ORIGINAL ARTICLE

Frequency and Related Health Problems of Adolescent Pregnancy among Rural Families in Pakistan

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ABSTRACT

Background: Rate of adolescent marriages in developing countries alarmingly high and it leads to poor maternal and fetal health.

Aim: To find the frequency of adolescent pregnancy in a rural area of Pakistan and also to see the health problems associated with this age of pregnancy.

Method: Randomized study was carried out on 100 pregnant women with age range 16-20 years during a period of September 2017 to October 2017 with gestation week of 20-36 weeks. Enrollment was by physician referral, self-referral or via participation in registries. Recruited women contacted with the study planner for information and screening. Women with age 16-20 years were considered as adolescent (group 1) and women with age 21-30 (group 2) were considered as control group.

Results: It is observed that mean age, age at marriage and age at first baby of group 1 was less than that of group 2 and it showed a highly significant difference (P<0.001).

Frequency and percentages of demographic characteristics of group 1 and group 2 showed that adolescent were markedly low body weight than women belong to control group. Only 42% adolescent used iron and calcium as supplement, whereas 62% women belong to control were using iron and calcium supplement. Poor socioeconomic class was quite similar in both groups. History of abortion/hypertension was also noted.

Conclusion: Study concluded that the frequency of adolescent pregnancy in a rural area of Pakistan is still high and the health problems associated with this age of pregnancy are malnutrition, underweight, lack of iron and calcium supplements.

Keywords: Adolescent, pregnancy, health problems

INTRODUCTION

Adolescent pregnancy is an issue of public health with emotional medical and societal outcomes for the mother, child, and family. Pregnancy in age of adolescence is related with a risk of poor consequences, like prematurity and low birth weight, preterm delivery and mortality of neonate and fetus[1].

Pregnancy in age less than 20 years is usually associated with malnutrition and improper health care. It is reported that yearly about 13 million children are born to mother with age < 20 year worldwide. Complications develop during pregnancy in mother and childbirth are the major reason of death in women with age range 15-19 years The rate of marriage in early age is low in urban area and high in rural regions[2].

According to 2012-13 Pakistan Demographic and Health Survey, 8% of adolescent with age 15-19 have become pregnant. Factors related with pregnancy in age of 15-19 years are poverty, illiteracy, lack of care at the stage of antenatal/postnatal and customs. The customs include ideas that female partner should be many years younger than husbands. Parents' thought that early marriage of their daughter saves them from sexual misuse and illusions that family planning is the factor of infertility[3]. Additionally most of the adolescents have no information about reproductive health issues[4].

Improper prenatal care results in premature birth. It is proposed that immaturity of the blood supply to uterine or cervical region, increases the risk of infection in adolescent mother. It also increases the synthesis of prostaglandin results in the increase occurrence of preterm birth[5,6].

Nutrition during pregnancy plays an important role in the development and growth of fetus[7]. According to the Nutrition Impact Model Study (estimation of 2011), the prevalence rate of anemia in pregnant women was 38%[8].

Supplement of vitamins with folic acid helps to avoid defects in neural tube. Increase intake of iron is related with increase in infant birth weight and reduction of anemia[9].Studies proved that improving

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iron status of pregnancy women may reduce the risk of mortality in women with antepartum/postpartum haemorrhage[10,11].

Calcium supplementation in pregnancy has been related with a decreased risk of hypertension. This supplementation also protects the condition of preeclampsia, low birth weight infant and decrease the risk of morbidity and mortality[12,13].

Poor socio-economic status seems to have a modest effect on pregnancy outcome. Women belong to poor class have an unhealthy performance or behavior. Pregnant women with low socioeconomic status have problems of poverty, low educational level, and weak health of their family that may affect the outcomes of new born like health, education and behavior problems[14].

A U like relationship is observed in adolescent with BMI and immediate abortion. In women with age 18-20 BMI <25kg/$m^2$is related with immediate abortion in their age of >25 years[15]. Pregnant women with BMI l <24kg/m^2 have a risk of retardation of fetal growth[16], which may be due to an increased vasoconstriction and reduced level of blood glucose due to malnutrition[17].

Girls who get pregnant before age 18 are more likely to experience violence within marriage and may be increased risk of stress lead to different diseases[18]. Adolescent pregnancy exposes young girls to the risk of HIV and sexually-transmitted infections[19].

Early marriage is usually related with many health and social problems for adolescent and their baby as well as of increase in population. Study was designed to find out frequency of adolescent pregnancy among rural families in Pakistan and its related health problem.

METHODS

Pregnant women between the ages of 16-30 years living in the rural area visited THQ Hospital, Sharaqpur during September 2017 to October 2017 were recruited with gestation week of 20-36 weeks. Enrollment was by physician referral, self-referral or via participation in registries. Recruited women contacted with the study planner for information and screening. Women with chronic disease such as HIV, diabetes and uterine abnormalities were also excluded. Study was approved by ethical committee of hospital. Letter of consent was taken from all pregnant women. Women with age 16-20 years were considered as adolescent and women with age 21-30 were considered as control group. Statistical Analysis: Data was analyzed by SPSS 20. Qualitative variables were expressed as frequency and percentages. Quantitative variables were expressed as mean±SD. Student't' test was applied to compare the age groups of adolescent and of older age group. P<0.05 was considered as significant.

Table 1: Variation in ages at different stages in women with age 16-20 years (group 1) and 21-30 years (group 2)

Variables	**Group 1 (60 cases)**	**Group 2 (40 cases)**
Present age (years)	24.29±3.73**	27.42±3.76
Gestational age (weeks)	29.41±9.47	36.52±2.32
Age at marriage (years)	17.89±1.29**	22.94±2.42
Age at first baby (years)	19.43±1.57**	24.16±2.35

**P<0.001 =highly significant difference

Table 2: Frequency and percentages of demographic characteristics of group 1 and group 2

Variables	**Group 1 (60 cases)**	**Group 2 (40 cases)**
BMI (Kg/m^2) < 24	(50) 83.3%	(20) 50%
Supplements (Iron and Calcium)	(25) 41.6 %	(25) 62.5%
Socioeconomic status (Poor class)	(50) 83.3 %	(30) 75%
History of abortion	(20) 33.3%	(10) 25%
History of hypertension (135-145/90 mmHg)	(03) 05%	(03) 7.5%

RESULTS

Variation in ages at different stages in women with age 16-20 years (group 1) and 21-30 years (group 2) is tabulated as table 1. It is observed that mean age, age at marriage and age at first baby of group 1 was less than of group 2 and it showed a highly significant difference (P<0.001).

Frequency and percentages of demographic characteristics of group 1 and group 2 is tabulated as table 2. It is observed that BMI <24kg/m^2 is seen in83.3% of group 1 and 50% of group 2. Iron and calcium taking as supplement was observed in group 1 was 41.6% and in group 2 was 62.5%. Poor socioeconomic class was 83.3% in group 1 and 75% in group 2. History of abortion was 33.3% in group 1 and 25% in group 2. History of hypertension was 5% in group 1 and 7.5% in group 2.

DISCUSSION

Women with age 16-20 years were considered as adolescent and women with age 21-30were considered as control group. It is observed that mean age, age at marriage and age at first baby of group 1 was less than of group 2 and it showed a highly significant difference (P<0.001). Many studies have found that the outcomes of adolescent pregnancy are

poorer in developing countries including Pakistan as compared to mothers with age group > 22 years. A study observed that 50% of the Pakistani adolescent were primigravidas, greater than 32% were having second baby, and about 17% of adolescent mother were producing their third or fourth babies[20]. These results were mainly due to lack of education, living in rural areas, uneducated companion[21].Additionally it is reported that teen age pregnancies are more at risk of maternal and fetal poor outcomes than women with adult stage[4].

We observed that most of the adolescent mothers were underweight compare to older mother considered as control group. A study proposed that underweight women have a low level of leptin hormone, which may have a role to impair the process of ovulation[22]. Another study reported that one of the reason of underweight mother, is mal nourishment which may be related with immediate abortion[23]. It is found that underweight women are more likely to give instrumental births, and at risk of developing chorioamnionitis[20].

Poor iron and calcium supplementation was observed in adolescent mothers of group 1 as compared to group 2. It is reported that the occurrence of anemia among adolescent or teen age mothers was 3 times more compared to the older mothers[20].According to WHO the iron supplementation to pregnant women is a preventive measure to get better maternal hematological status and birth weight[24].Severe anemia may increase the complication related with pregnancy i.e. weak immune system of pregnant mother, which may increase the risk of infection and low birth weight[9].

Many of pregnant adolescent belong to poor socioeconomic class compared to women with normal reproductive age. It is reported that women belong to low socioeconomic status may face more stress in their period of pregnancy relatively to the women belong to other socioeconomic status. According to a study poverty is related with increased tempo of teenage/adolescentpregnancy[25,26]

History of abortion was also more in adolescent mother and history of hypertension was observed more in older women. It is reported that besides these problems, there is an increased occurrence of pre-eclampsia, prolonged labor, cesarean sections etc. Studies also observed an increased risk of low Apgar scores, preterm baby, intrauterine growth restriction and death[27,28].

CONCLUSION

Study concluded that the frequency of adolescent pregnancy in a rural area of Pakistan is still high and the health problems associated with this age of pregnancy are malnutrition, underweight, lack of iron and calcium supplement.

Adolescent pregnancies may be a major hazard for the development and growth of next generation growth and development of the upcoming generation. Community based health programs should mark teen age girls and parents, to give awareness about problems faced with teen age marriages.

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