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Research Paper

Role of Consanguinity And Maternal Age on The Rate of Abortions

Zoology

KEYWORDS : abortion, consanguinity, maternal age

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ABSTRACT

Abortion is considered not only a major reproductive health problem, but also a health risk factor for mothers well being, which also threaten mother's lives and comfort. This study seeks to assess the incidence of abortion with particular reference to consanguinity and maternal age. The present study was conducted in Muslim population of Kurnool town from June 2014 to December 2015. Data was collected using standardized questionnaire. The study shows that out of 1050 married women, 47.05% were in the age group below 18 years followed by 52.95% in the age group above 18 years. Overall, the results reveal that the prevalence of abortions is greater among women less than 18 years who got married to their blood relatives (22.64%) and fewer abortions were observed among women above 18 years, who got married to distant relatives (0.01%).

INTRODUCTION

Medically, abortion means loss of the fetus, for any reason, before it is able to survive outside the womb (Annas and Sherman, 2007). An abortion can occur spontaneously, in which case it is usually called a miscarriage, or it can be purposely induced. The term abortion most commonly refers to the induced abortion of a human pregnancy. However, miscarriage is the spontaneous loss of a fetus before the 20th week of pregnancy (Pregnancy loss naturally or on its own after the 20th week are called preterm deliveries) (Jibril et al., 2014). Of all, the most common and important is Spontaneous abortion (SAb), which is also known as miscarriage, refers to a pregnancy that ends spontaneously before the fetus has reached a viable gestational age (Regan and Rai, 2000). SAb is the most common complication of early pregnancy (Regan and Rai, 2000).

Spontaneous abortion is defined as pregnancy loss before 24 completed weeks of pregnancy. The occurrence of a spontaneous abortion is a tragic loss for a couple trying to have a child and can be associated with significant psychological problems for women, their partners and families in general. For most women, spontaneous abortion is a stressful event and they as well go on to have successful pregnancies in the future. About 1% of the couples will experience recurrent spontaneous abortion (Patricia, 2001), as most spontaneous abortion occurs within the first 14 weeks of pregnancies. Spontaneous abortion is a matter of concern because of its impact on maternal morbidity and mortality in public health. Spontaneous abortion is not only an important issue of reproductive health, but also a health risk factor for mothers' well-being. Alternatively, the following terms are used to describe pregnancies that do not continue.

Threatened abortion could be any vaginal bleeding during early pregnancy without cervical dilatation or change in cervical consistency. Usually, no significant pain exists, although mild cramps may occur.

Inevitable abortion is an early pregnancy with vaginal bleeding and dilatation of the cervix. Typically, the vaginal bleeding is worse than with a threatened abortion, and more cramping is present, no tissue has passed yet.

Incomplete abortion is a pregnancy that is associated with vaginal bleeding, dilatation of the cervical canal, and passage of products of conception. Usually, the cramps are intense, and the vaginal bleeding is heavy.

Complete abortion is a completed spontaneous abortion. After the tissue passes, the patient notes that the pain subsides and the vaginal bleeding significantly diminishes. The ultrasound demonstrates an empty uterus.

Missed abortion is a nonviable intrauterine pregnancy that has been retained within the uterus without spontaneous abortion. Typically, no symptoms exist besides amenorrhea, and the patient finds out that the pregnancy stopped developing earlier when a fetal heartbeat is not observed or heard. Spontaneous abortions can occur for many reasons, not all of which can be identified. Some of these causes include genetic, uterine or hormonal abnormalities, reproductive tract infections, and tissue rejection.

Numerous risk factors are associated with an increased risk of pregnancy loss. Among which are uncontrolled diabetes and polycystic ovary syndrome (PCOS) with 30 to 50% of pregnancies in women with PCOS are miscarried in the first trimester. Preeclampsia also known as high blood pressure during pregnancy, is sometimes caused by an inappropriate immune reaction (paternal tolerance) to the developing fetus, and is associated with the risk of spontaneous abortion. Hypothyroidism in several cases increase the risk of spontaneous abortion. The presence of certain immune conditions such as autoimmune diseases is associated with a greatly increased risk of spontaneous abortion. Other attitudinal factors such as tobacco (cigarette) smoking, cocaine and caffeine consumption, physical trauma, exposure to environmental toxins, and use of an intra uterine device (IUD) during conception has also been linked to increased risk of spontaneous abortion (Armenian Medical Network, 2005). Antidepressant drugs especially paroxetine and venlafaxine can lead to spontaneous abortion (Broy and Bérard, 2010).

Advancing maternal age is one of the risk factors for spontaneous miscarriage in healthy women (Lohstroh et al, 2005). The overall rate of SAb was 11 percent and the approximate frequencies of clinically recognized miscarriage according to maternal age were: age 20 to 30 years (9 to 17 percent), age 35 (20 percent), age 40 (40 percent), and age 45 (80 percent) (Nybo Andersen et al, 2000). But in contrast to that, the association between maternal and infant morbidity and mortality and young-age pregnancy has been a public health concern for many years

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(Mecklenburg and Thompson, 1983). There has been great controversy regarding the pregnancy performance of teenage mothers and many studies have suggested that they are at higher risk of morbidity and mortality (Sarrel and Klerman, 1969). Marriage during puberty is believed to ensure early fertility of the married couple (Abou Zahr and Royston, 1991). The average age of menarche worldwide is approximately 13.0 years (Senanayake,1990).Girls require about 2-3 years to achieve physical and biological maturity after the onset of menstruation (Moerman, 1982).Thus girls who marry and conceive before their 16th birthdays are not yet fully prepared for the demands of the childbearing period. In Saudi Arabia there is no minimum legal age for marriage. As in other Arab countries, it is known to have high rates of early marriage at ages close to menarche, a practice related to traditions and beliefs (Harfouche and Verhoestrate, 1983).

The prevalence of preference for consanguineous unions is particularly high in South Asian population (Beck, 1972). In Indian context, Hussain and Bittles (2000) analysed the National Family Health Survey (1992-93) and found the prevalence of consanguineous marriage is around 12% but, among Muslims, it is 22%. Beck (1972) 'plotted the distribution of preference for consanguineous marriage thereby demonstrating that four south Indian states including Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu, follow a widespread practice of consanguineous marriage in all their administrative districts'. Previous literature tells us that, women married to their blood relatives experienced a greater amount of pregnancy wastage and child loss as compared to those women married to their distant relatives or nonrelatives. Sadaat (2011), performed an ecological study using data from 63 countries, thereby raising the hypothesis that 'off springs from consanguineous marriages experience higher morbidity and mortality'. Bittles *et al* (1993) demonstrated that neonates born through consanguineous unions had higher mortality rates in Pakistan. Children from consanguineous marriages are at a greater risk of inheriting harmful condition caused by homozygous recessive genes and consequently suffer autosomal recessive genetic disorders (Sureender *et al*., 1998).

Thus, in the present study we examined whether early teenage marriage, i.e. marriage before the age of 18years and consanguinity exposed the woman to a higher risk of poor pregnancy outcome throughout her reproductive life.

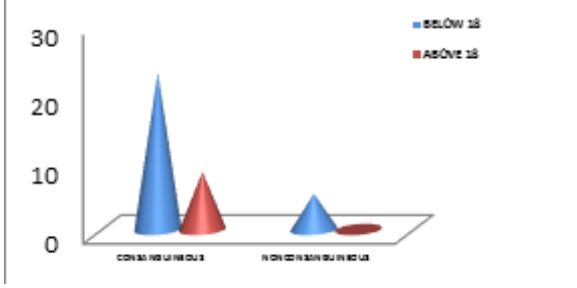
MATERIALS AND METHODS

A random sample of 1050 Muslim married women between the ages of 15-49 was personally interviewed using a structured questionnaire in Kurnool town to determine the role of consanguinity and maternal age on abortion rate. A family pedigree was drawn for each marriage to record the type of consanguineous relationship involved. The specific questions asked in this survey are "Are you related to your husband by blood? If so, what is the relationship?" (Options given for this question are no relation, Cousin, Others). Similarly, questions were asked to women concerning the history of pregnancy outcomes such as stillbirth, miscarriage, spontaneous abortion and induced abortion, etc (Desai et al, 2005). Data obtained was fed into the computer and compared and contrasted with the rate of abortions with respect to consanguinity and maternal age.

RESULT AND DISCUSSION

Out of 1050 Muslim women studied in Kurnool town, 47.05% were below 18 years and 52.95% were above 18 years. Marital age is a critical driver of women's health outcomes. Pressure to marry early and have many children double the risk of spontaneous abortion and increase the risk of losing a fetus by four times. In developing countries, complications of pregnancy and childbirth are the leading cause of death in young women aged between 15 and 19 years. Maternal age found to have an association with birth defects. Overall, the results (Figure:1) reveal that the rate of abortions is greater among women of age group below 18 years who got married to their blood relatives (22.64%) compared to the women who got married to distant relatives (5.15%). However among women of age group above 18 years also shows a moderate rate of abortions who got married to their blood relatives (8.33%) compared to the women of same age group who got married to non-relatives (0.01%).

Figure 1- Percentage of Abortion: According to Maternal Age



In this study, Chi square statistical analysis indicated a significant difference (P< 0.05) between the frequency of abortions occurrence between consanguineous and non-consanguineous marriages (26.3628). Generally, inbreeding is associated with loss of biological fitness (Khlat and Khoury, 1991). In populations where inbred unions are common, increased levels of morbidity and mortality caused by the action of detrimental recessive genes can be predicted. Empirical studies on the progeny of first cousins indicate morbidity and mortality levels to be higher than in the offspring of unrelated couples (Badarnddoza and Akhtaruzzaman, 1994). The contribution of recessive genes as predisposing factors in common diseases of adulthood is of great interest and significance. Higher levels of inbreeding were reported in patients with a range of major adult disorders, including some common cancers and cardiovascular disease (Badarnddoza and Akhtaruzzaman, 1994).

CONCLUSION

Early teenage marriage is fraught with problems throughout the childbearing period. Because of their age, very young mothers fall into a high risk category as they are biologically and psychologically immature. Women who marry before 18 years and with their blood relatives remain at highest risk of spontaneous abortion, fetal death and infant mortality during the childbearing period. Moreover, early marriage cuts short the woman's education and employment chances. It burdens the girl with frequent pregnancy, childbearing and excessive responsibilities at an immature age. These additional factors aggravate the impact of early marriage upon the pregnancy outcome of these women.

It is recommended that even if early marriages are preferred and adopted as cultural norms, they be discouraged before the age of 18 years. It is highly recommended that educational programmes be directed to parents and to girls themselves to provide scientific information on the health, problems with consanguineous marriages and socioeconomic problems of early marriage. Recommendations include encouragement of girls' education, which has many advantages including the prospects of a better marriage, improved childrearing, and corrected role of women in the community, financial rewards and improved standard of living for the family as well as delay of marriage.

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