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Proportion of High Risk Mothers Attending Antenatal Clinic (ANC), PGIMER, Chandigarh 2018-20

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Abstract

Introduction: Pregnancy with high risk conditions is threatening the life of the mother as well as fetus. Each year, globally 529,000 women and girls die due to complications associated with pregnancy. Most of the complications are preventable with preventive measures. So, all the pregnant mothers should be evaluated for the high risk factors. This study assessed the proportion of high risk mothers in Antenatal clinic OPD PGIMER Chandigarh.

Aim: To assess the proportion of high risk mothers.

Material and method: Pre-experimental design was used where total 200 antenatal mothers were enrolled by purposive sampling technique. Data were collected by using interview schedule in the period of July to December 2019. An assessment proforma were used for the assessment of antenatal mothers with high risk conditions regarding maternal and fetal outcome.

Results: Finding of the study shows that mean age of high risk women were 28.6 years of age, attained menarche at the age of 13 years of age. Majority (63%) of the mothers belongs to Hindu family. More than 60% of the high risk mothers were having Anemia followed by Hypothyroidism (57.5%), Gestational diabetes mellitus (28.5%), Gestational Hypertension (15%), Previous history of caesarean section (14.5%), Age ≥35 years (8.5%), Rh negative mothers (5.5%), Height <145 cm (3.5%).

Conclusion: It is concluded that highest percentage of Antenatal women (63%) were with anemia followed by 57.5% with Hypothyroidism.

Keywords: *Gestational diabetes mellitus, Gestational hypertension, High risk mothers*

Introduction

Pregnancy is an inimitable, stirring, and joyful time in a women's life as it express the woman's incredible, innovative and fostering powers while providing a link to the future. It brings a new sense to the thought of beauty and this time a woman cherishes with enormous joy and anticipation. The emotion of carrying in a little soul within in her is glorious. A baby fills a peace in the mother's heart that she never knew was empty [1]. Each week of pregnancy brings with a new changes and thoughts that may require some explanations and hold up to the pregnant woman. It is the period during which a baby is in the mother's womb for about 280 days. Progression of both physiological and psychological changes occur during pregnancy [2]. A pregnant women passes through period of pregnancy, labor and puerperium, it is important to provide antenatal, Intranatal and postnatal care. The year 2016 and 2030, is considered as the Sustainable Development Goals, where the target is to reduce MMR to less than 70 per 100 000 live births globally [7]. According to study, there is 20 -30% high risk pregnancies in India which leads to 75% of perinatal mortality and morbidity. So, for the reduction of maternal mortality, it is necessary to detect high risk pregnancy and their management in early stage [8]. High risk factors includes obstetric factors- Grand multipara, Age less than 18 years and more than 35 years, Height less than 145 cm, multipara with bad obstetric history like (loss of baby, cesarean section, Hypertension in previous pregnancy, recurrent premature labour and abortion, Intrauterine growth retardation), case of disproportion, Malpresentation, multiple pregnancy, obstetric complications includes hemorrhage during pregnancy (threatened abortion, Antepartum hemorrhage), pregnancy induced hypertension (Preeclampsia, eclampsia), high risk fetus (premature labor, RH incompatibility fetus, post maturity, intrauterine growth retarded fetus). Medical factors includes (anemia and malnutrition, cardiac diseases (pulmonary tuberculosis, hepatitis, syphilis, psychiatric disorders, thyroid disorders and others), social factors include unwed pregnancy, no or less than 3 antenatal checkup or low socioeconomic group. In western countries this incidence of high risk pregnancy comes to about one third in all the pregnancies. This incidence can be seen at least double numbers, because of anemia, under nutrition, poor social factors and parity [3]. Each pregnancy has three trimesters. First trimester is first 12 weeks of pregnancy, second trimester starts

from 13 weeks to 28 weeks and third trimester starts from 29 weeks to 40 weeks of pregnancy. The first trimester is the most essential for the development of a fetus. A women's body goes through many changes during the first 12 weeks of gestation. Body structure and organ systems of the baby develop during this period. Most miscarriages and birth defect can be seen during this period [4]. During 2nd trimester, nausea and vomiting usually resolve, there are fewer complications can occur like pregnancy induced hypertension, diabetes mellitus, Oligohydromnia, Polyhydromnia, anemia, cardiac diseases, abortion. During third trimester, various complications can arise like Gestational diabetes, preeclampsia, preterm labour, premature rupture of membrane, intrauterine growth retardation; malpresentation [5]. High risk pregnancy refers to pregnancy where complications are faced by the mother and her unborn child and also it will affect the life of both mother and baby. Nesbitt, 1969 scored high risk pregnancy under eight factors on initial history, physical and laboratory examinations at the time of booking. These factors were age of the mother, race and marital status, parity, past obstetric history (abortions premature, fetal death, neonatal death, and congenital anomaly), medical and obstetric history and nutrition (systemic illness, specific infections, and diabetes), Rh problem, social and economic history, emotional survey. Each factor was attached penalty points 0.5.10, 20, 30. The total score of all eight categories were subtracted from a potential ideal score of 100; the score lying at or below 70 was high risk and above 70 was low to moderate risk. The outcome of pregnancy on the point of abortion, premature birth, low birth weight, prenatal complication, labour complication, perinatal mortality, neonatal morbidity and poor outcome were identified with high percentage with high risk scores. However, this score did not include risks developed during ongoing pregnancy and delivery. Currently, comprehensive risk scoring is made on initial score, continuing pregnancy and labour risk score, postpartum, maternal and neonatal risk monitoring [3]. Pregnancy checkup is necessary for at least ten times in case of high risk pregnant women and five times in case of normal pregnancies [6]. Prenatal assessment and screening of high risk cases through antenatal assessment, review lab orders/investigations, obtaining Ultrasonography report, identification of high risk and follow up prevent the complication of high risk pregnancy.

Objective

To assess the prevalence of high risk mothers in Antenatal clinic OPD PGIMER Chandigarh.

Methodology

Study design was pre-experimental. Sample was selected by using purposive sampling technique. Data were collected by using interview schedule in the period of July to December 2019. Antenatal women with high risk conditions were approached during their clinical visit in antenatal clinic, outpatient department (OPD). women were informed about the aim of the study and written consent was obtained. A structured interview schedule was used to gather information regarding identification data. An assessment proforma were used for the assessment of antenatal mothers with high risk conditions regarding maternal and fetal outcome. Content validity of the tool and protocols was confirmed for the completeness, content and language clarity by the Guide, Co-guides and experts from National Institute Of Nursing Education (NINE), and Department Of Obstetrics And Gynecology. Ethical approval was taken from institute ethics committee, PGIMER, Chandigarh vide no. NK/5163/Msc/10. A written Informed consent was obtained from the participants. Data was analyzed using descriptive statistics.

Results

Table 1a depicts the Sociodemographic profile of antenatal women with high risk conditions. Majority of the women with high risk conditions were in age group of 26-30 years resulting in the mean age of 28.65 ± 4.28. Majority of antenatal mothers were educated up to secondary. More than 60% of the antenatal women were Hindu, belongs to joint family and lived in urban area. Most of the antenatal women were vegetarian and per capita income between Rs 3504-7007.

Table 1b shows the menstrual and obstetric profile of antenatal mothers with high risk conditions. Majority of women attained menarche at the age of 13 years, having regular menstrual periods and duration of menstruation more than 3 days. Majority of the women had marriage between the age 18-27 years and 71.5% had duration of marriage ≤5 years. Majority of antenatal women were primigravida and had history of one live birth. 77% of the antenatal women were having gestation between 29-42 weeks and 23% were having gestation 13-28 weeks. 2 out of 200 antenatal women were having the history of Post partum haemorrhage (PPH) in previous pregnancy.

Table 1a: Sociodemographic profile of Antenatal mother with High risk conditions.

Variables	Antenatal mother with high risk conditions (N=200) f (%)
Age(years)	
20-25	51(26)
26-30	**87(44)**
31-34	45(22)
≥35	17(8)
Educational status	
Primary	7(3)
Secondary	**92 (46)**
Graduate	48(24)
Postgraduate	53(27)
Religion	
Hindu	**126(63.0)**
Muslim	9(4)
Sikh	65(33)
Per capita income(Rs)	
<1050	2 (1.0)
1051-2101	31 (15)
2102-3503	55(28)
3504-7007	**60(30)**
7008 and above	52(26)
Type of family	
Nuclear	72(36.0)
Joint	**128(64.0)**
Habitat	
Urban	**126(63.0)**
Rural	74(37.0)
Dietary habits	
Vegetarian	**155(77.5)**
Non vegetarian	45 (22.5)

Age Mean ± SD=28.65 ± 4.28; Range=20-45.
Per capita income Mean ± SD =5514.75 ± 4133.48; Range=1000-25000.

Table 1b: Menstrual and Obstetric profile of Antenatal mothers with High risk conditions.

Variables	Antenatal mother with high risk condition (N=200) f (%)
Age at menarche (years)	
12	37 (18.5)
13	**153 (76.5)**
14	10 (5.0)
Menstrual pattern	
Regular	**177(88.5)**
Irregular	23(11.5)
Duration of menstruation(days)	
≤ 3 days	66(33.0)
>3 days	**134(67)**
Age of marriage (years)	
<18	11 (5.5)
18-27	**152(76.0)**
28-35	37 (18.5)
Duration of marriage (years)	
≤5	**143 (71.5)**
6-10	40 (20.0)
11-15	12(6.0)
>15	5(2.5)
Gravida	
Primigravida	**115(57.5)**
Multigravida	85(42.5)
Live birth	
1	**34(17.0)**
2	7(4)
Period of gestation	
13-28 weeks	46(23.0)
29-40 weeks	**154 (77.0)**
Previous history of PPH	2(1.0)

Age of marriage Mean ± S.D =23.98 ± 3.582; Range: 16-35.

Table 1c depicts clinical profile of antenatal women with high risk conditions. More than 50% of the antenatal mother had Hemoglobin level (Hb) less than 11 gm/dl and TSH level more than normal. Less than 8% of the antenatal women were Rh-ve, blood pressure more than 140/90 mm of hg, presence of albumin and ketone in urine. Only Three percent of the antenatal mother had HbA1c more than normal. Nearly one third of the antenatal women had fasting blood sugar level more than 95 mg/dl and post-prandial more than 126 mg/dl.. Further table, shows that 31 or less than 31 % having pylectesis, ventricular septal defect, ventriculomegaly, choroid plexus cyst, fetal growth restriction based on ultrasound finding.

Table 2 illustrates the proportion of antenatal mother with high risk conditions. 63% of antenatal women had Anaemia followed by Hypothyroidism (57.5%), previous history of abortion (30%), Gestational diabetes mellitus (28.5%), Gestational Hypertension (15%), Previous history of caesarean section (14.5%), Age ≥35 years (8.5%), Rh negative mothers (5.5%), previous history of preterm baby (5%), Height <145 cm (3.5%), Oligohyramnios (3%), placenta previa (2%), Polyhydramnios (1%).

Discussion

High risk pregnancy can affect the health of mother or baby and complications are faced by the mother and her unborn child. If initially detection and effective management of high risk pregnancy can considerably be helpful for the reduction of maternal and neonatal mortality and morbidity rate. Present study was conducted with the objective to assess the proportion of high risk mothers. Two hundred

Table1c: Clinical profile of Antenatal mother with High risk conditions.

Variables	Antenatal mothers with high risk conditions (N=200) f (%)
Blood group	**189(94.5**)
Rh +ve	
Rh –ve	11(5.5)
Blood pressure	
systolic	
<140 mm of hg	**195(97.5**)
>140 mm of hg	5(2.5)
Diastolic	
<90 mm of hg	**186(93)**
>9 0mm of hg	14(7)
Hb%	
< 11 gm /dl	**126(63.0)**
>11 gm/dl	74(37.0)
Blood sugar level	
FBS(<95 mg/dl)	**140(70)**
(≥95 mg/dl)	60(30)
PPBS (<126 mg/dl)	**151(75.5**)
(≥126 mg/dl)	49(24.5)
HbAIc	
Normal(<5.6)	51(25.5)
Abnormal (≥5.6)	6(3.0)
not done	143(71.5)
Urine testing	
Presence of albumin	4(2.0) 10(5.0)
Presence of ketone	
TSH level	
Normal	40(35.0)
abnormal	75(65.0)
Based on ultrasound findings N=13	
Ventriculomegaly	2 (15)
Ventricular septum defect	1 (8)
Hydronephrosis	2 (15)
Choroid plexus cyst	3 (23)
Pylectesis	4 (31)
Fetal growth restriction and oligohydromnias	1 (8)

women who fulfilled the inclusion criteria were chosen as subjects from Antenatal OPD, Obstetrics and Gynecology department of PGIMER, Chandigarh. The study was conducted from the month of July to august 2019. The collected data was analyzed using SPSS version 2.0, descriptive statistics were used for analyzing the data. Present study exhibit that 30% of the mother had history of abortion, history of caesarean section (14.5%) and 8.5% were elderly gravida. Findings are almost similar with the study conducted by Jaideep et al. [7], Kambaba Nazi Michel [8] found high risk mothers with history of abortion (27%), age ≥35 years (5.5%) and history of caesarean section (13.6%). They recommended that carefully monitoring is important for high risk women to avoid the occurrence of maternal mortality. Our study Shows that majority of the high risk mothers were having Anemia followed by Hypothyroidism, Gestational diabetes mellitus, Gestational Hypertension, Previous history of cesarian section, Age ≥35 years, Rh negative mothers, Height <145 cm. Kabamba Nzaji Michel et al. found that majority of high risk factors are history of maternal infection (18.5%), unexplained fetal or neonatal death antecedent (12.4%) [8]. Jaideep et al. also found the high risk factors. 59.8% were having bad obstetric history, 4% were having pregnancy induced hypertension, 3.2% were RH negative [7].

Table 2: Proportion of antenatal mother with high risk conditions.

Variables	Antenatal mother with high risk conditions (N=200) f (%)
Height <145 cm	7 (3.5)
Age ≥35 years	17(8.5)
Rh-ve mothers	11(5.5)
Previous history of pre-term baby	10 (5.0)
Previous history of abortion	60(30.0)
Previous history of LSCS	29(14.5)
Anaemia	**126 (63.0)**
Gestational Hypertension	30(15.0)
Gestational diabetes mellitus	57 (28.5)
Hypothyroidism	**115(57.5)**
Placenta previa	4 (2.0)
Oligohydromnia	5(3)
Polyhydromnia	1 (1)
Gestational diabetes mellitus with Anaemia	21(10.5)
Hypothyroidism with GDM with Anaemia	12(6)
Hypothyroidism with Polyhydromnia with Anaemia	1(.5)
Hypertension with Placenta previa	1(0.5)
Hypertension with Anaemia	8(4)
Hypothyroidism with Anaemia	41(20.5)
Hypothyroidism with Gestational hypertension with Anaemia	3(1.5)
Hypothyroidism with Gestational hypertension	1(0.5)
Hypothyroidism with Oligohydromnias with Anaemia	1(0.5)
Hypertension with oligohydromnias	1(0.5)
Hypothyroidism with Gestational diabetes mellitus	5(2.5)
Hypothyroidism with Gestational hypertension with GDM	3(1.5)
Hypothyroidism with GDM with Gestational hypertension with Placenta previa with Anaemia	1(0.5)
Hypothyroidism with GDM with Gestational hypertension+Anemia	4(2)
Gestational Hypertension with oligohydromnias with Placenta previa with anaemia	1(0.5)

*Number is more because of more than one high risk conditions.

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