

**ORIGINAL RESEARCH**

# Pregnancy outcome in elderly primigravida

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**ABSTRACT**

**Background:** Maternal age is an important determinant of pregnancy outcome with advance age the maternal and fetal complications increase significantly. Advanced age is associated with decreased fertility and increased risk of antenatal and post partum complications. In recent times women has changed their lifestyles such as pursuit of higher education and entry into work forces and career advancements outside the home. **Methods:** This was a prospective comparative study done in 180 patients over a period of 18 months from september 2017 to march 2019. Among 180 patients 90 patients were elderly primigravids more than 30 years of age and 90 patients were young primigravidas aged 20 to 29 years. **Results:** Elderly primigravida > 30 years old had more common complications with significant statistical differences for chronic hypertension, GDM, anaemia, antepartum hemorrhage, post partum hemorrhage, low Apgar score. **Conclusion:** Elderly primigravida aged 30 years and above are at high risk of developing antenatal and post partum complications than younger primigravidas between 20 and 25 years of age.

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**INTRODUCTION**

In obstetric practice maternal age is an important determinant of outcome of pregnancy and both extremes are known to be associated with adverse maternal and fetal outcome. Globally a significant increase has been observed in recent times. Even though advanced maternal age is an important subject yet it has not received adequate attention in our country. Pregnancy is the only time in the women's life when she can help God work a miracle.

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The criteria for the elderly primigravida has been at variance over the years –from time to time and centre to centre. In one study done in Nigeria, it has been seen that women above the age of 30 years had adverse maternal and perinatal outcome and these women were named as mature primigravidas.<sup>1,2</sup> Thus

Nixon and Miller only considered 40 years and above as Elderly primigravida.<sup>3,4</sup> However in July 1958, the Council of international federation of Gynecologists and obstetricians had recommended “, the elderly primigravida is any women having her first pregnancy at the age of 35 years or more.”<sup>5</sup> The age limit is arbitrary demarcation above which pregnancy outcome is adversely affected. Baird, Hytten and Thomson in 1958 have shown that there was evidence of a decline of physiological efficiency from the age of 25 onwards.<sup>6</sup> Women above age of 30 years have been seen to have higher risks of infertility, difficult labour, lactational abnormalities and perinatal mortality. In my study I have observed the pregnancy outcome of both mature primigravidas and elderly primigravidas. The deliberate delay of child-bearing is now frequent in high-income countries, where a young woman's education and career may take precedence over plans to have children. Obstetricians in those countries are generally comfortable with clinical care of older primigravidas, who are mostly healthy, well-nourished, self-empowered and have good pregnancy outcomes.<sup>7,8</sup> The same is not true in low and middle-income societies, where older primigravidas have been shown to have significantly poorer pregnancy outcomes than their younger

counterparts.<sup>9-12</sup>. In such contexts, families and their health providers are understandably concerned when an older woman becomes pregnant for the first time, perhaps after a period of infertility or on a background of chronic ill-health. This group of patients (elderly primigravidas) have many obstetric complications like; Pregnancy induced hypertension, gestational diabetes mellitus, essential hypertension & more chances of fibroids. A significant number of patients have problems in conceptions requiring assisted reproductive techniques, they have more problems with labour process like premature labor ,prolonged labour, need for induction of labour, non-progression of labour and eventually increased rate of caesarean section .Maternal morbidity is also high in this group .These patients require more vigilant and careful management in a multidisciplinary hospital. The women who reaches terminus of her reproductive capabilities and then conceives present with certain characteristics which are peculiar for her age group .Some of these are as a result of normal aging process like cardiovascular abnormalities, musculoskeletal derangements, degenerative changes, emotional maladjustment.<sup>13</sup>

#### AIMS AND OBJECTIVES

1. To determine the frequency of primigravity aged 30 years and above in a sample in a tertiary care hospital (SHERI-I-KASHMIR INSTITUTE OF MEDICAL SCIENCES).
2. To determine the pregnancy risks and outcomes in primigravida women aged above 30 years, compared to a reference group of primigravidas aged between 20 to 30 years. It includes evaluating the pre-existing medical disorders, antenatal complications and mode of delivery in elderly primigravida women compared to young primigravidas.
3. To assess the obstetric outcome in elderly and young women in a tertiary care hospital.

#### MATERIALS AND METHODS

This study was a prospective comparative study conducted in Postgraduate department of obstetrics and gynaecology Sher-i-Kashmir Institute of Medical Sciences Maternity Hospital Srinagar, over a period of one and a half year since September 2017 to march 2019.

A total of 180 patients were enrolled in the study and were divided into two groups on the basis of age;

#### GROUP A (STUDY GROUP)

This group included primigravida women aged 30 years and above. Total of 90 patients were enrolled in this group.

#### GROUP B (COMPARATIVE GROUP)

This group included primigravida women aged 20 – 29 years of age. Total of 90 patients were included in this group.

The total delivery and obstetric records were compared in terms of;

1. Methods of conception like natural or assisted In vitro Fertilization or artificial insemination,
2. Risk factors like preeclampsia ,gestational diabetes mellitus, anaemia, thyroid dysfunction, IUGR, oligo or polyhydramnios, antepartum haemorrhage and fibroids,
3. The labour process ,complication in labour process, mode of delivery
4. Perinatal outcome; in terms of maturity, apgar score, birthweight, NICU admissions, and perinatal mortality.

#### INCLUSION CRITERIA

1. All primigravida women aged between 20 to 30 years are included in control group.
2. All primigravida women in the age group of 30 and above are included in test group.
3. Primigravida women ready to participate.

#### EXCLUSION CRITERIA

1. Women having first pregnancy with prior abortion i.e G2A1.
2. Women not ready to participate
3. Cases lost during follow up.

#### STATISTICAL METHOD

Statistical package for social sciences ver. 22 was used for data analysis. The result was expressed in percentages or mean SD, as specified. Categorical data was analysed by using Pearson's Chi- square test and quantitative data by using two sample independent t- tests, P value less than 0.05 was taken as statistically significant.

#### RESULTS

In the study group maximum number of patients were 30 (33.3%) in age group of 30 to 32 years, followed by 28 (31.1%) in age group of 33 to 35 years, followed by 18 (20%) in age group 36 to 38 years, then by 10 (11.1%) and 4 (4.4%) in age group 39 to 41 and more than 41 respectively. Average age of women in GROUP A was 31 years.

In the comparative group maximum number of patients were 38 (42.2%) in age group of 26 to 28 years, followed by 32 (35.5%) in age group of 23 to 25 followed by 16 (17.7%) in age group of 29 years and 4 (4.4%) in age group of 20-22 years.

Mean age in group B was 25.03 ±1.26 years

**Table 1: AGE DISTRIBUTION OF THE GROUP A**

Age group (in years)	No. of patients	%age
30-32	30	33.3
33-35	28	31.1

36-38	18	20
39-41	10	11.1
>41	4	4.4
Mean $\pm$ SD = 30.67 $\pm$ 1.26		

**Table 2: AGE DISTRIBUTION OF GROUP B**

Age group (in years)	No. of patients	%age
20-22	4	4.4
23-25	32	35.5
26-28	38	42.2
29	16	17.7
Mean $\pm$ SD = 25.03 $\pm$ 1.26		

There was increased incidence of antenatal complications in the study group as compared to comparative group. Hypothyroidism detected in pregnancy was maximum in Group A in about 23 (25.5%) patients as compared to 16 (17.7%) in Group B, anaemia was present in 20 (22.25) patients in Group A as compared to 12 (13.3%) patients in Group

B. PIH was present in 16 (17.7%) patients in study group and 7 (7.7%) in comparative group. The other complications present included multiple pregnancy, APH, preterm labor, malpresentation, uterine fibroids and gestational diabetes. Among these complications anaemia, PIH and uterine fibroids were statistically more in Group A as compared to Group B.

**ANTENATAL COMPLICATIONS IN THE STUDY AND COMPARATIVE GROUP**

Complications	Group A		Group B		p-value
	No.	%age	No.	%age	
Anaemia	20	22.2	12	13.3	0.029
Hypertensive Disorder in pregnancy	16	17.7	7	7.7	0.025
Hypothyroidism	23	25.5	16	17.7	0.623
Antepartum haemorrhage	3	3.3	1	1.1	0.619
Multiple Pregnancy	2	2.2	1	1.1	0.860
Malpresentation	4	4.4	3	3.3	0.700
Preterm labour	3	3.3	3	3.3	1.000
Gestational DM	10	11.11	7	7.7	0.420
Uterine fibroids	3	3.3	0	0	0.021

There was increase in postpartum complications in Group A as compared to Group B though the incidence was low in both groups and the difference between the two was statistically insignificant. Total of 5 patients in Group A had PPH as compared to 2 in

Group B. Retained placenta occurred in 1 patient both in Group A and Group B. Vulval haematoma occurred in 1 in Group A and none in Group B. None of the patients in both groups had ruptured uterus.

**POSTPARTUM COMPLICATIONS IN THE STUDY AND COMPARATIVE GROUP**

Complications	Group A	Group B	p-value		
	No.	%age	No.	%age	
Postpartum Haemorrhage	5	5.1	1	1.1	0.282
Retained Placenta	1	1.1	1	1.1	
Ruptured Uterus	0	0	0	0	
Vulval Hematoma	1	1.1	0	0	
Total	7	7.7	2	2.2	

Apgar score of < 7 was present in 16 (17.7%) babies in study group and in 6 (6.6%) babies in comparative group and the difference was statistically significant. In study group 11 (12%) babies had NICU admissions out of which 3 (3.3%) babies had perinatal mortality.

In comparative group 4 (4.4%) went to NICU and only 1 (1.1%) baby had perinatal mortality. The difference in the data regarding the perinatal mortality in study and comparative group was statistically insignificant.

**FOETAL AND NEONATAL OUTCOME IN THE STUDY AND COMPARATIVE GROUPS**

Outcomes	Group A		Group B		p-value
	No.	%age	No.	%age	
Apgar score <7 at 5 minutes	16	17.7	6	6.6	0.012
NICU admissions	11	12	4	4.4	0.329
Perinatal morality	3	3.3	1	1.1	0.824

**DISCUSSION**

Pregnancy in the women of 30 years and above is considered as high-risk. It has been studied by many to see the effects of age on maternal and perinatal outcome. The changing pattern of becoming pregnant at an advanced age has serious public health impact because of increased risk of adverse pregnancy outcome. Pregnancy is defined as high risk if the possibility of an adverse outcome is higher than in general population. Advanced maternal age and parity is considered high risk in both developed and developing countries. Age is considered an important determinant of pregnancy risk with both upper and lower extremes associated with pregnancy complications and poor outcomes.

This study was conducted to determine maternal and perinatal outcome in elderly primigravida at SHER-I-KASHMIR INSTITUTE OF MEDICAL SCIENCES Srinagar Kashmir over a period of 18 months from September 2017 to march 2019. My study included 180 patients, 90 patients were in study group (Group A) > 30 years of age and 90 women were in comparative group (Group B) 20-30 years of age. The objective of this study was to find the adverse pregnancy outcome of advanced maternal age and to estimate whether it was related to inter current illness and pregnancy complications.

In my study Average age of women in the study group was 31 years whereas average age of women in comparative group was 25 years.

From my study it was seen that increased maternal age was associated with decline in fertility resulting into subfertility mainly due to involuntary infertility, shortened span of reproductive phase, blighted ova, high risk of abortions and pelvic endometriosis. It was seen that in this part of world late marriages are common due to occupational, educational or economic reasons making pregnancy (a normal phenomenon) a high risk case affecting both the maternal and foetal outcome. In our study anaemia was seen in 22.2% of patients in study group, PIH in 17.7% of patients, hypothyroidism was seen in 25.5% of patients as compared to 13.3%, 7.7% and 17.7% in comparative Group (Group B).

The difference in the data between the two groups was statistically significant in cases of anaemia and PIH (  $p=0.029$  and  $p=0.025$  )respectively, for hypothyroidism data was statistically insignificant ( $p=0.600$ ). Among the other complications uterine fibroids were seen in 3.3 % of patients in study group as compared to none in comparable group (p value =0.021) which was statistically significant. APH was

seen in 3.3 % of patients in Group A as compared to 1.1 % in Group B yet the difference was statistically insignificant (p value =0.619) .Multiple pregnancy was seen in 2.2% of patients in study group as compared to 1.1% in comparative group and the difference was statistically insignificant ( $p=0.860$ ) . Malpresentation was seen higher in Group A as compared to Group B (4.4% vs 3.3%) ( $P=0.700$ ).GDM was higher in Group A (11.1%) compared to (7.7%) in Group B ( $p=0.420$ ) The results of this study indicate that elderly primigravidae are at increased risk of caesarean delivery compared to their younger primigravid counterpart, in keeping with findings of other investigators.<sup>14,15,17,18</sup> The increased caesarean section rate in elderly primigravidae found in this study resulted from various pregnancy and labor complications, including placenta previa, cephalopelvic disproportion, breech presentations, and pre-eclampsia among others, similar to earlier findings.<sup>15,16,18</sup>

In our study although the postpartum complications in both groups were less but Group A had more postpartum complication in comparison to Group B. Postpartum haemorrhage was seen in 5.5% of patients in study Group as compared to 1.1% in comparative Group and this complication was commonest in postpartum period. Retained placenta and vulval hematoma each occurred in 10% of patients in Group A while 1.1% of retained placenta occurred in Group B and none case of vulval hematoma was seen in Group B. Apgar score of < 7 at 5 minutes indicating fetal distress was observed in 17.7 % of newborns in Group A compared to 6.6 % of newborns in Group B and the data was statistically significant. Sahu TM et al<sup>18</sup> also found the significant difference between the two groups, 13.5 % for the study group and 4.5 % for the comparative group. In our study preterm delivery occurred in about 13.3 % of patients in Group A as compared to 4.4 % in Group B. The difference between the two groups was statistically significant . There were no significant differences in other outcome measures: post-term delivery, low birth weight, birth asphyxia, and stillborn and perinatal mortality rates between the two groups. This is also in keeping with the results elsewhere.<sup>15,19,20</sup>

**CONCLUSION**

Elderly primigravida remains a high risk pregnancy with less prospect of conceiving again because of age and low fertility. It should be remembered that this might be her only. Pregnancy, therefore there is need

for pre-pregnancy counselling and early commencement of careful surveillance during pregnancy in order to achieve excellent pregnancy outcome in elderly primiparas

Elderly primiparas need extra pernatal care, with special attention to following:

1. Much understanding and patience may be necessary in dealing with the psychological aspects of pregnancy.
2. Controlling toxemias
3. The possibility of inefficiency or abnormality of the genital tract must be kept constantly in mind.
4. Difficult vaginal deliveries in the order woman must be considered a grave risk of mother and baby
5. Caesarean section should be more freely utilized.

So it can be concluded that if elderly primigravida is cared at a tertiary care hospital with advanced techniques, the maternal and foetal outcome can be improved through constant and timely antenatal care, lower threshold for caesarean section in these women and efficient neonatal care facilities.

#### FUNDING

None

#### CONFLICT OF INTEREST

None

#### ETHICAL APPROVAL

Not required

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