

Pregnancy Outcome in Elderly Primigravida

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Abstract: Elderly primigravida remains a high risk pregnancy. It was found that most women were literate and belonged to middle class group. The study revealed that most women conceived and delivered within 2 years of marriage. In the present study, elderly primigravida are at high risk of several complications including hypertensive disorders, uterine fibroid & hypothyroidism. Choroid plexus cyst was the most common congenital anomaly noted. It also showed increased rate caesarean section and decreased instrumental delivery. The probable reason for increased caesarean section was the preoccupied mindset that the baby born at old age is precious and the belief that caesarean section is more safe than the normal vaginal delivery. Most obstetricians prefer to carry out caesarean section for an elderly primigravida rather than taking the risk of difficult vaginal delivery or instrumental delivery. NICU admission was less and out of 180 participants, only one perinatal death occurred. There were no intrauterine fetal death and maternal mortality in the study. Early booking and vigilant antenatal care shall improve their pregnancy outcomes. Pre-conception counseling is very important in elderly primigravidas and which many might accept it. Prenatal diagnosis is extremely important considering the increased chance of chromosomal defects. Quadruple test, ultrasound screening for Downs' syndrome and targeted anomaly scan at 18-20 weeks should be done for all elderly pregnant women for better fetal and maternal outcome. The rising trends of obstetric complications was observed in patients ≥ 35 years of age, so this group of patients need special attention and vigilant care in the multidisciplinary tertiary care centres. Larger studies are needed to establish exact magnitude of the associated antepartum obstetric problem and fetal and neonatal outcome.

Methods: This is a cross sectional study conducted in the department of obstetrics and gynaecology RIMS Imphal Manipur, during a period of 18 months from september 2017 to february 2019. This study was approved by research ethics board Regional Institute of medical sciences. All cases of elderly primigravida admitted and give birth in Obstetrics and Gynaecology Department, RIMS, Imphal. A total of 180 cases were enrolled in the study. **Inclusion criteria:** All pregnant women aged 35 years or more admitted in Department of Obstetric and Gynaecology, RIMS, Imphal during the study period. **Exclusion criteria:** 1) Married women who have age < 35 years. 2) Elderly primigravida with existing medical conditions like hypertension, diabetes, asthma, tuberculosis, cardiac diseases and thyroid abnormalities. 3) Women unwilling to participate in the study 4) Multiple pregnancy.

Results: In the present study, majority of women (85.6%) belong to age 35-39 years, 14.4% belong to 40-45 years. In this study most women were registered as booked (77.8%) and 22.2 % were unbooked. Intrauterine growth restriction (IUGR) is seen in 2.8 % out of 180 participants. This may be explained by the fact that women in the study setting are less exposed to nutritional deficiency, substance abused and other factors that contributed to IUGR. Cephalic presentation at their term pregnancy was 97.2 % but incidence of breech was 2.8%. Most participants delivered between 39 to 42 weeks gestation (56.7%). Placenta previa was found in 1.7%. Associated obstetrics complication complications were observed, pregnancy induced hypertension was found in 13.9%, antepartum haemorrhage (APH) in 1.7 %. This may be due to improved antenatal check up and better antenatal assessment in the study setting. In our study the incidence of gestational DM & preeclampsia were respectively 5% and 1.7 % respectively. The comorbidities associated with elderly primigravida such as uterine fibroid and hypothyroidism were also studied and was found to be respectively 15.6 % and 14.4 % . Prelabor rupture of membrane (PROM) was found in 24 (13.3%) . The rate of caesarean section was 76.6 % in the present study. In the present study most of the caesarean section was done for cephalopelvic disproportion including maternal request (66.7%). Other indications for caesarean section were fetal distress (13.1%), failed induction (8.1%), malpresentation (3.6%), central placenta previa (2.1%) and obstructed labor (1.4%). Normal vaginal delivery was observed in 13.3%. Vacuum delivery and forceps delivery was done in 7 (3.9%) and 4 (2.2%) respectively. The incidence of preterm delivery was 3.9% . Post partum hemorrhage (PPH) 2.2 % , adherent placenta (1.1%), 3rd degree perineal tear (1.1%) and retained placenta (0.6%). low birth weight (< 2.5 kg). Out of 180 participants, 21 (11.7%) were admitted in NICU. Among the babies admitted to NICU, most of them were admitted for respiratory distress syndrome (42.9%). Neonatal jaundice, prematurity, hypoglycaemia and sepsis were the other indications for NICU admission. There was only one perinatal mortality (0.6%). There was no intrauterine fetal death (IUFD) and maternal mortality in the present study.

Early booking, close supervision in antenatal and intrapartum period, appropriately timed obstetric intervention and advocacy of active management of labor may have contributed to good fetal outcome.

Conclusion: Elderly primigravida remains a high risk pregnancy; associated significantly with adverse pregnancy outcomes & operative obstetric interventions.

Date of Submission: 26-09-2020

Date of Acceptance: 09-10-2020

I. Introduction

The International Federation of Gynaecology and Obstetrics (FIGO) in 1958 defined elderly primigravida as one aged 35 or more at first delivery.¹

In recent times as a result of rising education levels among women, effective birth control methods and an increasing number of women in work forces, birth rate has been dramatically reduced all over the world and the proportion of the age of women turning motherhood has considerably increased in the population.²

Elderly primigravidas may come in two forms, the deliberately delayed pregnancy in a healthy woman, or forcibly delayed pregnancy associated with infertility or chronic ill health. The deliberately delayed pregnancy is a feature of modern affluent societies especially in high income countries. Many women in these societies defer pregnancy to pursue higher education, establish a career or find the right the right life partner.³

Women with advanced maternal age are always at increased risk for antenatal complications like preeclampsia, antepartum haemorrhage, gestational hypertension, gestational diabetes mellitus, preterm birth, intrauterine growth restriction (IUGR), and increased rate of caesarean section. The perinatal morbidity like low birth weight and birth asphyxia as well as perinatal mortality is increased in these women.⁴

Advanced maternal age beyond 35 years is considered to have more adverse pregnancy outcomes as compared to those in younger women. So for the management of pregnant women age >35 years, it requires an understanding of the effect of age, pre-existing comorbidities which may lead to complications during pregnancy, delivery and thus prevent a healthy outcome. The elderly primigravida is generally believed to have decreased fertility and increased risk for adverse pregnancy outcomes.⁵ Reduced fertility with increasing maternal age is evidenced by decline in ovarian oocyte reserve and quality with increasing number of ovulatory cycles. Poor oocyte quality is associated with an increased risk for aneuploidy, chromosomal abnormalities, especially Down's syndrome and spontaneous abortions in this group of women who are routinely screened for these problems in some countries.⁶

II. Methods

This is a cross sectional study conducted in the department of obstetrics and gynaecology RIMS Imphal Manipur, during a period september 2017 to february 2019. this study was approved by research ethics board Regional Institute of medical sciences.

All cases of elderly primigravida admitted and give birth in Obstetrics and Gynaecology Department, RIMS, Imphal. A total of 180 cases were enrolled in the study.

Inclusion criteria:

All pregnant women aged 35 years or more admitted in Department of Obstetric and Gynaecology, RIMS, Imphal during the study period.

Exclusion criteria:

- 1) Married women who have age <35 years.
- 2) Elderly primigravida with existing medical conditions like hypertension, diabetes, asthma, tuberculosis, cardiac diseases and thyroid abnormalities.
- 3) Women unwilling to participate in the study
- 4) Multiple pregnancy

III. Results

Table 1: Age wise distribution of cases

Age wise distribution of cases	No. Of cases	Percentage
35-39 years	154	85.6%
40-45 years	26	14.4%
Total	180	100%

Table 2: distribution of cases according to complete ANC status

ANC status	No. Of patients	Percentage
Booked	140	77.8
Unbooked	40	22.2
Total	180	100

Table 3: distribution of cases according to fetal anomaly scan

Fetal anomaly scan	No. Of patients	Percentage
Choroid plexus cyst	7	3.90
Single umbilical artery	6	3.33
Intracardiac echogenic foci	5	2.78
Pyelectasis	2	1.11
Increased nuchal thickness	1	0.55
Echogenic bowel	1	0.55
Nil	158	87.78
Total	180	100

Table 4: Distribution of cases according to period of gestation at time of delivery

Period of gestation	No. Of patients	Percentage
<32 weeks	0	0
32-34 weeks	3	1.7
35-36 weeks	7	3.9
37-38 weeks	68	37.8
39-42 weeks	102	56.7
>42 weeks	0	0
Total	180	100

Table 5: Distribution of cases on USG scan for IUGR

Usg scan	No. patients	Percentage
IUGR	5	2.8%
Normal	175	97.2
Total	180	100

Table 6: Distribution of cases by their presentation

Presentation	No. Of patients	Percentage
Cephalic	175	97.2
Breech	5	2.8
Transverse	0	0
Total	180	100

Table 7: Distribution of the participants by presence of associated obstetrics complications

Obstetrics complication	No. Of patients	Percentage
Gestational hypertension	25	13.9%
Gestational diabetes	9	5.0%
Pre-eclampsia	3	1.7%
Placenta previa	3	1.7%
None	140	77.7%
Total	180	100%

Table 8: Distribution of the participants by presence of PROM

PROM	No. Of patients	Percentage
Yes	24	13.3%
No	156	86.7%
Total	180	100%

Table 9: Distribution of the participants by mode of delivery

Mode of delivery	No. Of patients	Percentage
Elective cesarean section	100	55.6%
Emergency cesarean section	38	21.1%
Normal vaginal delivery with RMLE	24	13.3%
Preterm vaginal delivery	7	3.9%
Ventouse vaginal delivery	7	3.9%
Forcep vaginal delivery	4	2.2%
Total	180	100%

Table 10: Distribution of the participants according to indication of Caesarean section

Indications	No. Of patients	Percentage
CPD	92	66.7%
Fetal distress	18	13.1%
Failed induction	11	8.1%
Severe oligohydramnios	7	5%
Breech with FPD	5	3.6%
Central placenta previa	3	2.1%
Obstructed labour	2	1.4%
Total	138	100%

Table 11: Distribution of the participants by third stage complication

3 rd stage complication	No. Of patients	Percentage
PPH	4	44.5%
Adherent placenta	2	22.2%
3 rd degree perineal tear	2	22.2%
Retained placenta	1	11.1%
Total	9	100%

Table 12: Distribution of the newborns by birth weight

Birth weight	No. Of babies	Percentage
2.1-2.4kg	16	8.9%
2.5-3.4kg	128	71.1%
≥3.5kg	36	20%
Total	180	100%

Table 13: Distribution of the participants by admission of their child at NICU

NICU admission	No. Of babies	Percentage
Yes	21	11.7%
No	159	88.3%
Total	180	100%

IV. Discussion

The study was a hospital based cross sectional study, conducted over the period of 18 months from September 2017 to February 2019. It included 180 women aged ≥ 35 years. All cases were evaluated till delivery for maternal and fetal complications and outcome. Women's career priorities, tertiary education, availability of fertility control, late marriages, changes in socio-cultural patterns are some of the common factors affecting postponement of childbearing.

The elderly primigravida is more likely to encounter complications which are the result of the natural process of ageing. In the present study, majority of women (85.6%) belong to age 35-39 years, 14.4% belong to 40-45 years which is almost similar to the study conducted by Moses V et al⁷ where it was 96% and 4% respectively. In this study most women were registered as booked (77.8%) and 22.2% were unbooked which is similar to the study of Sailakshmi MP et al⁸ where 89% and 11% were booked and unbooked cases respectively. Intrauterine growth restriction (IUGR) being important in assessing the fetal outcome was studied and is seen in 2.8% out of 180 participants which is lower than the observation of Pegu B et al⁹ and Dixit PV et al¹⁰ where it was 14.8% and 8.3% respectively. This may be explained by the fact that women in the study setting are less exposed to nutritional deficiency, substance abused and other factors that contributed to IUGR. Pandit S et al¹¹ concluded that 93.3% of the elderly primigravida had cephalic presentation at their term pregnancy which is similar to our study where it was 97.2% but incidence of breech was lower (2.8%) compared to Pandit et al¹¹ (6.7%) and Giri A et al¹² (8%). The present study observed that most participants delivered between 39 to 42 weeks gestation (56.7%) which is not different from the study concluded by Anozie OB et al.¹³

Placenta previa was found in 1.7% out of 180 participants which is comparable to Anozie et al¹³ (2.7%) but lesser than Pandit S et al¹¹ (13.3%). Associated obstetrics complication complications were observed, pregnancy induced hypertension was found in 13.9%, antepartum haemorrhage (APH) in 1.7% which is lesser in incidence as compared to study by Moses V et al⁷ & Rehman B et al.¹⁴ This may be due to improved antenatal check up and better antenatal assessment in the study setting. In our study the incidence of gestational DM & preeclampsia were respectively 5% and 1.7% respectively which comparable to the study of Moses V et al⁷ and Rehman B et al.¹⁴ Eclampsia was not seen among the participants which is contrast to study by Dixit PV et al¹⁰ (3.3%). The comorbidities associated with elderly primigravida such as uterine fibroid and hypothyroidism were also studied and was found to be respectively 15.6% and 14.4% which is higher than the study of Moses V et al⁷ (5% & 3%) but comparable to the study of Pandit S et al¹¹ (13% each). Manipur falls under northeastern part of India which is in the Sub-Himalayan goitrogenic belt and it may be the reason for increased incidence of

hypothyroidism. Prelabor rupture of membrane (PROM) was found in 24 (13.3%) which is more than the study by Giri A et al¹² (5.5%) but lower than the study of Dixit PV et al¹⁰ (16.7%).

The rate of caesarean section was 76.6 % in the present study which is much higher and is contrast to the study conducted by Dixit PV et al¹⁰ where the rate was 43.3% but comparable and similar to the study of Rehman B et al¹⁴ (70%) , Pandit S et al¹¹ (76.7%) and Ramachandran N et al¹⁵ (61.9%). The probable reason for increased caesarean section was the preoccupied mindset that the baby born at old age is precious and the belief that caesarean section is more safe than the normal vaginal delivery. The hospital policy of performing caesarean section for all breech presentations in elderly primigravida may have contributed towards the increased caesarean rate. In the present study most of the caesarean section was done for cephalopelvic disproportion including maternal request (66.7%) which is much higher than study of Anozie OB et al.¹³ Other indications for caesarean section were fetal distress (13.1%), failed induction (8.1%), malpresentation (3.6%), central placenta previa (2.1%) and obstructed labor (1.4%). Normal vaginal delivery was observed in 13.3% which almost simulate the study of Pandit S et al¹¹ (10%) and Nagarwal K et al¹⁶ (8.3%). Vacuum delivery and forceps delivery was done in 7 (3.9%) and 4 (2.2%) respectively among the participants which is approximate to the study of Pandit S et al.¹¹ The incidence of preterm delivery was 3.9% which goes in parallel with incidence of Pegu B et al⁹ (3.7%) and lower than the study conducted by Moses V et al⁷ (17%) and Verma S et al¹⁷ (13.3%). The availability of an excellent neonatal care unit may compromise the need for prolongation of pregnancy in these cases.

Third stage complications being one of the significant indicator of maternal outcome in obstetrics was studied. Post partum (PPH) that contribute 30 % of maternal deaths annually was observed in 2.2 % which is approximate with the study of Moses V et al⁷ (3%). Other third stage complications were adherent placenta (1.1%), 3rd degree perineal tear (1.1%) and retained placenta (0.6%). Verma S et al¹⁷ concluded the incidence of low birth weight (< 2.5kg) in a study as 22 % which is contrast to our study which was just 8.9% but similar to Giri A et al¹² (8.8%). Decreased incidence of low birth weight may be due to the food habits, mother education and well supplementation of iron tablets. Congenital malformation in fetus (cleft lip being the commonest) was found in 2.2% which simulate to the incidence of Anovie OB et al¹³ (2.6%) and Pegu B et al⁹ (1.8%) and Sailakhsmi MP et al⁸ (2%). Out of 180 participants, 21 (11.7%) were admitted in NICU which is lower than the study conducted by Dixit PV et al¹⁰(18.3%). Among the babies admitted to NICU, most of them were admitted for respiratory distress syndrome (42.9%). Neonatal jaundice, prematurity, hypoglycaemia and sepsis were the other indications for NICU admission. There was only one perinatal mortality (0.6%) which is much below comparing to the study of Giri A et al¹² (7.7%), Pegu B et al⁹(3.7%) and Anozie OB et al¹³ (7.7%). There was no intrauterine fetal death (IUID) and maternal mortality in the present study. Early booking, close supervision in antenatal and intrapartum period, appropriately timed obstetric intervention and advocacy of active management of labor may have contributed to good fetal outcome.

V. Conclusion

Elderly primigravida remains a high risk pregnancy. These women are significantly associated with adverse pregnancy outcomes and operative obstetric interventions. It was found that most women were literate and belonged to middle class group. Majority of the women in the study were from hindu community. The study revealed that most women conceived and delivered within 2 years of marriage. In the present study, elderly primigravida are at high risk of several complications including hypertensive disorders, uterine fibroid & hypothyroidism. All women were scan for any possible congenital anomaly in second trimester out of which some anomalies were observed, choroid plexus cyst was the most common. But very few visible congenital anomalies was found. It also showed increased rate caesarean section and decreased instrumental delivery. The probable reason for increased caesarean section was the preoccupied mindset that the baby born at old age is precious and the belief that caesarean section is more safe than the normal vaginal delivery. Most obstetricians prefer to carry out caesarean section for an elderly primigravida rather than taking the risk of difficult vaginal delivery or instrumental delivery.

NICU admission was less and out of 180 participants, only one perinatal death occurred. Early booking, close supervision in antenatal and intrapartum period, appropriately timed obstetric intervention and advocacy of active management of labor may have contributed to good fetal outcome. There were no intrauterine fetal death and maternal mortality in the study. Early booking and vigilant antenatal care shall improve their pregnancy outcomes. Preconceptional counselling is very important in elderly primigravidas and which many might accept it. Prenatal diagnosis is extremely important considering the increased chance of chromosomal defects. Quadruple test, ultrasound screening for Downs syndrome and targeted anomaly scan at 18-20 weeks should be done for all elderly pregnant women for better fetal and maternal outcome.

The rising trends of obstetric complications was observed in patients ≥ 35 years of age, so this group of patients need special attention and vigilant care in the multidisciplinary tertiary care centres. Larger studies

are needed to establish exact magnitude of the associated antepartum obstetric problem and fetal and neonatal outcome.

References

- [1]. Wang Y, Tanbo T, Abyholm T, Henriksen T. The impact of advanced maternal age and parity on obstetric and perinatal outcomes in singleton gestations. *Arch Gynecol Obstet* 2011 Jul 1;284(1):31-7.
- [2]. Laxmy R, Vinayachandran S, Beena G. Pregnancy outcome in women of advanced maternal age. *Int J Bioassays* 2013 Sept 4;2(9):1193-8.
- [3]. Happel SK, Hill JK, Low SA. An economic analysis of the timing of childbirth. *Population Studies* 1984 Jul 1;38(2):299-311.
- [4]. Morrison I. The elderly primigravida. *Am J Obstet Gynecol* 1975 Feb;121(4):465-70.
- [5]. Montan S. Increased risk in the elderly parturient. *Curr Opin Obstet Gynecol* 2007;19(2):110-12.
- [6]. Van Katwijk C, Peeters LL. Clinical aspects of pregnancy after the age of 35 years. *Hum Reprod Update* 1988 Mar-Apr;4(2):185-94.
- [7]. Moses V, Dalal N. Pregnancy outcome in elderly primigravidas. *Int J Reprod Contracept Obstet Gynecol* 2016 Nov;5(11):3731-5.
- [8]. Sailakshmi MP, Sahu P, Nagarathamma R. Observational study of maternal and fetal outcome in elderly primigravida. *Int J Sci Res* 2017 Mar;6(3):108-9.
- [9]. Pegu B, Singh Gaur BP. Elderly primigravida and a comparative analysis of their pregnancy outcome with younger primigravida. *Int J Res Med Sci* 2018;6(11):3478-81.
- [10]. Dixit PV, Mehendale MA. Study of pregnancy outcome in elderly gravida. *Int J Reprod Contracept Obstet Gynecol* 2017 Dec;6(12):5384-89.
- [11]. Pandit S, Kale D. Obstetrics outcome in elderly primigravida... How did they fare. *Bombay Hospital J* 2011;53(4):715-20.
- [12]. Giri A, Srivastav VR, Suwal A, Tuladhar AS. Advanced maternal age and obstetric outcome. *Nepal Med Coll J* 2012 Jun;15(2):87-90.
- [13]. Anozie OB, Mamah JE, Esike CU, Asiegbu OG, Lawani LO, Eze JN et al. Pregnancy outcome among elderly primigravida: A five year review. *J* 2019 Jan;13(1):QC01-04.
- [14]. Rehman B, Saldanha CL. Elderly versus young primigravida : A clinical analysis of pregnancy outcome in a tertiary care hospital in Kashmir. *Int J Med Res Prof* 2017;3(3):47-50.
- [15]. Ramachandran N, Sethuraman D, Nachimuthu V, Natrajan T. Obstetric and perinatal outcome of elderly mothers aged 35 years and above: a comparative study. *Int J Res Med Sci* 2015 Jan;3(1):214-9.
- [16]. Nagarwal K, Chandrakanta GK, Manohar RK. Pregnancy outcome comparison in elderly and non-elderly primigravida. *International Multispeciality Journal of Health (IMJH)* 2015 March;1(1):24-30.
- [17]. Verma S. Advance maternal age and obstetric performance. *Apollo Med* 2009 Sept;6(3):258-63.

Dr Yaruiyam Mahongnao, et. al. "Pregnancy Outcome in Elderly Primigravida." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(10), 2020, pp. 48-53.