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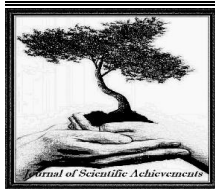
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# Prevalence of high risk pregnancy and some relevant factors in referred women to health centers

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**Abstract**

**Introduction:** Pay attention to pregnant mothers, during pregnancy, is one of the most certain and basic methods to keep fetus and mother's health. So, base of perinatal care is the sooner detection of high risk group. This study is done in pregnant women in Savodjbolagh in order to determine the rate of high risk pregnancy and some relevant parameters.

**Materials and Methods:** In this cross sectional study 4552 pregnant women who referred to health centers, health bases and health homes of Savojbolagh County, were investigated. Under investigation variants, included age, number of gestation, BMI, abortion, previous history of cesarean section, underlying maternal diseases, were analyzed by software of SPSS18 after data gathering.

**Results:** Results of this study show that %4.4 of pregnant women was less than 18 years old, and 7.4 percent were more than 35. Also 4.16 percent of pregnant women were in 5th or more their gestation. 75 percent had one of perinatal risk factors. The most common risk factors in the scene of previous pregnancy were history of cesarean section (%17.1) and abortion & preterm labor (%5.8). The most common risk factors in the scene of current pregnancy were abnormal BMI (%23.5) and symptoms of preeclampsia (%1.5).

**Conclusion:** Because of high prevalence of high risk pregnancy the necessity to instruct families to consider family planning and prevent from undesired pregnancy becomes noticeable. Also detection of high risk pregnancy and in time control of its complications is necessary.

**Keywords:** *High risk pregnancy, Pregnant women, Savojbolagh County*

## 1. INTRODUCTION

Pregnancy is a natural, physiologic and peerless phenomenon in women's life. However, previous or induced diseases in mother and fetus, during current pregnancy, can complicate it. Effort to women's health is a health scheme priority. Nevertheless, a lot of women die annually, from reasons related to pregnancy and delivery, and also a lot of them suffer from complications of pregnancy (1).

Pregnancy, even in the best condition, is a stressful period for mother, and when it associates with a previous medical disorder or gestational complication, stress and anxiety in mother will increase. Women, who experience high risk pregnancy, will face to physical, psychosocial, economic results of treatment nature & potential need to prolonged care in home or hospital and have to adjust their life style to present conditions; this will cause stress and anxiety for them and their families (2).

In definition, pregnancy would be high risk if mother, fetus or neonate were in risk of death, disability or disorder more than usual (3). Mothers who lie in high risk group are: mothers who have history of chronic disease and who have history of complication in previous pregnancy (abortion, dead fetus and etc.) and also multifetal pregnancy, pregnancy in less than 18years old or more than 35y/o, being in more than 4th gestation (5th gestation or more), gestational interval less than 1 year (4).

According to the World Health Organization about 800 women die of pregnancy-related preventable causes daily, and 99% of these deaths occur in developing countries. The global prevalence of high-risk pregnancies has been reported to be 20%, also 50 percent of perinatal mortality is because of high-risk pregnancy (5). The prevalence of high-risk pregnancy varies from country to country, for example, in north of India is 31.4%, Nigeria, 40.1% and Tunisia, 59.3% (6-8). Also, the prevalence of high-risk pregnancies varies in different regions of Iran (9-11).

In addition to bad health effects of high risk pregnancies on mother and neonate, its economic effects also can be investigated. Studies have shown that expenses for high risk pregnancy are significantly more than normal pregnancy (12). This study is done in pregnant women who referred to savojbolagh health centers in order to determine the rate of high risk pregnancy and some relevant factors.

## 2. MATERIALS AND METHODS

This cross-sectional study is done on pregnant women in Savojbolagh County. In this study 4552 pregnant women referred to health centers, who had opened files for perinatal care, were investigated. The statistic forms in health files were the source for data gathering. This data included: demographic feature, information about current pregnancy circumstances, previous pregnancy circumstances and previous history of underlying diseases (such as cardiac diseases, renal diseases, epilepsy, gestational diabetes...). Complications and problems of previous pregnancy were gathered up via information was recorded in health files and those of current pregnancy were gathered up by routine gestational physical examination and interview. In this study body mass index that indicates obesity and thinness is obtained from dividing weight (on the basis of kilogram) by square of height (on the basis of meter) and abnormal BMI means that measures less than 19.8 or more than 26. The gathered data was analyzed by software of SPSS18.

## 3. RESULTS

Results in this study show that 4.4 percent of women were less than 18y/o and %7.4 were more than 35y/o and the most age abundance was in age group of 18-35y/o that was 88.2 percent. From the view point of residence %56.8 were urban and %43.2 were rural. 1409 women experienced their first gestation that 190 ones of them lay in high risk age group (Table 1).

The most risk factor in the scene of previous pregnancies was previous cesarean section (%17.1). Also 88 persons (%1.9) aborted before 20th week of gestational period and 129 ones (%2.8) delivered before 37th week of gestational period and suffered from preterm labor.

**Table 1.** Characteristics of the study groups.

| Variable | | Ferequency | Percent |
|---|---|---|---|
| **Age** | Less than 18 years | 202 | 4.4 |
| | 18-35 | 4025 | 88.2 |
| | More than 35 years | 325 | 7.4 |
| **Place of Residence** | Urban | 2587 | 56.8 |
| | Rural | 1965 | 43.2 |
| **Number of Gestation** | 1 | 1409 | 30.9 |
| | 2 | 1320 | 29 |
| | 3 | 975 | 21.5 |
| | 4 | 658 | 14.4 |
| | More than 4 | 190 | 4.2 |

**Table 2.** Distribution of risk factors in women with high – risk pregnancy

| Risk factors | Frequency | Percent |
|---|---|---|
| **Previous history of cesarean section** | 782 | 17.1 |
| **Previous history of Abortion** | 88 | 1.9 |
| **Previous history of Preterm delivery** | 129 | 2.8 |
| **Renal diseases** | 34 | 0.7 |
| **Cardiac diseases and Hypertension** | 93 | 2.1 |
| **Epilepsy** | 105 | 2.3 |
| **Gestational Diabetes** | 39 | 0.8 |
| **Abnormal BMI** | 1071 | 23.52 |
| **Anemia** | 126 | 2.7 |
| **Preeclampsia** | 70 | 1.5 |

Prevalence of high risk pregnancy in under investigation community shows that 75% of pregnancies are high risk; it means that at least one of maternal and fetal risk factors (history of underlying maternal disease, inappropriate age of pregnancy, high number of gestation, preeclampsia…) is reported in them.

## 4. DISCUSSION

Cognizance and diagnose of high risk pregnancy can be the first step to prevent mortality, morbidity and complications of pregnancy on maternal health; also therapeutic deeds can reduce consequent risk for fetus or neonate. Findings in this study show that 75% of pregnant women have faced to at least one of gestational risk factors. These statistics are dramatically different with those of other countries in a way that rate of high risk pregnancy in western countries, on the whole, is reported as 15-20%(12). In study by Soleimanizade and colleagues, high risk pregnancy has reported as %52(12). Also in investigation of Yasuj health centers 52.4 percent of pregnancies were high risk (11). In study by Kashani in Gorgan prevalence of high risk pregnancy was 63.5 percent (13). These results conclude that high risk pregnancy is relatively high in our country, and because of vital effect of maternal health on social health, it is necessary to pay attention to this susceptible group and to offer appropriate health care to them. According to results of this study, altogether, %11.8 of women had become pregnant in an inappropriate age (less than 18 and more than 35), so their gestation is counted as a high risk one. Pregnancy in an inappropriate age can cause a lot of complications for mother and neonate, such as preterm labor, LBW, neonatal mortality and morbidity, anemia in mother and blood pressure disturbances (1).

According to global statistics, pregnancies in less than 18y/o constitute 11% and pregnancies in more than 35y/o constitute 10% of total pregnancies (14). In this study the most risk factor related to previous pregnancy was previous cesarean section, and after that abortion, preterm labor, and history of disease lay in the next level. The most risk factor related to current pregnancy was abnormal

BMI, preeclampsia and anemia. Testa and colleagues' investigation of gestational risk factors in six Western African countries has shown that the most risk factor related to previous pregnancy was previous cesarean section and the most risk factors related to current pregnancy were perinatal bleeding and BP disturbances (15).

In study by Safari the most risk factors related to previous pregnancy were history of cesarean section and history of diseases consequently and the most risk factor related to current pregnancy was bleeding, preterm labor and BP disturbances (11). Results of this study confirm those of other studies in ranking of risk factors. According to studies the most risk factor related to previous pregnancy was cesarean section. Since, increasing rate of cesarean section, itself, is a factor for high risk pregnancy and increasing rate of maternal mortality & morbidity, it is necessary to plan on decreasing its rate.

Gestational number more than 5, in understudy women was % 4.2 that, by comparison with study in Bam (%8.8) showed a lower number. In this investigation %30.9 of women were in their first gestational experience. Nulliparity, in western communities, constitutes approximately half of pregnancies (1). First pregnancy and multi parity, because of increase in maternal and fetal complications (increased BP, fetal anomalies, obstetric bleeding, LBW…), lead to high risk pregnancy (1).

Findings in this study have shown high rate of abnormal BMI that result in high risk pregnancy. In this study BMI with a measure of less than 19.8 and more than 26 in pregnant women is considered as abnormal BMI. Abnormal BMI in mother at the beginning of pregnancy and the extent of weight gain during pregnancy has an important role on gestational outcome and can lead to fetomaternal complications (1). Women with low BMI are prone to have neonates with low birth weight and women with high BMI might suffer from BP disturbances, gestational DM & fetal complications (4). According to the findings have obtained and fetomaternal complications of abnormal BMI it is better to persuade obese women to lose weight before pregnancy and to instruct underweight women to have a better nutrition. Findings of this study affirm the necessity of more pay attention to pregnant women particularly for prevention of pregnancy during inappropriate ages, pre-gestational care and perinatal care. Prenatal care consultation acts as a prophylactic approach. Factors that can potentially effect on perinatal outcome, detect and the women for whom consultation is done notifies about probable risks and if it were possible a method for reduction or omission of pathologic effects would be taken on the basis of family, medical & obstetric status or specific tests. From findings in this study it concludes that high risk pregnancy is a major problem in productive age group of women in Savojbolagh County. So, the necessity to instruct families to consider family planning and prevent from undesired pregnancy becomes noticeable. Also detection of high risk pregnancy and in time control of its complainants is necessary.

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