurity, and early neonatal death.[21]

One investigation researched the reasons that led the adolescent to provoke the abortion, relating the motivation with age and type of school they attended. Of the 2,592 adolescent that participated in the study, 182(7.0%j referred having become pregnant and 149 (26.7%) having aborted. It was verified that the fear of the parent's reaction (the most often cited reason), age, lack of support from the partner, and non-acceptance of the pregnancy were reasons that led the adolescents to provoke an abortion. The frequency of abortion was higher among the adolescents from public schools. [22]

One study analyzed perinatal data gathered between 1990 and 1999,compared the risk of adverse outcomes in nulliparous adolescents (7,845)and adolescents who had had an induced abortion (211) or a prior delivery (801). The adolescents with prior deliveries presented with greater perinatal and neonatal (0R4.70) risks and mortality, when compared to the nulliparous participants. The adolescents with a prior abortion presented with higher risks of stillbirth, premature deliveries, and a very low birth weight (VLBW) than the nulliparous adolescents. [23]

Another study also showed an association between adolescent pregnancy and the late start of prenatal care and lower number of visits.27Among the adolescents, also verified was a greater risk of prematurity and LBW, besides the use of an abortive agent at the beginning of gestation, and among women of an advanced age, a strong association was found between pregnancy and diabetes mellitus, pre-eclampsia ,premature rupture of the membranes , and higher frequency of cesarean sections (60.3%).[24]

One study demonstrated that the chances of LBW and of prematurity were reduced when the adolescent had six or more prenatal visits. Over the last decades; much has been discussed about adolescence, with a greater emphasis on its complexity and its repercussions on pregnancy during this phase. Pregnancy in adolescence is considered

a public health problem that should be considered in a comprehensive manner, in order to involve the adolescent mother and the problems that surround her. [25]

A retrospective cross sectional study performed over a period of 4 Years (January 1, 2007 to December 31, 2010) in Niger Delta University Teaching Hospital Bayelsa State, Nigeria by Ayub and Gani 2012. The study groups consists of women aged 19 years or less(Teenage) that gave birth during the study period and women aged 20 years and above (No teenage j that gave birth during the same period. There were a total of1341 deliveries during the study period, out which 83(6.2%) were teenagers. Teenage mothers were significantly more likely to be No antenatal care , (p = 0.000) Unmarried, (y26.2; p = 0.000) had significantly more preterm labor, (P=0.000) and Caesarean sections (P= 0.014).However, there was no difference in both the perinatal and maternal mortality rates between the two groups[26].

Al-Hadabi et al. 2014 reviewed obstetric and perinatal outcomes of teenage nulliparous pregnant Omani girls with singleton pregnancies aged14 to 19 years, delivered at Sultan Qaboos University Hospital, between 1 July 2006 and 30 June 2013. They compared their outcomes without comes of pregnant nulliparous Omani women with singleton pregnancies aged 20 to 25 years old delivered at the same hospital during the same period. When compared with pregnant women (n=307j,teenage pregnant girls (n=307) were found to have higher proportion of preterm delivery <32 weeks (7% vs. 3%,p0.040), preterm pre-labor rupture of membranes (PPROM) (19% vs. I l%, p=0.005) and anemia(58% vs. 44%,p=0.005). Cesarean section rate was higher in women than teenager girls (20% vs. 10%,p=0.001). Teenager girls had lighter babies (mean weight ± standard deviation 2,750±690 vs.2,890±480,p=0.020), incidence of very low birth weight babies (<1,500g) was higher in teenagers (3.9% vs. 0.3%,p=0.003), but perinatal mortality rate was similar in the two groups[27].

In Nigeria, Adeyinka et al. 2010 evaluated the risk factors of adolescent pregnancy, assess and explore the occurrence of specific complications and compare pregnancy complications among adolescent parturient to older controls in a tertiary health center in order to design appropriate policies and interventions. The proportion of adolescent pregnancy between January 2007 and November, 2008 is between 1.5%and 2.2%. Overall, considering all the complications considered in the study 44.44% of adolescent pregnancies had one form of complication orthe other. The corresponding figure among the control was 22.22%. The p-value = 0.002 showing that adolescents

had statistically more significant complication rates in pregnancy. Concerning the individual complications, the incidence of eclampsia and pre-eclampsia among adolescent was 20% which was only 3.33% among the controls. The p-value when this was compared was 0.001 showing statistical significance[28].

Retrospective chart review by Usta et al. 201 of singleton births > or=24 weeks' gestational age at the American University of Beirut from1994 to 2003. Adolescents (<20 years) were compared to subsequently delivered women aged 25-30 years (controls), n=486 each. Only 131(27.0%) adolescents were <18 years. More adolescents were nulliparous(79.8 versus 17.9%; p<0.001). Preterm delivery <37 but not <34 weeks occurred more frequently in cases (11.1 versus 5.8%, p=0.004-). Preeclampsia was more commonly encountered (2.9 versus 0.6%; p=0.0l2)and mean pre-delivery hematocrit was lower in cases (30.6+1-3.3 versus33.8+1-4.3%, p<0.00l), but the incidence of gestational diabetes, placenta previa, abruption placentae, breech presentation, or meconium-stained amniotic fluid were similar. Caesarean delivery was performed less frequently in cases (9.2 versus 14.0%; p0.028), but primary caesarean and operative vaginal delivery rates were similar though vacuum was used more frequently in multiparous controls (0.2 versus 2.7%, p=0.011)[29].

Kovavisarach et al. 2013 compared maternal and neonatal outcomes between pregnant teenage girls (age < 20 yrs) and pregnant adults (age20-34 yrs) in Thailand. Preterm labor was the significant anteparturn complication in the teenage mothers while diabetes mellitus was the significant one in the adult mothers as compared to those in the other groups. Teenage mothers had significantly higher incidence of cesarean delivery than that in the adult mothers. The neonates of the teenage mothers showed higher number of complications than those of the adult mothers[30].

In South Africa Sulaiman, et al. 2013 compared obstetric and perinatal outcome in teenage and non-child marriage pregnancy. The prevalence of child marriage pregnancy was 1.1%. Almost all subjects were in their first pregnancies. The study showed that teenage mothers had significant risk of delivering low-birth-weight babies. There were no differences in the risk of anemia, severe pre-eclampsia, caesarean delivery, postpartum hemorrhage or fetal distress in labour compared with the 200 women in the older age group. Of the pregnant teenagers, 26.9% did not receive any antenatal care at all[31].

In Nepal, Lama et al. 2012 investigated the immediate outcome of neonates delivered by adolescent pregnant mother at Nepal Medical College Teaching Hospital, At

tracheal, Kathmandu. A retrospective comparative study was carried out in 350 adolescent pregnant mothers who had delivered newborn at Nepal Medical College Teaching Hospital from April2005 to February 2009. Data were obtained from the case record register from Archive. Prevalence of teenage pregnancy was 11.1%. Majority of adolescent mother were aged between 17-19 years, belonging to Mongolian ethnicity, Hindu by belief and residing within Kathmandu Valley. More than 90.0% mothers were primigravida and 85.4% had complete antenatal checkup (ANC). Normal vaginal delivery was the predominant mode of delivery in both group (84.6% vs 80.0%), followed by lower section caesarean section (LSCS) (14.0% vs 18.8%) and instrumental delivery (1.1% Vs 1.2%). In newborn, male outnumbered female (59.7% vs 40.3%). A reasonable number of preterm (10.9%Vs6.3% p=0.029), low birth weight (12.3% vs 9.1% P0.259) and small for gestational age babies (7.4% vs 5.1% p=0.318)) and birth asphyxia (10.3% Vs 5.1% p=0.009%) were found in this study. These newborns are often associated with high morbidity and mortality. Therefore, it is imperative to prevent teenage pregnancy by providing adequate access to health facilities and raising awareness about the sex and reproductive health amongst this population[(32)].

Chapter Three

Methodology

3.1 Study Design:

This was a cross sectional hospital based study.

3.2 Study area:

This study was done in Al-Saudi Maternity Hospital which is one of two Biggest Material hospital in Sudan.

Al-Saudi Maternity Hospital is receive the patient from Omdurman and Karrari localities and from all part of Sudan, mainly from west of Sudan and white Nile.

There is about 20 consultant 40 Registeral , 40 house officers and about 30 midwife.

There is about 106000 p + per year , 1700 cesarean section and about 15000 vaginal Delivery per year, there is two well equate laborer Room and two operation theater one for elective and another for emergency.

There is high dependent care unit (HDU) and intensive care unit (ICU) contain for bed in each, also there is intensive neonatal care unit, with well trained staff. In this study we use the hospital cases for both the patient and controlled cases and use only the patients who were. So no antenatal patients or other patients from health centers were included. Also the control case patients have the same criteria and the control patients are patients with a viable pregnancy (28 weeks or more) and usually with less obstetrical problems.

3.3 Study duration

The study was conducted during the year 2021.

3.4 Study population

3.4.1 Inclusion Criteria:

All the pregnant women who satisfied the criteria for admission in the study and who were admitted in Labour during the period fully 15/2/2021 to 15/10/2021 were included in the study.

3.4.2 Exclusion Criteria:

Patients who do not fulfill this criteria such as patient with miscarriage.

3.5 Sample size and sampling technique

3.5.1 Sample Size:

The samples size was calculated according to the following formula :

$N = (Z)^2 Pq / (d)^2$.

N= sample size.

Z= statistically certainly.

P= prevalence.

d = the degree of accuracy desired = 0.05

Z=1.96

The prevalence of teenage pregnancy is = 4.3%, accordingly P = 0.43.

q=1-P = 1-0.43 = 0.57

d =0.05.

$N = (1.96)^2*0.43*0.57/(0.05)^2$

N = (3.8416*(0.2451)*0.0025

= 0.94157616/0.0025= 114.17, considering the margin of error 0.05, the sample can be 120 participants fulfilling the inclusion criteria of the study.

3.5.2 Sample Technique:

In this study we took the hospital patients who were in labour. All cases with gestational age of 28 weeks or more, with age under 20 years. On admission a detailed history was taken by direct questioning, and admission sheet was made for each patient. Then the history started by the personal history: The name of the patient, her age, residency, occupation. The education level of the patient was measured by the number of years of schooling.

2.6 Data Collection:

Using questionnaire paper and fill with Registrar in duty or questioner collecting and mapped in master sheet.

2.7 Data analysis :

The data was entered into computer using word and the analysis was perform using statistical packages for social sciences (SPSS).

2.8. Ethical Consideration:

The consent has been taken from the patient by verbal consent and from the agreement taken from ethical committee of Khartoum Ministry of health.

Chapter Three

Results

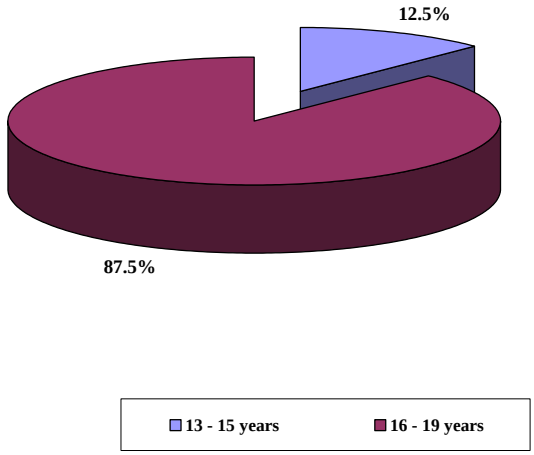

Figure (1) Distribution of the participants according to age group

Participants aged 16 – 19 years were 105(87.5%) and who aged 13 – 14 years were 15(12.5%) (Figure 1).

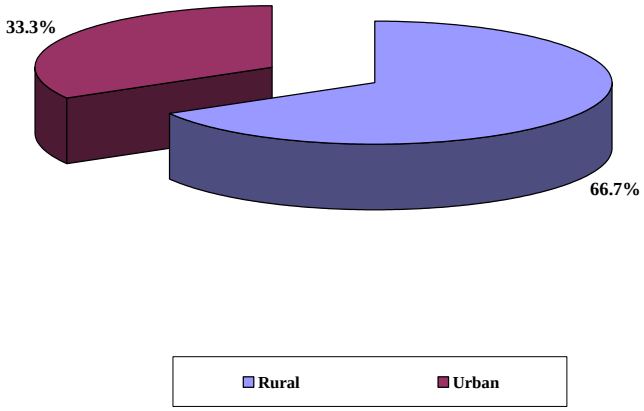

Figure (2) Distribution of the participants according to residence

Highest percentage of the participants 80(66.7%) from rural areas and 40(33.3%) from urban areas (Figure 2).

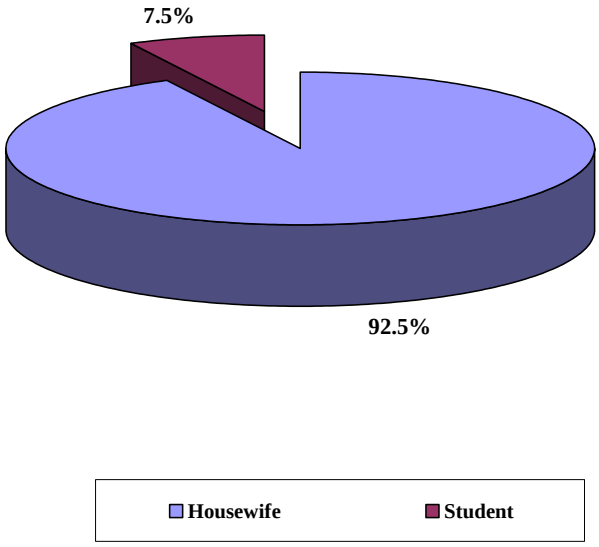

Figure (3) Distribution of the participants according to occupation

The majority of the participants 111(92.5%) were housewives and 9(7.5%) were students (Figure 3).

Table (1) Distribution of the participants according to educational level

Educational level	Frequency	%
Illiterate	42	35.0
Primary	53	44.1
Secondary school	23	19.2
University	2	1.7
Total	120	100.0

Primary level of education was reported in 53(44.1%) of the participants, illiterates were 42(35%), secondary level 23(19.2%) and university 2(1.7%) (Table 1).

Table (2) Distribution of the participants according to country regions(zone)

Tribe	Frequency	%
Northern	61	50.8
Western	20	16.7
Central	29	24.2
Eastern	10	8.3
Total	120	100.0

The participants from northern zone tribes were 61(50.8%), from central states were 29(24.2%), from western states 20(16.7%) and from eastern states were 10(8.3%) (Table 2).

Table (3) Distribution of the participants according to prediction of gestational age at delivery

GA	Frequency	%
LMP		
>= 37 weeks	79	65.8
< 37 weeks	41	34.2
Total	120	100.0
EED		
>= 37 weeks	98	81.7
< 37 weeks	22	18.3
Total	120	100.0

The prediction of gestational age at delivery by LMP was 37 weeks or more 79(65.8%) and less than 37 weeks 41(34.2%). By EED was 37 weeks or more 98(81.7%) and less than 37 weeks 22(18.3%) (Table 3).

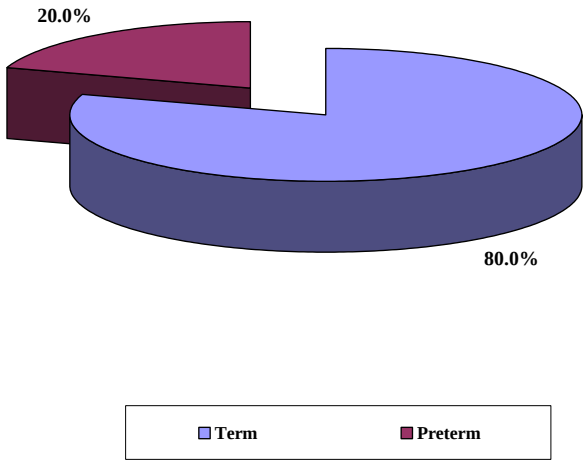

Figure (4) Distribution of the participants according to gestational age at delivery

The majority of the participants 96(80%) delivered at term and 24(20%) preterm (Figure 4).

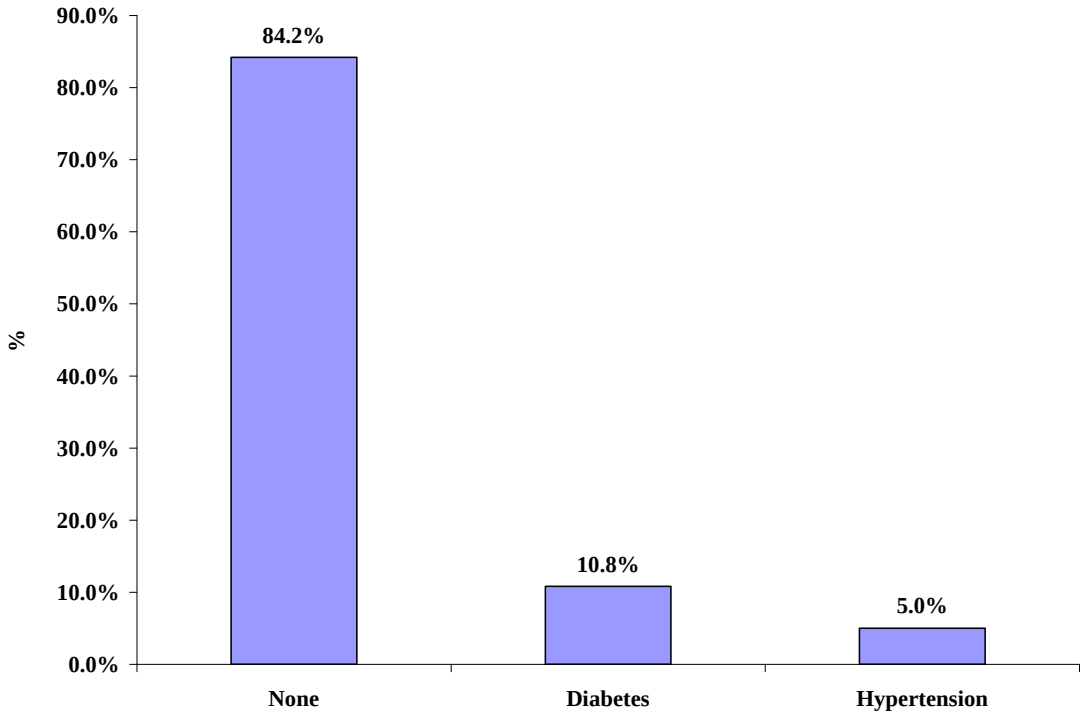

Figure (5) Distribution of the participants according to medical condition

The majority of the participants 101(84.2%) had no medical condition, the reported conditions were diabetes 13(10.8%) and hypertension 6(5%) (Figure 5).

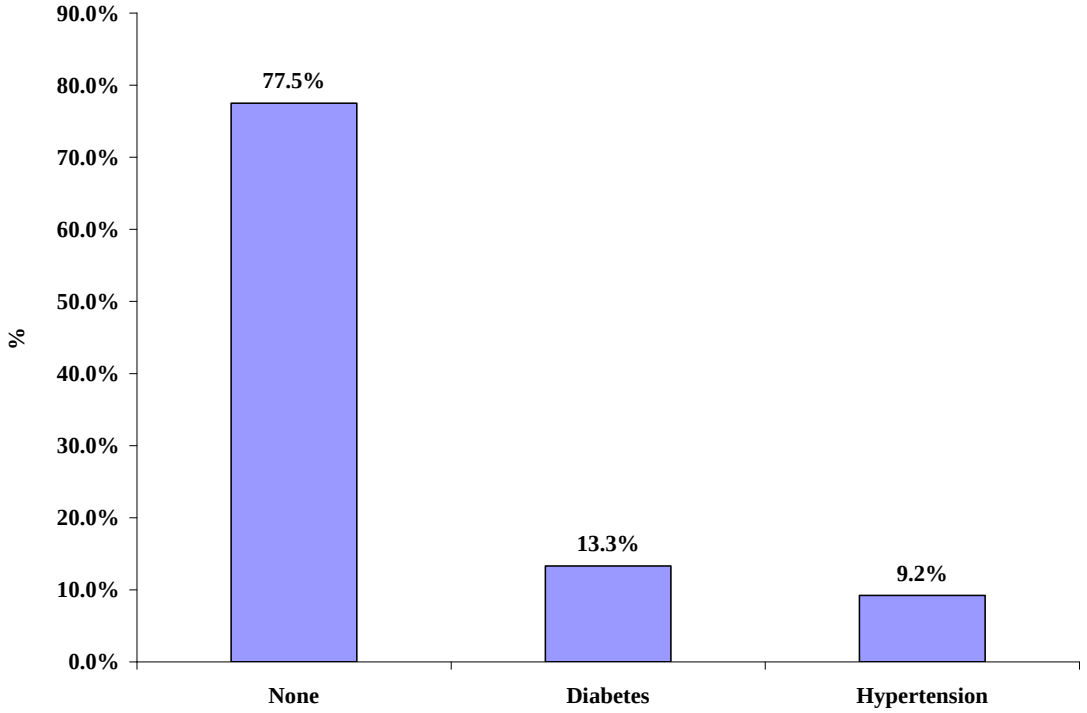

Figure (6) Distribution of the participants according to family history of medical problems

The majority of the participants 93(77.5%) had no family history of medical problems. The medical problems in the family were diabetes 16(13.3%) and hypertension 11(9.2%) (Figure 6).

Table (4) Distribution of the participants according to ANC visits

ANC attendance	Frequency	%
No ANC	21	17.5
1-3 visits	82	68.3
More than 3 visits	17	14.2
Total	120	100.0

86% has ANC less than recommended number, and even zero in 17.5 %

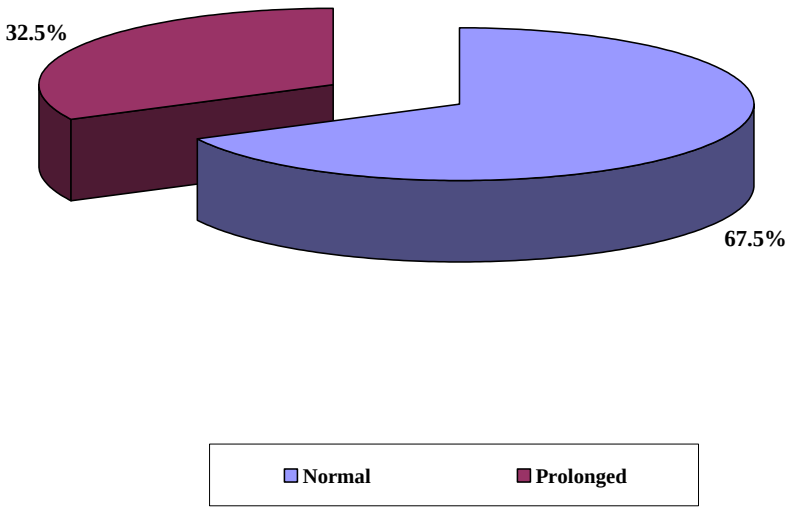

Figure (7) Distribution of the participants according to duration of labour

The duration of labour was normal in 81(67.5%) of the participants and prolonged labour in 39(32.5%) (Figure 7).

Table (5) Distribution of the participants according to mode of delivery

Mode of delivery	Frequency	%
Vaginal delivery	77	64.2
Emergency CS	23	19.1
Elective CS	20	16.7
Total	120	100.0

The mode of delivery was vaginal 77(64.2%), emergency cesarean section 23(19.1%) and elective cesarean section 20(16.7%) (Table 5).

Table (6) Distribution of the participants according to type of vaginal delivery

Vaginal delivery	Frequency	%
Spontaneous VD	62	80.5
Instrumental VD	2	2.6
Induced VD	13	16.9
Total	77	100.0

The type of vaginal delivery (n=77) was spontaneous 62(80.5%), induced 13(16.9%) and instrumental 2(2.6%) (Table 6).

Table (7) Distribution of the participants according to maternal complications

Maternal complications	Frequency	%
No complications	88	73.3
postpartum hemorrhage	21	17.5
Perineal tear	9	7.5
uterine complication	2	1.7
Total	120	100.0

Majority of the participants 88(73.3%) had no complications. Maternal complications were postpartum hemorrhage 21(17.5%), perineal tear 9(7.5%) and uterine complications 2(1.7%) (Table 7).

Table (8) Distribution of the participants according to fetal outcome

Fetal outcome	Frequency	%
Alive and well	105	87.5
Macerated	1	0.8
FSB	1	0.8
Congenital anomalies	13	10.9
Total	120	100.0

The majority of fetus 105(87.5%) were alive, 13(10.9%) had congenital anomalies, 1(0.8%) macerated stillbirth and fresh stillbirth 1(0.8%) (Table 8).

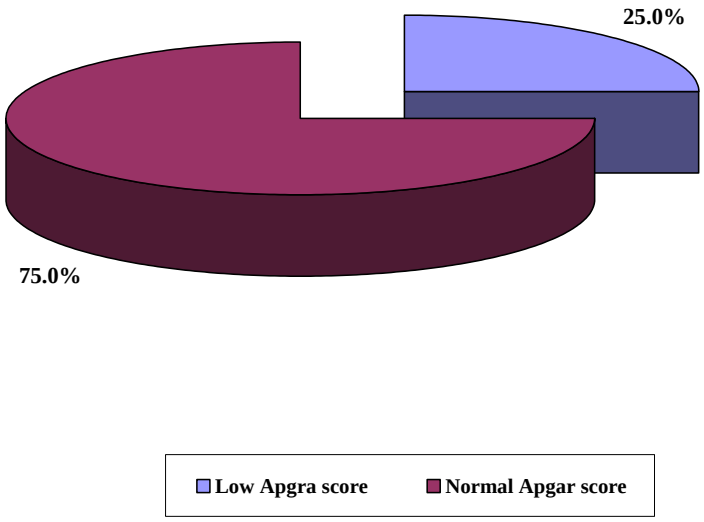

Figure (8) Distribution of the participants according to Apgar score

The majority of the fetus 90(75%) had normal Apgar score. Low Apgar score reported in 30(25%) of the children (Figure 8).

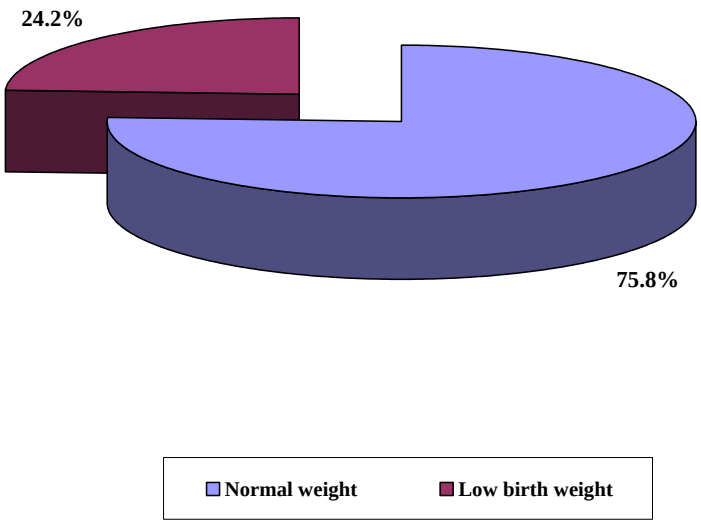

Figure (9) Distribution of the participants according to fetal weight

The fetal weight was normal 91(75.8%) of the babies and low birth weight 29(24.2%) (Figure 9).

Table (9) Logistic regression analysis describe the correlation between pregnancy under age 20 years and complication

	N	%	R2	P value
postpartum hemorrhage	**21**	**17.5**	0.34	0.017
Perineal tear	9	7.5	0.21	0.028*
uterine complication	2	1.7	0.14	0.067**
Macerated	1	0.8	0.07	0.091**
FSB	1	0.8	0.07	0.091**
Congenital anomalies	13	10.8	0.34	0.013*
Low Apgar score	30	25.0	0.41	0.001*
Low birth weight	29	24.2	0.39	0.011*

* Significant association (P value < 0.05)

** **No significant association (P value > 0.05)**

According to Table (9) postpartum haemorrhage, perineal tear was the most common significant maternal complications associated with pregnancy in age under 20 years. On the other hand, congenital anomalies, low Apgar score and low birth weight were the most common significant fetal complications associated with pregnancy outcome of women age < 20 years (P value < 0.05).

Chapter Five

5.1 Discussion

The incidence of delivery women under 20 years in Al-Saudi Maternity Hospital 2021 was 120/12387 = 9.7%. Participants aged 16 – 19 years were 105(87.5%) and who aged 13 – 14 years were 15(12.5%). Slightly lower that Lama et al in Nepal who showed that Prevalence of teenage pregnancy was 11.1%. Majority of adolescent mother were aged between 17-19 years[32]. Al-Hadabi et al. 2014 reviewed obstetric and perinatal outcomes of teenage nulliparous pregnant Omani girls with singleton pregnancies aged14 to 19 years, delivered at Sultan Qaboos University Hospital, between 1 July 2006 and 30 June 2013[27].

In this study the mode of delivery under 20 years, results showed that the mode of delivery was vaginal 77(64.2%), emergency cesarean section 23(19.1%) and elective cesarean section 20(16.7%). The type of vaginal delivery (n=77) was spontaneous 62(80.5%), induced 13(16.9%) and instrumental 2(2.6%). In Nigeria, Adeyinka et al. 2010 evaluated the risk factors of adolescent pregnancy, assess and explore the occurrence of specific complications and compare pregnancy complications among adolescent parturient to older controls in a tertiary health center in order to design appropriate policies and interventions. The proportion of adolescent pregnancy between January 2007 and November, 2008 is between 1.5%and 2.2%. Overall, considering all the complications considered in the study 44.44% of adolescent pregnancies had one form of complication orthe other. The corresponding figure among the control was 22.22%. The p-value = 0.002 showing that adolescents had statistically more significant complication rates in pregnancy. Concerning the individual complications, the incidence of eclampsia and pre-eclampsia among adolescent was 20% which was only 3.33% among the controls. The p-value when this was compared was 0.001 showing statistical significance[28]. Retrospective chart review by Usta et al. 201 of singleton births > or=24 weeks' gestational age at the American University of Beirut from1994 to 2003. Adolescents (<20 years) were compared to subsequently delivered women aged 25-30 years (controls), n=486 each. Only 131(27.0%) adolescents were <18 years. More adolescents were nulliparous(79.8 versus 17.9%; p<0.001). Preterm delivery <37 but not <34 weeks occurred more frequently in cases (11.1 versus 5.8%, p=0.004-). Preeclampsia was more commonly encountered (2.9 versus 0.6%; p=0.0l2)and mean pre-delivery hematocrit was lower in cases (30.6+1-3.3 versus33.8+1-4.3%, p<0.00l), but the

incidence of gestational diabetes, placenta previa, abruption placentae, breech presentation, or meconium-stained amniotic fluid were similar. Caesarean delivery was performed less frequently in cases (9.2 versus 14.0%; p0.028), but primary caesarean and operative vaginal delivery rates were similar though vacuum was used more frequently in multiparous controls (0.2 versus 2.7%, p=0.011)[29]. Kovavisarach et al. 2013 compared maternal and neonatal outcomes between pregnant teenage girls (age < 20 yrs) and pregnant adults (age20-34 yrs) in Thailand. Preterm labor was the significant anteparturn complication in the teenage mothers while diabetes mellitus was the significant one in the adult mothers as compared to those in the other groups. Teenage mothers had significantly higher incidence of cesarean delivery than that in the adult mothers. The neonates of the teenage mothers showed higher number of complications than those of the adult mothers[30]. In South Africa Sulaiman, et al. 2013 compared obstetric and perinatal outcome in teenage and non-child marriage pregnancy. The prevalence of child marriage pregnancy was 1.1%. Almost all subjects were in their first pregnancies. The study showed that teenage mothers had significant risk of delivering low-birth-weight babies. There were no differences in the risk of anemia, severe pre-eclampsia, caesarean delivery, postpartum hemorrhage or fetal distress in labour compared with the 200 women in the older age group. Of the pregnant teenagers, 26.9% did not receive any antenatal care at all[31].

Regarding the effect of delivery in whom under 20 years, and maternal and fetal complications among under 20 years, the study reveled that. Majority of the participants 88(73.3%) had no complications. Maternal complications were postpartum hemorrhage 21(17.5%), perineal tear 9(7.5%) and uterine complications 2(1.7%). The majority of fetus 105(87.5%) were alive, 13(10.9%) had congenital anomalies, 1(0.8%) macerated stillbirth and fresh stillbirth 1(0.8%). The study revealed pregnancy in age under 20 years had adverse effects on mothers more than on fetus. Similar to a study performed with 2,357 pregnant women, the frequency of adolescent women (aged less than 18 years) was 4%. The most noted maternal complication was prolonged rupture of the membrane, with20.3%, followed by pre-eclampsia (7.1%), thyroid diseases (7.1%), heart diseases (3%), and urinary tract infections (2%). Among the neonatal complications, the highlights were prematurity (39%), LBW(32%), and delayed intrauterine growth (12%). Neonatal mortality was described in6.9% of the cases, and was significantly higher than the neonatal complications of the other deliveries[20]. Another study performed with 265 adolescent

mothers (aged l9 years)and with 832 mothers aged between 20 and 29 years showed that of the pregnancy-related maternal complications, the most frequent were eclampsia , pre-eclampsia, perineal tear , and episiotomy; while fetal complications were LBW, prematurity, and early neonatal death.[21] One investigation researched the reasons that led the adolescent to provoke the abortion, relating the motivation with age and type of school they attended. Of the 2,592 adolescent that participated in the study, 182(7.0%j referred having become pregnant and 149 (26.7%) having aborted. It was verified that the fear of the parent's reaction (the most often cited reason), age, lack of support from the partner, and non-acceptance of the pregnancy were reasons that led the adolescents to provoke an abortion. The frequency of abortion was higher among the adolescents from public schools. [22] A retrospective cross sectional study performed over a period of 4 Years (January 1, 2007 to December 31, 2010) in Niger Delta University Teaching Hospital Bayelsa State, Nigeria by Ayub and Gani 2012. The study groups consists of women aged 19 years or less(Teenage) that gave birth during the study period and women aged 20 years and above (No teenage j that gave birth during the same period. There were a total of1341 deliveries during the study period, out which 83(6.2%) were teenagers. Teenage mothers were significantly more likely to be No antenatal care , (p = 0.000) Unmarried, (y26.2; p = 0.000) had significantly more preterm labor, (P=0.000) and Caesarean sections (P= 0.014).However, there was no difference in both the perinatal and maternal mortality rates between the two groups[26]. Al-Hadabi et al. 2014 reviewed obstetric and perinatal outcomes of teenage nulliparous pregnant Omani girls with singleton pregnancies aged14 to 19 years, delivered at Sultan Qaboos University Hospital, between 1 July 2006 and 30 June 2013. They compared their outcomes without comes of pregnant nulliparous Omani women with singleton pregnancies aged 20 to 25 years old delivered at the same hospital during the same period. When compared with pregnant women (n=307j,teenage pregnant girls (n=307) were found to have higher proportion of preterm delivery <32 weeks (7% vs. 3%,p0.040), preterm pre-labor rupture of membranes (PPROM) (19% vs. I l%, p=0.005) and anemia(58% vs. 44%,p=0.005). Cesarean section rate was higher in women than teenager girls (20% vs. 10%,p=0.001). Teenager girls had lighter babies (mean weight ± standard deviation 2,750±690 vs.2,890±480,p=0.020), incidence of very low birth weight babies (<1,500g) was higher in teenagers (3.9% vs. 0.3%,p=0.003), but perinatal mortality rate was similar in the two groups[27].

Study limitation

The study faced by limited time for conduction of the research, which affected the sample size.

5.2 Conclusion

The study revealed that delivery of women under 20 years was 9.7% , 80% of deliveries were preterm , 19.1% were under went emergency c/s >and associated with maternal complications PPH in 17.5 % and 10.9 % with congenital anomalies.

Postpartum haemorrhage, perineal tear was the most common significant maternal complications associated with pregnancy in age under 20 years. On the other hand, congenital anomalies, low Apgar score and low birth weight were the most common significant fetal complications associated with pregnancy outcome of women age < 20 years (P value < 0.05)

5.3 Recommendations

- Child health program at Federal Ministry of Health(adolescent health Reproductive health program at Federal Ministry of Health should be activated.

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