Review Article

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Impact of Adolescent Pregnancy on Obstetric Outcome

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Abstract

Adolescence is delicate period of life when an individual passes from child to adulthood and involves a lot of physical and mental alterations. Pregnancy in adolescent girls is social hazard with serious consequences, when she herself is yet to attain her full growth. Teenage pregnancies represent a high-risk group in reproductive groups because of double burden of reproduction and growth. Adolescent pregnancies have impact on obstetric outcome. Maternal problems involves anaemia, abortions, pregnancy induced hypertension, pelvic disproportion, increase rate of caesarean section and preterm labour. Foetal problems in adolescent pregnancies are LBW, IUGR. Undernourished adolescent mothers are more likely to deliver undernourished offspring thus perpetuating the cycle of malnutrition.

Keywords: Adolescent Pregnancy; Anaemia; Cephalopelvic Disproportion; IUGR; Preterm; Low Birth Weight.

Introduction

Adolescence is a delicate period of life when an individual passes from child to adulthood and involves a lot of physical and mental alterations [1]. This is a period when structural, functional and psychological development occurs in a girl to prepare her for assuming the responsibility of motherhood. Biomedical determinants of health is influenced by many social and cultural factors. This influence is often negative with resultant increase in the number of social hazards, which finally aggravate the already Poor health status of the developing societies. One such social hazard of serious consequences is pregnancy in an adolescent girl, who herself is yet to attain her full growth [2].

Teenage pregnancies represent high risk group in reproductive terms because of the double burden of reproduction and growth. Complications of pregnancy and childbirth are the leading causes of mortality among girls aged 15-19 years in developing countries [3]. It is well accepted that teenage pregnancy is primarily a sociological problem with medical consequences. Maternal age is not a sole factor for obstetric risks for adolescent pregnancies, but they are more related to poverty, inadequate nutrition, poor health before pregnancy, unmarried status and poor education [4].

Research indicates that pregnant teens are less likely to receive prenatal care often seeking it in third trimester. Amongst mothers less than 20 years, only 7% receive antenatal care from our health workers or professional and 41.6% are assisted at delivery by skilled birth attendant [5].

Maternal Problems

Anaemia

Iron deficiency anaemia is a special risk for the young mother. Along with the higher growth rate around the time of puberty, the beginning of menses and poor nutrition, pregnancy can deplete body's iron reserves.Severe anaemia could lead to:

- Premature delivery
- Cardiac failure
- Postpartum haemorrhage
- Sepsis [6]

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The prevalence of anaemia during pregnancy in Young women:

United States-7%

Africa-30%

India-40-80%

Strategies to reduce the incidence of anaemia and its complications are:

- Adequate antenatal care
- Haemoglobin estimation
- Supplementation of iron, Folic acid and Vitamin
- Routine deworming
- Dietary advice [6]

Abortion

The incidence of spontaneous abortion and stillbirth is higher in adolescent pregnancy [7].

The reasons for high incidence of abortion are:

- Poor nutrition
- Anaemia
- Pre-eclampsia
- High incidence of STDs
- HIV in teenage pregnancy [7].

Pregnancy Induced Hypertension

The increased incidence in teenage women is mostly the result of high proportion of primigravida, the risk may be increased in young age. If untreated, severe PIH may lead to:

- CCF
- Renal failure
- Liver failure
- Stroke
- Blindness
- Coagulopathies

If eclampsia develops, it is fulminant and in some cases fatal for both mother and the foetus [8].

Pelvic Disproportion

The incidence of cephalopelvic disproportion is high in this age group. If the girl becomes pregnant before her pelvis reaches its mature size and configuration, cephalopelvic disproportion can result. Raman (1990) observed that obstructed labour accounted for 38.5%, Caesarean sections in adolescence as against 22.3% in adults. Neglected cases of prolonged labour and late referrals of obstructed labour predispose to vesicovaginal fistula. Unfer et al (1995) reported higher incidence of:

- IUGR
- Acute foetal distress in labour
- Low birth weight

In adolescent group resulting in higher incidence of caesarean section relative state of "hypoarterialisation" characteristics of adolescence uterus maybe the Etiological factor for these complications [9].

Chronic Energy Deficiency (CED)

Young adolescent mother have a lower body mass index (BMI) since the BMI increases markedly during adolescence as pubertal changes occur. A low BMI status, indicative of chronic energy deficiency is a particularly important aspect of the nutritional risks of women, during reproductive years. In a study conducted in an urban slum of Varanasi,

- 70% of girls aged 13-18 years had BMI <20%
- 51.4% were suffering from CED
- 10% were stunted [10].

Adolescent Mothers and Obesity Risk

Relative to older mothers, postpartum weight retention in young adolescent could be serious, as their lifetime weight retention risk maybe higher. There is a relationship between adolescent growth during pregnancy and higher gestational weight gain and postpartum weight retention. Additionally many adolescent mothers would be expected to be gaining weight as part of development in the absence of pregnancy. Those biological factors, coupled with psychological and socio-demographic characteristics of adolescent mothers, make this a highly specialised population in need of focused attention [11].

Preterm and Low Birth Weight

The worldwide incidence of premature birth and low birth weight is higher among adolescent mothers. Infant mortality rate for adolescent mother is 40% higher than for older mothers [12]. Joshi and pai in their study of organized slum of mumbai have demonstrated a direct association between maternal age and low birth weight, the incidence being 47% in the adolescence group as compared to 34% in 20-24 years age group [13].

Maternal Mortality

In most developed countries, the maternal mortality

in second decade of life is not attributable to the young age. However for developing countries, maternal mortality remains among the top causes of teenage deaths. Lack of prenatal care is the most important predisposing reason. Increased incidence of illegally induced abortion in this age group is also a major cause of teenage maternal mortality from sepsis and haemorrhage. Unsupervised delivery of teenage mothers is an important factor leading to maternal morbidity and mortality. The skill and experience of the person attending the delivery will largely determine the incidence of intrapartum and immediate postpartum complications [14].

Foetal Problems

Adolescent pregnancies often result in babies with low birth weight and preterm labour. Illegitimacy, independent of age is a predictor of low birth weight and high perinatal mortality. Other variables are:

- Marital status at conception
- Timing of antenatal care
- Socioeconomic status

Poor antenatal care, low socio-economic status, addictions and drug abuse could adversely affect the obstetric outcome of such pregnancies [15].

Statin and colleagues analysed pregnancy outcome in over 16500 nulliparous women and found that preterm birth was increased significantly among 1622 pregnancies in school age mothers. Anaemia, postpartum haemorrhage, malnutrition, low socioeconomic status indirectly increases risk of preterm labour and IUGR [6].

Unwanted teenage pregnancies is not only deleterious to the expectant mothers but their offspring are also at a great biological disadvantages. Low birth weight can also affect subsequent physical and mental development and these children are likely to show neurological defects. Perinatal mortality rate is high [9]. Many teen parents do not have the intellectual and emotional maturity that is needed to provide for another life. Often, these pregnancies are hidden for months resulting in a lack of adequate prenatal care and dangerous outcome for babies. Factors that determine which mothers are likely to have a closely spaced repeat birth include marriage and education [16].

Health Consequences for the Child of an Adolescent Mother

- Increase mortality rate between age 1-2 years
- Sudden infant death syndrome
- Growth lag
- Poor cognitive development

Daughters of young mothers are more likely to become young mothers so the cycle of transmitted deprivation continues [8].

Women's deprivation in terms of nutrition and health care rebounds on society in the form of ill health of their offspring. While adolescent should be a period

Fig. 1: Maternal adverse obstetric outcomes in Adolescent pregnancy

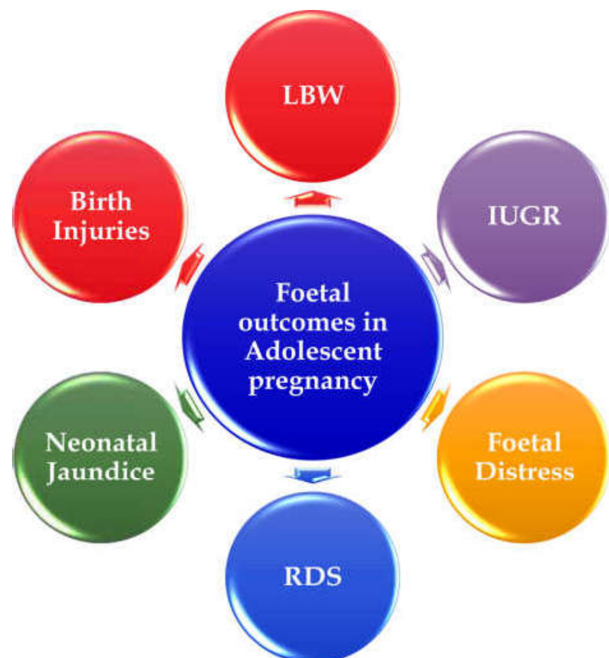

Fig. 2: Fetal outcomes in Adolescent pregnanc

of growth and maturation, many Asian girls are placed at risk of early marriage and early pregnancy. This adds additional physiological and nutritional demands of their bodies, leading to competition between the needs of their foetus and themselves, ultimately exacerbating their own malnutrition and giving birth to LBW or otherwised undernourished baby. Undernourished adolescent mother are more likely to deliver undernourished offspring, thus perpetuating the cycle of malnutrition and poverty. Recent evidence shows that this phenomena spans more than two generations, through changes in DNA [17].

Discussion

Adolescent pregnancy and parenting remains a major public concern because of their impact on maternal and Child Health, and on the social and economic wellbeing of the nation. Adolescent pregnancy is not only viewed by the medical community as a high risk pregnancy but also attracts a great deal of concern from every segment of society including family, educators, government officials and youth themselves [18].

Adolescent Pregnancy has Multidimensional Problems

Prevention of adolescent pregnancy is challenging issue. Interventions combining education and contraceptives will reduce unplanned teenage pregnancy [19].

The Dutch approach to preventing teenage pregnancy in considered as a model by other countries. The curriculum focuses on values, attitudes, communication and negotiation skills. Biological aspect of reproduction are also considered.The media has encouraged open dialogue. Healthcare system guarantees confidentiality [20].

In rural areas of India, situation of early marriages still exist. 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 [21].

Contraception-The use of appropriate contraception is especially important in adolescent. New contraceptive methods allow teens to choose from a variety of convenient, safe, reliable and confidential options. Teen pregnancy prevention is priority because of positive implications for the patient and society as a whole [22].

Sex education deals not only with pregnancy prevention. It is essential to support teenagers when they are pregnant or after becoming mothers [6]. Primary prevention (first pregnancy) and secondary prevention (repeat pregnancy) programs are both needed. Parents, schools, religious institutes, physician, social Agencies, Government and adolescents all have role in successful prevention programs [23].

Pregnancy in teenage girls, is associated with psychosocial insecurity and serious medical consequences. Holistic approach for providing reproductive health care is extremely important for this group. Our medical service needs to be reconstructed to provide educational material, counselling and adequate nutritional care to young girls so that they are able to control their own fertility [9]. Safe Motherhood cannot be achieved by medical knowledge and Technology alone. The tragedy of maternal death occurred not only due to deficiency in healthcare but is largely due to social, cultural and economic reasons [2,4]. Good antenatal and intrapartum services, contraceptive services and abortion services all can minimise the various risks associated with adolescent pregnancies [2].

Most of the adolescent pregnant girl visit ANC clinic at advanced gestation. She may not have undergone anomaly scan in second trimester. In this tragic situation, major congenital anomaly of foetus incompatible with life may be diagnosed at late gestation, beyond the legally accepted period of MTP. This poses ethical dilemma. Adolescent pregnancy is challenging to proponents of ethics.There maybe conflict between reproductive rights and pressurisation for MTP.

Conclusion

Adolescent pregnancy is a high risk pregnancy with medical and social problems. Psychosocial support to adolescent pregnant girls must be given. This will enable them to seek antenatal care at earlier gestation. Malnourished adolescent girls will give birth to low birth weight, IUGR babies. So, in order to break intergenerational cycle of malnutrition and poverty, it is essential to implement effective interventions targeting adolescent girls. Adolescent pregnancy has adverse obstetric outcomes like abortion, anaemia, pregnancy induced hypertension, increased caesarean section rate, obstructed labour. Adequate haemoglobin level should be maintained in adolescent pregnancy to prevent complications like

uterine inertia, atonic PPH, puerperal sepsis. Adverse foetal outcome include still births, preterm birth, LBW, IUGR, birth asphyxia, respiratory distress syndrome. ANC care should extend to meet medical, nutritional and psychological needs of adolescents. To reduce adverse pregnancy outcomes in adolescent pregnancy is major challenge to the medical profession.

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