



Fetomaternal Outcome of Elderly Primigravida in Tertiary Care Hospital

Dr Susanta Kumar Behera¹, Dr BipinBihari Malik², Dr JyotiRanjan Behera³,

Dr Luzoo Prachishree⁴

1Assistant Professor, Department of Obstetrics and Gynecology M.K.C.G. Medical College & Hospital, Berhampur, Odisha, India

2Assistant Professor, Department of Anesthesiology, M.K.C.G. Medical College & Hospital, Berhampur, Odisha, India

3Assistant Professor, Department of Pediatrics, M.K.C.G. Medical College & Hospital, Berhampur, Odisha, India

4Assistant Professor, Department of Obstetrics and Gynecology, M.K.C.G. Medical College & Hospital, Berhampur, Odisha, India

DOI: 10.48047/ecb/2023.12.sa1.549

Abstract:

Introduction: The elderly primigravida is a woman having her first pregnancy at the age of 35 years or more. The pursuit of educational and career goals, late and second marriages, financial concerns, infertility, advances in assisted reproductive technologies and effective birth control are believed to have contributed to the shift in childbearing patterns among older women.

Aims and Objectives: (a) To find out the incidence of elderly primigravida amongst the pregnant population attending MKCG Medical College & Hospital, Berhampur; Odisha. (b) To assess the maternal outcome in terms of mode of termination of pregnancy & maternal complications. (c) To assess the fetal outcome.

Materials and Methods: This is a prospective observational study conducted in the Department of Obstetrics & Gynaecology of MKCG Medical College, Berhampur; Odisha, India during the period from May 2021 to June 2023. All the cases were selected from cases attending OPD and labour room of this department in respect to inclusion and exclusion criteria. Inclusion criteria: all primigravida with singleton pregnancy more than 35 yrs and exclusion criteria: (a) all multigravida (b) cases having twin pregnancy (c) cases having major cardiac, respiratory and renal diseases. After selection of cases details history including obstetric profile were taken followed by complete clinical examination including baseline investigation.

Results: The current study included 102 cases of primigravidas aged 35 years or more from May 2021 to June 2023. Out of 102 cases, 74 cases (72.54%) conceived within 1-5 years of marriage among which 71 cases (69.60%) belonged to 35-39 years of age and 3 cases (2.94%) belonged to > 40 years of age. There were 23 cases (22.54%) conceived within 6-9 years of marriage among which 22 cases (21.56%) belonged to 35-39 years of age and one case (0.98%) belonged to > 40 yrs of age. Only 5 cases (4.90%) conceived after 9 years of marriage of which all cases (4.90%) belonged to 35-39 years age. Among the antenatal complications, 27 cases (26.47%) had hypertensive disorder of pregnancy (HDP) which included 18 cases (17.64%) of pre eclampsia, 8 cases (7.84%) of gestational hypertension and one case (0.98%) of ante partum eclampsia, 12 cases (11.76%) had FGR, 6 cases (5.88%) had oligohydramnios and 2 cases (1.96%) of each had abruption, GDM and polyhydramnios. Among the cases of elderly primigravida, normal vaginal delivery, caesarean section and instrumental delivery occurred in 28 cases (27.45%), 68 cases (66.66%) and 6 cases (5.88%) respectively. Among the caesarean section cases, 26 cases (25.49%) were undergone elective caesarean section and 42 cases (41.18%) were undergone emergency caesarean section. Among the newborns, majority of babies i.e 61 babies (59.80%) had birth weight > 2.5kg and 41 babies (40.20%) had low birth weight babies

(<2.5kg).

Conclusion: So this high risk group requires special care like preconception counseling, early booking, close supervision in the antenatal & intra natal period and appropriate intervention for an optimum outcome.

Keywords: primigravida, fetal growth restriction, infertility, reproductive technologies and effective, birth, antenatal & intra natal

Introduction:

The elderly primigravida is a woman having her first pregnancy at the age of 35 years or more [1]. Elderly primigravida as an obstetrical topic is of paramount importance as the phenomenon of late motherhood is becoming more prevalent in present society of educated and career oriented women [2]. The pursuit of educational and career goals, late and second marriages, financial concerns, infertility, advances in assisted reproductive technologies and effective birth control are believed to have contributed to the shift in childbearing patterns among older women [3]. Medical risks are related to an ageing reproductive system and an ageing body with decrease in fertility and may be associated with pregnancy complications like hypertension, gestational diabetes mellitus (GDM) and fetal growth retardation (FGR), hypothyroidism and even increase rate of caesarean section [4]. The poor oocyte quality due to ageing is associated with an increased risk for aneuploidy, chromosomal abnormalities and spontaneous abortions [5]. The obstetric complications encountered with elderly primigravida are as follows: (a) antenatal complications like spontaneous and threatened abortion, ectopic pregnancy, hyperemesis gravidarum, GDM, preeclampsia and eclampsia, abruptio placentae & placenta praevia (b) intranatal complication like malpresentation, multiple pregnancy, pre labour rupture of membrane, preterm labour, fetal distress, prolonged labour, retained placenta and increased operative interference (c) postnatal complications like anaemia, postpartum haemorrhage(PPH), thrombotic complications, wound sepsis, pyrexia, failed lactation, (d) fetal & neonatal complication like prematurity, chromosomal anomalies, congenital anomalies, macrosomia, FGR, low birth weight, preterm babies and birth trauma. [6].

Aims and Objectives:

- a) To find out the incidence of elderly primigravidas amongst the pregnant population attending MKCG Medical College & Hospital, Berhampur; India.
- b) To assess the maternal outcome in terms of mode of termination of pregnancy & maternal complications.
- c) To assess the fetal outcome.

Materials and Methods:

This is a prospective observational study conducted in the Department of Obstetrics & Gynaecology of MKCG Medical College, Berhampur; Odisha, India during the period from May 2021 to June 2023. All the cases were selected from cases attending OPD and labour room of this department in respect to inclusion and exclusion criteria. Inclusion criteria: all primigravida with singleton pregnancy more than 35 yrs and exclusion criteria: (a) all multigravida (b) cases having twin pregnancy (c) cases having major cardiac, respiratory and renal diseases. After selection of cases details history including obstetric profile (gestational age, history of infertility and treatment for infertility) were taken followed by complete clinical examination including baseline investigation. The aetiology, mode of delivery, mode of onset of labour, obstetric complication, birth weight, APGAR score, FGR, prematurity, jaundice, neonatal sepsis, birth asphyxia. meconium aspiration, NICU admission, neonatal death etc were analysed. Cases were followed up to discharge

Observation:

The current study included 102 cases of primigravida aged 35 years or more from May 2021 to June 2023. The antenatal, intra natal, postnatal and neonatal parameters were observed. The incidence of elderly primigravida was 1.01%. Majority of cases i.e 55 cases (53.92%) belonged to 36-40 years of age followed by 43 cases (42.15%) belonged to 35 years of age and 4 cases (3.92%) belonged to > 40 years of age. Most of them i.e 75 cases (73.53%) were booked i.e. they had three or more antenatal visits, received 2 doses of tetanus toxoid with iron & calcium supplementation. Majority of cases i.e 66 cases (64.70%) were from urban areas and most of cases i.e 70 cases (68.62%) were from middle socioeconomic status.

Majority of cases (73.53%) were literate. Out of 102 cases, 74 cases (72.54%) conceived within 1-5 years of marriage among which 71 cases (69.60%) belonged to 35-39 years of age and 3 cases (2.94%) belonged to > 40 years of age. There were 23 cases (22.54%) conceived within 6-9 years of marriage among which 22 cases (21.56%) belonged to 35-39 years of age and one case (0.98%) belonged to > 40yrs of age. Only 5 cases (4.90%) conceived after 9 years of marriage of which all cases(4.90%) belonged to 35-39 years age(Table-I).

Age group(Yrs)	1-5 Years of marriage		6-9 Years of marriage		>9 Years of marriage	
	No	%	No	%	No	%
35-39	71	69.60%	22	21.56%	5	4.90%
>40	3	2.94%	1	0.98%	0	0.00%
Total	74	72.54%	23	22.54%	5	4.90%

Table-I: Marriage conception interval in elderly primigravida

Among the 61 infertile cases, majority of cases i.e 45 cases (73.77%) had received infertility treatment. Out of 102 cases, 26 cases (25.50%) had preterm deliveries, 64 cases (62.74%) had term deliveries and 12 cases (11.70%) had post term deliveries. No associated conditions were found in 56 cases (54.90%) of all primigravida whereas 46 cases (45.10%) were presented with associated conditions. The associated conditions found were 31 cases(30.39%) of anaemia, 5 cases(4.90%) of hypothyroidism, 4 cases(3.92%) of fibroid, 4 case(3.92%) had hyperemesis, one case(0.98%) of asthma and one case(0.98%) of jaundice(Figure-I).

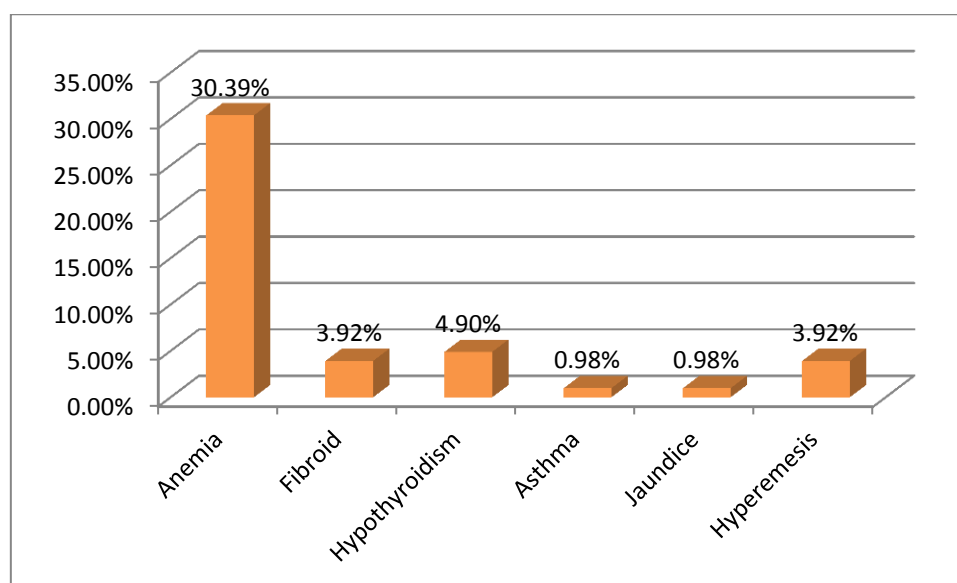


Figure-I: Associated Conditions in elderly Primigravida

Out of all cases, 51 cases (50%) were uncomplicated and 51 cases (50%) were complicated by different obstetric conditions during antenatal period. Among the antenatal complications, 27 cases (26.47%) had hypertensive disorder of pregnancy (HDP) which included 18 cases (17.64%) of pre eclampsia, 8 cases (7.84%) of gestational hypertension and one case (0.98%) of ante partum eclampsia, 12 cases (11.76%) had FGR, 6 cases (5.88%) had oligohydramnios and 2 cases (1.96%) of each had abruption, GDM and polyhydramnios. Majority of cases i.e 49 cases (64.47%) had spontaneous onset of labour whereas 27 cases (35.53%) had undergone labour induction (26 cases of elective caesarean section were excluded) (Table-II).

Complications		No of Cases	Percentage
Complicated	Hypertensive disorders of Pregnancy(HDP)	27	26.47%
	Gestational hypertension	8	7.84%
	Preeclampsia	18	17.64%
	Eclampsia	1	0.98%

	Abruptio Placentae	2	1.96%
	FGR	12	11.76%
	Polyhydramnios	2	1.96%
	Oligohydramnios	6	5.88%
	GDM	2	1.96%
	Uncomplicated	51	50%

Table-II : Antenatal Complications in elderly Primigravida

Among the cases of elderly primigravida, normal vaginal delivery, caesarean section and instrumental delivery occurred in 28 cases (27.45%), 68 cases (66.66%) and 6 cases (5.88%) respectively. Among the caesarean section cases, 26 cases (25.49%) were undergone elective caesarean section and 42 cases (41.18%) were undergone emergency caesarean section. The instrumental vaginal delivery included 4 cases (3.92%) of ventouse delivery & 2 cases (1.96%) of forceps delivery (Figure-II).

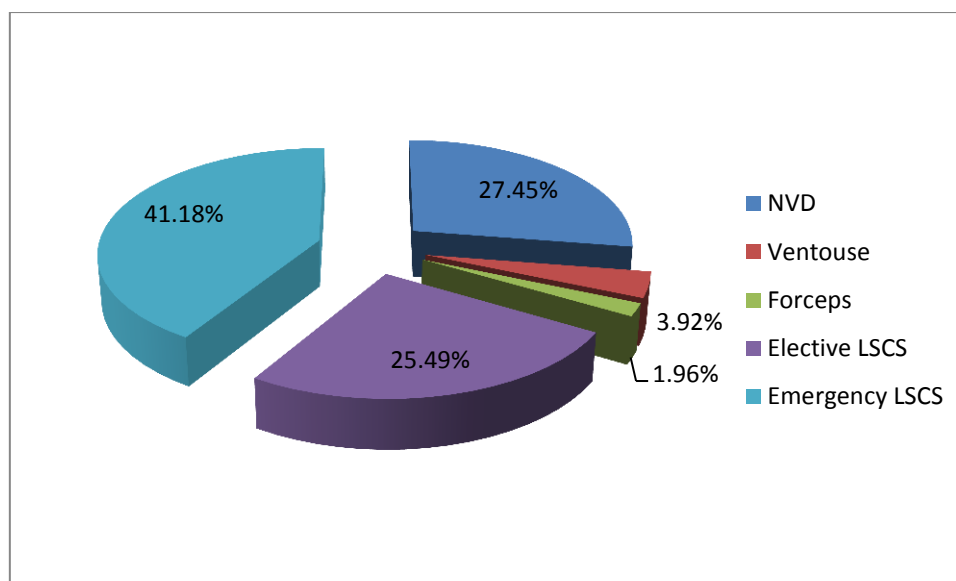


Figure-II: Mode of delivery in elderly Primigravida

During intra natal period no complications were seen in 67 cases (65.68%) whereas 35 cases (34.31%) presented with various complications. The complications seen included 12 cases (11.76%) of fetal distress, 7 cases (6.86%) of CPD, 4 cases (3.92%) of PPH, 3 cases (2.94%) of retained placenta and one case (0.98%) of chorioamnionitis (Figure-III). Among the postnatal complications, majority of cases i.e 77 cases (75.50%) had no complications whereas 25 cases (24.50%) had complications which included 14 cases (13.72%) of fever, 10 cases (9.80%) of wound infection and one case (0.98%) of posterior reversible encephalopathy syndrome (PRES).

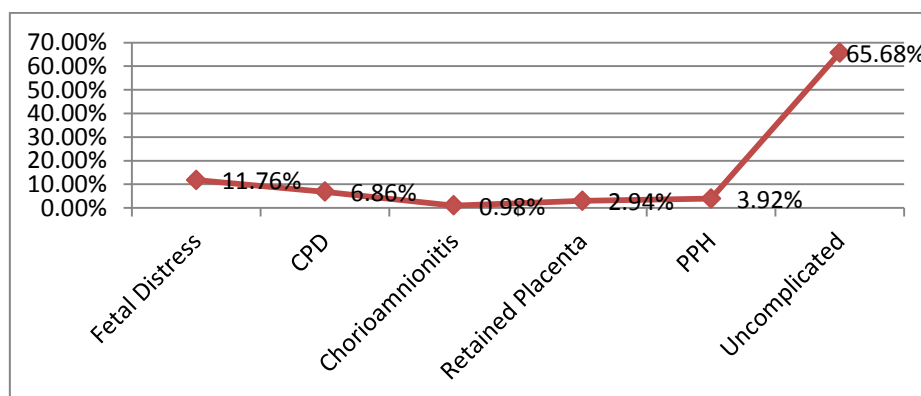


Figure-III: Intrapartum Complications in elderly primigravida

Among the newborns, majority of babies i.e 61 babies (59.80%) had birth weight > 2.5kg and 41 babies (40.20%) had low birth weight babies (<2.5kg). Among the 94 cases of live born babies (8 cases of still born were excluded), 36 babies (38.29%) had APGAR score < 7 and 56 babies had APGAR score 7-10 at 1 min. Also 11 babies (11.71%) had APGAR score < 7 and 83 babies (88.29%) had APGAR score 7-10 at 5 min. The incidence of neonatal morbidities among live born babies was found to be 38.30%. The common neonatal morbidities included were birth asphyxia in 13 cases (13.82%), Jaundice in 8 cases (8.51%), meconium aspiration syndrome (MAS) in 6 cases (6.38%), neonatal sepsis in 3 cases (3.19%), hypoglycaemia in 3 cases (3.19%), birth trauma in one case (1.06%) and congenital malformations in 2 cases (2.12%) (One case of hydrocephalus and one case of cleft palate) (Figure-IV).

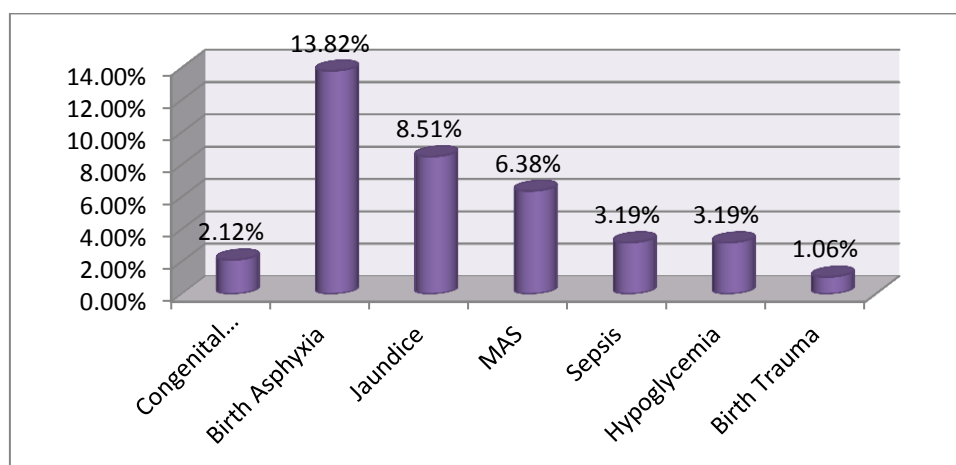


Figure-IV: Neonatal Co morbidities

Current study revealed 14 cases (14.90%) of perinatal death, 6 cases (6.38%) of early neonatal death and 8 cases (8.51%) of still birth. Out of 102 cases 55 cases (58.51%) had undergone screening for aneuploidy and all of them i.e 55 cases (100%) shows result of low risk for chromosomal abnormality.

Discussion:

The current study revealed the incidence of elderly primigravida as 1.01% which is comparable to Thatal A *et al* (1.8%) [7]. Majority (53.92%) of cases belonged to 36-40 years of age, 42.15% of cases belonged to 35 years of age and 3.92% cases belonged to more than 40 years of age which is not concurrent to Moses V *et al* who found that majority(76%) of cases of primigravida were of 36-40 year of age. Among all cases, majority (73.56%) of cases had regular antenatal check up showing increasing awareness of people regarding pregnancy complications as a result of advancing age which is similar to Moses V *et al* (73.7%). Jirattigalachote A *et al* also observed that older women came to receive antenatal service earlier and more frequently than the younger counterpart i.e elderly gravidas are more concerned about the essentials of antenatal care [8]. Most of cases (68.62%) were from middle socioeconomic status, which tallies with that of S M Tuck *et al* (62.8%) [9]. Majority of cases (73.53%) were literate which is consistent with Mose V *et al* (76%). Among all, 72.54% of cases conceived within 1-5 years of marriage. Moreover, maximum number of cases (69.60%) who conceived within 1-5 years of marriage was in the age group 35-39 years which is not corroborates with studies of K T Tan *et al* showing marriage conception interval within 1-5 years in 82% cases [10]. Maximum number of cases (62.74%) had term deliveries, 25.50% cases had preterm deliveries and 11.70% had post term deliveries which are similar to Bhankhar *et al* [11]. Major complication noticed were anaemia (30.39%), HDP (26.47%), FGR (11.76%), GDM (1.96%) and abruption placentae (1.96%). There was increased incidence of fibroid (3.92%) which can be because of advanced age and associated infertility which is concurrent to Pradhan *et al* (5.7%) [12]. Increased incidence of hypertensive disorders of pregnancy (26.47%) is similar to SuchitraPandit *et al* (23.3%) [13]. The incidence of ante partum haemorrhage (abruption placentae) was 1.96% which is quite similar to Joseph *et al* (1.1%) [14]. FGR was almost two fold increased risk as compared to young primigravidai.e 11.76% which is tallying to that of Pegu B *et al* (14.8%) [15]. Majority of cases (64.47%) had spontaneous onset of labour whereas 35.53% cases undergone induction (26 cases undergoing elective caesarean section were excluded) which is similar to Joseph *et al* (36.7%). The incidence of caesarean section was 66.66% which is more than that of Ojule *et al* (58.1%) [16]. Major labour

complications were fetal distress (11.76%) and CPD (6.86%) which is similar to Moses V *et al* (12%) and Achanna *et al* (10.6%) respectively [17]. Among complications during labour incidence of fever and wound infection was (13.72%) and (9.80%) respectively which is consistent with Achanna *et al* having fever (15%) and wound infection (10%). The APGAR score < 7 at 5 min was seen in 11.71% cases which is similar to Ustun *et al* (13.8%) [18]. The various neonatal morbidities were birth asphyxia (13.82%), jaundice (8.51%), MAS (6.38%), neonatal sepsis (3.19%), congenital malformations (2.12%) and birth trauma (1.06%) which is concurrent to Ojule *et al* (Birth asphyxia: 9.5%), Jirattigalchote *et al* (Jaundice: 14%), Achanna *et al* (Birth trauma: 4.2%) and Naheed *et al* (Congenital malformation: 3.3%) [19]. Both still birth rate and early neonatal death was 8.51% and 6.38% respectively. The incidence of perinatal mortality was 14.90% which is quite higher from other studies e.g. Naheed *et al* (4%).

Conclusion:

The incidence of elderly primigravida was 1.01% and majority of cases belonged to 36-40 years from urban areas who are mostly literate. Out of elderly primigravida who conceived after infertility, majority of patients had received infertility treatment. The common associated conditions are anaemia, fibroid and hypothyroidism. Major ante partum intra partum and post partum complications were hypertensive disorders of pregnancy, fetal distress and fever respectively. Most of cases have low birth weight babies with increased incidence of neonatal morbidities. The common neonatal morbidities seen were birth asphyxia, jaundice, MAS and neonatal sepsis. Both still birth rate and early neonatal death were high in elderly primigravida leading to an increased perinatal mortality. So this high risk group requires special care like preconception counselling, early booking, close supervision in the antenatal & intra natal period and appropriate intervention for an optimum outcome.

References

1. Shehadeh A. Elderly Primigravida and Pregnancy outcome. *Journal of Research in Medical Sciences* 2002;9(2):8-11
2. Robert CL, Algert CS, March LM. Delayed Childbearing Are there any risks? *Med J Aust.* 1994; 160:539-44.
3. Berkowitz GS, Lapinski RH, Berkowitz RL. Delayed Child bearing & Outcome of Pregnancy. *North Eng. Journal of Medicine* 1990;322:659-664
4. Bako B, Umaru I, Danazumi A. Pregnancy outcome in elderly primigravida at the University of Maidguri Teaching Hospital, Nigeria. *Int J Med Medic Sciences* 2013; 3(7): 476-80.
5. Moses V, Dalai N. Pregnancy outcome in elderly Primigravida. *Int J ReprodContraceptObstetGynecol* 2016; 5: 3731-5.
6. Balasch J, Gractose E. Delayed Childbearing: effects on fertility and outcome of pregnancy. *FetalDiagn Therapy* 2011; 29(4): 263-273.
7. Thatal A, Pesona Grace Luksom, YogeshNarwat. Fetomaternal outcome in elderly primigravida. *Indian Journal of Obstetrics & Gynaecology Research* 2020;7(2):243-247
8. Jirattigalchote A, Preechapanich J. Emergency Caesarean Section rate in the women aged 35 or older compared to those ages 21-25 at Siriraj Hospital; *Thai J ObstetGynecol* July2008, Vol-16: 155-161.
9. Tuck S M, Yudkin PL and Turnbull AC. Pregnancy outcome in elderly primigravidae with and without a history of infertility. *Br J ObstetGynecol*; 95(3) 230-237
10. Tan KT, Tan KH. Pregnancy and Delivery in primigravida aged 35 and over. *Singapore Med J* 1994;35:49

11. BhankharRonak R., Anjali R. Chavda, Hemali N. Patel. A study of fetomaternal outcome in elderly primigravida. *International Journal of Reproduction, Contraception, Obstetrics and Gynaecology*; 2023 Mar;12(3):716-720
12. Pradhan K, Baru L, Dharua A. Pregnancy Outcome in Elderly primigravida. *Int J ReprodContraceptObstetGynecol* 2019; Dec; 8(12):4684-468.
13. PanditSuchitra, Kale Deepali. Obstetric Outcome in elderly primigravida. How did they fare? *Bombay Hospital Journal* 2011; 53(4): 715-720.
14. Joseph KS, Alexander C. The Perinatal effects of delayed child bearing. *Am J ObstetGynecol* 2005; 105(6):1410-1418
15. Pegu B, Singh Gaur BP. Elderly primigravida and a comparative analysis of their pregnancy outcome with younger primigravida. *Int J Res Med Sci* 2018; 1:3478-81.
16. J D Ojule, V C Ibe, P O Fiebai. Pregnancy outcome in elderly primigravidae. *Ann Afr Med* 2011 Jul-Sep; 10(3):204-8
17. Achanna S, Monga D. Performance of elderly primigravida in Kelantan. *Med J Malayasia*, 1995 Mar; 50(1):37-41.
18. Ustun Y, Meydanli M. Maternal and Neonatal outcomes in pregnancies 35 and older age group. *J Turkish German GynecolAsso* 2005; 6(1):46-48
19. Naheed F, Tufail A, Kammeruddin K, Madiha S. Obstetrical risks with increased maternal age more than 35 years. *Pakistan J Surg.* 2009;25:240-3