

ASSOCIATED RISK AND PREGNANCY OUTCOMES IN ELDERLY PRIMIGRAVIDA MOTHERS

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Abstract:

Background: The national marriage project census data shows, maximum women are coming their active childbearing at an age older than in the past. Pregnancy and childbirth at advanced maternal age ≥ 30 years always associated with increased risk of adverse maternal and neonatal outcomes. Many women who wish to get pregnant on and after the age of 30 years are not fully aware of age-related decrease of fertility rate in female and the risk associated with this.

Aim: The purpose of the study was to find out the risk associated with elderly primigravida mother age ≥ 30 and their pregnancy outcomes in a selected hospital of Bhubaneswar, Odisha.

Materials & Methods- A non-experimental descriptive survey was conducted at IMS & SUM Hospital Bhubaneswar with 100 elderly primigravidae mothers with age ≥ 30 years. The study was conducted for 2 months. Through self-structured checklist and record analysis on pregnancy risk factors and pregnancy outcomes with convenient sampling technique, data were collected and analysis was done through item analysis and chi-square analysis.

Result- Most of the women (88%) were in the age group of 30-34 years. It was observed that most occurring complications during pregnancy were anaemia (26%), then abnormal presentation (23%) and others like induced conception, previous spontaneous abortion, post-term pregnancy & gynaecological disorders in 19%. In their labour outcomes 60% of women delivered through caesarean section, 45% by instrumental delivery, PROM was developed in 21% & induced labour in 21% of women. In foetal outcomes 47% of women had LBW baby, 41% had birth asphyxia and 17% had Post-term baby. There was a significant association between age with pregnancy risk and pregnancy outcomes in induced conception, abnormal presentation, post-term pregnancy, pre-existing gynaecological disorder, PROM and caesarean delivery.

Conclusion- Pregnancy beyond the age of 30 is not safe for maternal health and foetal outcomes. So they need special attention and efforts to reinforce for identifying the high-risk group and to take some active measures for minimising pregnancy-related complications to achieve the best outcome.

Keyword: Elderly primigravidae, Associate risk, pregnancy outcomes.

Introduction:

Pregnancy is always considered as a normal physiological process, however, the associated risk during pregnancy is always detrimental to the health of baby and mother.¹ Developing countries are exhibiting a trend towards later childbearing and it was found in the present scenario that women are more involved in their career, they are infertile, have lack of knowledge, lack of interest in family planning methods. When they finally get married and desired to have a baby they face various problems with a lot of risks.^{2,3} Women, who have their first pregnancy in late age, are called elderly primigravida.⁴ They consist of two groups; women being married early conceive late or marry and conceive late in the 3rd decade of life. Though the age limits are arbitrary, international standard FIGO-1951 has fixed 35 years as the lower age limit for elderly primigravida and the Indian standard has fixed it 30 years. Advanced age of the mother is a greater risk for their pregnancy outcome.⁶ Pregnant women are also more prone to medical conditions that can adversely influence their health and that of their fetuses. It was also reported that women aged 30 years and above have twice the rates of antepartum hospitalization than their younger counterparts.⁷ Medical risks are related to an ageing reproductive system and an ageing body with decrease fertility and may be associated with pregnancy complications like hypertension, GDM, and IUGR and many more and in elderly primigravida even the rate of the caesarean section also increased.^{8,9} There are increased risks of different chromosomal and some genetic abnormalities in the baby of women with advanced maternal age are also high, for that the prior decision to refer a female to a counselor based on age is common.^{10,11}

The consequences of advancing maternal age, however, are not only for the risk of natural and assisted conception but also for the outcome of pregnancy even in normal women those getting pregnant spontaneously. It has been said that pregnant women and healthcare providers understand the risks differently: pregnant women should assess the risks subjectively, through their own experiences, whereas healthcare providers find out the risks in a more objective manner. Thus, there is a need for education about the sequel of late childbearing and a need to focus on maternal care. More information about the obstetric significance of delayed childbearing is needed both for obstetricians and fertile women.³

The prior aim of this study is to analyze the pregnancy risk and labour outcomes of first pregnancies conceived at advanced maternal age beyond 30 years old.

Materials & methods:

This study was based on a non-experimental descriptive survey design. The elderly primigravida mothers having age ≥ 30 yrs were considered as the sample. This study was conducted in the department of Obstetrics and Gynaecology, IMS and SUM Hospital, Bhubaneswar, Odisha, from the period between January 2016 to April 2016. In this study, data was collected through a self-structured questionnaire and data was from the admission and discharge register in the obstetric ward, labour room and Gynaecology OT. From these registers selected vital information about maternal demographic data, presence of risk factors during pregnancy, labour outcomes and neonatal outcomes were collected. While data were collected the inclusion, criteria were kept in mind. Those who had any life-threatening illness were precluded. At the time of data collection, a total of 106 mothers was taken those who fulfilled the inclusion criteria. Among them, 6 subjects had incomplete data. So, the sample size of 100 was considered to generalize the findings. The sampling technique used here is convenient sampling techniques. The tool consisted of Self-structured observational checklist

& Record analysis Performafor assessment of risk conditions having 14 items.Section-C was Self-structured observational checklist & Record analysis Performa consist of pregnancy outcomes. It was divided into two parts: Labour outcomes with 10 questions & Foetal outcomes with 8 questions.There werea total of 42 questions to assess the risk and pregnancy outcomes Each 'Yes' answer was given score 1 and 'No' answer was scored 0. The maximum score was 42. The women wereproperly explained about the main aim ofthis study.Finally, the collected data were analysed based on the objectives of the study. Statistical analysis was done to find out the association among selected socio-demographic variables with specific obstetric risks and outcomes, whereasP-value of <0.05 was significant here.

Results:

The majority (88%) women were 30-34 years of age whereas only 12% were ≥ 35 years of age. With regards to their educational qualification, 40% were educated up to graduation and above. Considering their occupation many of them (37%) were Housewife and with regards to their household income, many of them (35%) had income Rs >10,000/- monthly. The majority (71%) elderly primi mothers belonged to an urban area.

The pregnancy risk factors in terms of rank order, it was observed that 26% had anaemia, 24% had an abnormal presentation, post-term pregnancy in 23%, induced conception in 19% and previous abortion in 19% with some pre-existing medical disorders like gynaecological disorder in 19%. On the other hand, they had a lower risk of certain pregnancy risks, such as multiple gestations, hydramnios, gestational diabetes Mellitus and some pre-existing medical disorders.

Study shows the rank order of labour outcomes where Caesarean delivery was 60% instrumental delivery was 45%, PPRM 21% and Induced labour was 21% which comes under higher rank. In the findings of fetal outcomes percentage of low birth weight was 47%, birth asphyxia 41% and post-term pregnancy was 75%. Whereas other pregnancy outcomes are found very less in number.

It was also found that there was a strong association between age of elderly primigravida mother and their pregnancy risk conditions that was induced conception, post-term pregnancy and pre-existing medical disorder like gynaecological disorder which are highly significant. In response to their labour outcomes, caesarean section & PROM had highly significant association at 0.05 level of significance. A significant association was found between age of elderly primigravida mother and foetal outcomes that is LBW at 0.05 level of significance. It interferes that advance maternal age having a greater risk of labour outcomes and creates various complications.

Table-1 Distributions of subjects according to demographic variables.

Variables	Frequency (f)	Percentage (%)
Age		
30-34 Years	88	88
≥ 35 Years	12	12
Educational status		
Primary	11	11
Higher secondary	22	22
Graduate & above	40	40
Professional course	27	27
Occupation		

Housewife	37	37
Govt.sector	24	24
Private sector	28	28
Self-employed	11	11
Monthly family income		
≥ 5000	10	10
≥ 10000	35	35
≥20000	26	26
≥ 30000	29	29
Area of residence		
Rural	29	29
Urban	71	71

Table 2. Rank order of pregnancy risk

Items	Maximum Score	Obtained Percentage (%)	Rank
Pregnancy Risk			
Induced conception	100	19	3 RD
Previous spontaneous abortion	100	19	3 RD
Hyperemesis Gravidarum	100	13	6 TH
ABO-Rh incompatibility	100	7	9 TH
Multiple gestation	100	6	10 TH
Anaemia	100	26	1 ST
Pregnancy induced hypertension	100	14	5 TH
Gestational diabetes mellitus	100	7	9 TH
Ante partum haemorrhage	100	9	7 TH
Oligohydramnios	100	14	5 TH
Polyhydramnios	100	8	8 TH
Abnormal presentation	100	23	2 ND
Intra uterine growth restriction	100	13	6 TH
Post term pregnancy	100	19	3 RD
Pre-existing medical risk		4	

Essential hypertension	100		11 TH
Diabetes mellitus	100	2	13 TH
Hypo/hyperthyroidism	100	15	4 TH
Hematological disorder	100	7	9 TH
Pulmonary disorder	100	2	13 TH
Cardiac disorder	100	0	14 TH
Neurological disorder	100	2	13 TH
Renal disorder	100	3	12 TH
Gynecological disorder	100	19	3 RD
Psychiatric disorder	100	2	13 TH

Table 3- Rank order of Labour outcomes

Items	Maximum Score	Obtained Percentage (%)	Rank
PPROM	100	21	3 RD
Preterm labour	100	14	4 TH
Induced labour	100	21	3 RD
Obstructed labour	100	8	6 TH
Prolonged labour	100	12	5 TH
Precipitate labour	100	6	7 TH
Failed induction	100	8	6 TH
Instrumental delivery	100	45	2 ND
Perennial laceration/tear	100	6	7 TH
Caesarean delivery	100	60	1 ST

Table 4. The rank order of foetal outcomes

Items	Maximum Score	Obtained Percentage (%)	Rank
Low birth weight	100	47	1 ST
Intrauterine fetal death	100	5	6 TH
Stillbirth	100	3	7 TH

Post-term baby	100	17	3 RD
Birth asphyxia	100	41	2 ND
Meconium aspiration syndrome	100	9	4 TH
Macrosomia	100	5	6 TH
Structural/chromosomal abnormality	100	6	5 TH

Table-5-Chi-Square analysis for association of pregnancy risk conditions and pregnancy outcomes with the age of elderly Primigravida Mother

Variables	Chi-Square Value	P-Value
Induced conception	20.13212	<0.00001 **
Previous spontaneous abortion	1.008132	0.315358
Anaemia	0.007088	0.933322
Abnormal presentation	5.613162	0.017827
Post-term pregnancy	41.72743	<0.00001* *
Pre-existing gynaecological disorder	13.70823	0.000214**
PROM/PPROM	35.7099	<0.00001**
Induced Labour	1.318794	0.250825
Instrumental delivery	0.061218	0.804609
Caesarean section	5.697601	0.016988*
Low birth weight	4.291814	0.038297*
Post-term baby	2.79299	0.094683
Birth asphyxia	3.713656	0.053971

p<0.05 * significant ** Extremely significant

Discussion:

The result revealed that there are many risk conditions found in elderly primigravidae mother in this study. Many recent studies suggest that women are at risk when they postpone childbearing beyond the age of 30 years.

Many studies have demonstrated an increased risk of anaemia among elderly primi mother. The present study revealed that anaemia ranked high (26%) among all risk complications during pregnancy. But a controversial result was found in the study conducted by Balasch J found most of the primigravida having anaemia was less prevalent among them as compared to younger primigravida at the age between 20-30 years (11.0% vs 13.7%).⁴ To support these findings of our study Pradhan K says that anaemia was commonest complication (28.57%) in elderly primigravida mother.⁵

The other findings of our study were abnormal presentation (23%), induced conception (19%), and previous spontaneous abortion (19%) and a similar study conducted by Mukhopadhyay P, Chaudhuri RN, reported that the study group had a higher percentage of previous abortion experiences (12%) and post-term pregnancy (19%). The elder primi mothers had a greater proportion (7.7%) of post-dated pregnancies as compared to teenage mothers (2%).⁽¹³⁾ From our study the pre-existing medical risk mostly the Gynaecological

disorder(19%)was found in a higher rate and similar result that is the risk of fibroid (5.71%) cases was found in elderly primi cases, which was demonstrated by Vibha Moses, Nilesh Dalal.¹⁴

Another study found Pre-eclampsia (18.09%), Eclampsia (3.81%), IUGR (12.38%) and twin pregnancies (5.72%)as more frequent complications in elderly primigravida than young primigravida. A similar study reported, they developed complications during labour like foetal distress (33.33%), PPH (3.81%) and retained placenta (2.86%) and had a caesarean section (29.52%), normal delivery (51.42%) and congenital anomaly (8.15%).⁵

The present study revealed that in the labour outcomes the highest-ranked complication was a caesarean section (60%).A similar study was conducted by JDOjule, et al, 2011 where it was found that elderly primigravida had higher caesarean delivery rate (58.1%) and preterm delivery rate (10.8%) (12).Many studies reported that an increased risk of caesarean delivery in advanced age pregnancy.^{4, 6, 15-18}

In our study, there was an instrumental delivery of 45% and induced labour of 21%, and preterm premature rupture of membrane /premature rupture of the membrane of 21%.Similarly Sven.M also reported Prelabour rupture of membrane and preterm labour are more frequent in older women. ^{4,6, 16} Neill MO et al in their study reported a significant increase in the rate of both elective and emergency caesarean delivery in elderly women when compared to young mothers.¹⁶

Our study also revealed that adverse fetal outcomes were found that are low birth weight baby (47%), birth asphyxia (41%) and post-term baby (17%).In congruence with our result Amarin.V in his study revealed that preterm births and low birthweight were more common among the advanced maternal age groups.¹¹ Correspond to our findings Abdul et also illustrated that the proportion of women over 35 years who gave birth to low birth babies were significantly higher (21.6%).²⁰ The study conducted by Lisonkova S et al says elderly primi mothers were at increased risk of preterm birth than elderly multiparas.²¹As refer to the presence of birth asphyxia,Narwhal, Yogesh & Luksomreported that the risk of birth asphyxia was higher in elderly primi mother.¹²

This study also revealed significant association of age with pregnancy risks such as induced conception, abnormal presentation, post-term pregnancy and pre-existing gynaecological disorder and in labour outcomes, pre-term premature rupture of membrane and caesarean section and low birth weight baby in the foetal outcome.

Conclusion:

The elderlyprimigravida motherswith age more than 30have increased risk during pregnancyand perinatal period.The role of the married couple and family is very important who should be discouraged for late marriage and late pregnancy. They should be guided and counselled for proper antenatal assessment and intra-natal management with improved generalhealth and nutrition which can reduce the incidence of anaemia, post-term pregnancy, instrumental delivery, birth asphyxia and LBW babies.

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