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Original Research Article

Elderly primigravida and a comparative analysis of their pregnancy outcome with younger primigravida

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ABSTRACT

Background: Though pregnancy and child birth is a normal physiological process but a woman with advanced age is a risk factor for adverse pregnancy outcome. This study was conducted to find out the proportion of elderly primigravida and to compare their pregnancy outcome with that in younger primigravida of aged 20-25yrs.
Methods: A retrospective study was carried out over a period of two years in a tertiary care hospital of Meghalaya. Secondary data on obstetrics outcome of 54 elderly primigravida aged ≥35 years (study group) was compared to 120 younger primigravida (control group) of aged 20-25 years, delivered during the period of study. The chi square test and Fisher's exact test were used for statistical analysis and p value of <0.05 was taken as level of significance.
Results: During two years of study period, 2048 patients had delivered, out of which 411 (20.1%) were primigravida, 54 (2.6%) were elderly primigravida, 120 (5.9%) were in the younger age groups and 66 (3.2%) were teenage pregnancy. Pregnancy induced hypertension (PIH) with preeclampsia 12 (22.2%), preterm labour 2 (3.7%), instrumental delivery 6 (11.1%), caesarean section 32 (59.3%) were found significantly higher in study group.
Conclusions: In our study, the prevalence of elderly primigravida was 2.6% and they had high rates of complications during antenatal period and course of labour than younger primigravida.

Keywords: Elderly primigravida, Obstetric outcome

INTRODUCTION

In 1958, the council of "International Federation of Obstetrics and Gynaecology" adopted a definitive specifying age of 35 yrs or more for elderly primigravida.[1] Due to rising education level in women, widespread use of birth control methods and increasing trends of working women in the society, number of advanced age women turning motherhood has considerably increased in the population.[2]

There is decreased chance of fertility and increased risk of adverse pregnancy outcome with advanced maternal age. Additionally, it also makes them prone to medical diseases.[3] Increasing maternal age is associated with poor oocyte quality which causes risk of chromosomal anomaly, aneuploidy and spontaneous abortion.[4]

Many study showed, elderly primigravida women to be at high risk for malposition, malpresentation, PIH, gestational diabetes mellitus, induction of labour, non progress of labour, instrumental delivery, caesarean section, post partum haemorrhage etc.[5-8]

The purpose of this study was to determine the proportion of elderly primigravida and to compare their pregnancy outcome with younger primigravida.

METHODS

This retrospective study was carried out at a tertiary care teaching hospital of Meghalaya from April 2012 to March 2014. The ethical clearance was taken from the Institutional ethics committee. Total 2048 women who had delivered during this two years period constituted the study population.

Operation definition used in this study: (1) elderly primigravida: women who were having first pregnancy at the age of ≥35 years (2) teenage pregnancy: women having pregnancy at the age less than 20 years.

Inclusion criteria

- All Elderly Primi Gravida during the study period as case group.
- Primi Gravida aged between 20-25 years as control group.

Exclusion criteria

- Teenage Pregnancy less than or equal to 19 years.
- Primi Gravida age between 26-34 years.

A total of 411 (20.1%) women were primigravida. The obstetrics outcome of 54 (2.6%) elderly primigravida (study group) was compared with 120 (5.8%) younger primigravida (control group) aged between 20-25 years. Women with teenage pregnancy aged <20years 66 (3.2%) were excluded from the analysis.

Secondary data were collected regarding socio-demographic status, any previous medical diseases like diabetes mellitus, chronic hypertension, history of proper antenatal check-up including immunization, any complications during antenatal period, mode of delivery, birth weight of baby etc. from outpatient department and delivery registers. All necessary data were collected in a predesigned proforma.

The results are analyzed using Microsoft Excel 2010 version. The data are expressed in terms of frequency and percentage. Chi square test and Fisher's exact test are used as a test for significance and p value of <0.05 was taken as level of significance.

RESULTS

All elderly primigravida were booked case and 48 (88.9%) were had qualification of graduate and above whereas in younger primigravida 88 (73.3%) were booked and 70 (79.5%) were graduate and above. Both the groups were having spontaneous pregnancy. Age distribution of primigravida women is shown in Table 1.

Table 2, showing 3 (5.6%) elderly primigravida were having chronic hypertension and this was not seen in control group. 12 (22.2%) had PIH and preeclampsia in elderly primigravida and 9 (7.5%) had in control group and the difference was found significant statistically (χ^2= 7.606 and p<0.05).

Table 1: Age distribution of all primigravida women.

Age group (Years)	Frequency	Percentage (%)
<20	66	16.1
20-25	120	29.2
25-30	93	22.6
30-35	78	19
>35-40	54	13.1
Total	411	100

Table 2: Complication in antenatal period.

Type of complications	Study group (n=54)	Control group (n=120)	χ^2 and p value
Chronic HTN with superimposed preeclampsia	3 (5.6%)	0	p<0.05*
PIH and preeclampsia	12 (22.2%)	9 (7.5%)	χ^2=7.606, df=1, p<0.05
IUGR	8 (14.8%)	10 (8.3%)	χ^2=1.687, df=1, p>0.05
Preterm	2 (3.7%)	0	p>0.05*
GDM	3 (5.6%)	0	p<0.05*

*Fisher's Exact Test

Eight number of (14.8%) elderly primigravida had IUGR baby whereas 10 (8.3%) had in control group. The difference between both the groups was not significant (χ^2= 1.687 and p>0.05).

Two (3.7%) cases of preterm labour and three (5.6%) cases of gestational diabetes mellitus (GDM) were seen in elderly primigravida whereas in control group no case had been seen.

Table 3, showing significantly higher rates of induced labour 22.2%, fetal distress 25.9% and non-progress of labour38.8% compare to control group whereas post-partum haemorrhage between both the groups were insignificant.

Table 4, showing significant difference (χ^2= 36.489and p<0.05) in caesarean section rate between both the groups. Higher rate had been reported 32 (59.3%) in elderly primigravida compared to control group 20 (16.7%).

Six (11.1%) elderly primigravida had instrumental delivery whereas eight (6.7%) had in control group. The difference was found statistically significant (χ^2= 6.586 and p<0.05).

Table 3: Complications during labour.

Complication	Study group (n=54)	Control group (n=120)	χ^2 and p value
Induced labour	12 (22.2%)	9 (7.5%)	χ^2=7.606, df=1, p<0.05
Fetal distress	14 (25.9%)	10 (8.3%)	χ^2=9.694, df=1, p<0.05
Non progress of labour	21 (38.8%)	18 (15%)	χ^2=12.221, df=1, p<0.05
Post partum haemorrhage	4 (7.4%)	2 (1.7%)	p>0.05*

*Fisher's Exact Test

Table 4: Different modes of delivery.

Mode of delivery	Study group (n=54)	Control group (n=120)	χ^2 & p value
Normal	16 (29.6%)	92 (76.6%)	
Instrumental	6 (11.1%)	8 (6.7%)	χ^2=6.586, p<0.05
LSCS	32 (59.3%)	20 (16.7%)	χ^2=36.489, p<0.05

Table 5: Neonatal outcome.

	Study group (n=54)	Control group (n=120)	χ^2 & p value
Low birth wt. (<2.5kg)	9 (16.7%)	10 (8.3%)	χ^2=2.659, df=1, p>0.05
Still birth	1 (1.8%)	2 (1.6%)	p>0.05*
Neonatal death	2 (3.7%)	1 (0.8%)	p>0.05*
Congenital malformation	1 (1.8%)	0	p>0.05*
Low Apgar score	17 (13.5%)	9 (7.5%)	χ^2=16.852, df=1, p<0.05

*Fisher's Exact Test

Table 5, showing that nine (16.7%) low birth weight (LBW) babies delivered by elderly primigravida while ten (8.3%) LBW babies were seen in control group (χ^2= 2.659 and p>0.05). LBW babies include both IUGR and preterm deliveries. Elderly primigravida had 17 (13.5%) low Apgar score babies in contrast younger primigravida had 9 (7.5%) low Apgar score babies. The difference between both the groups was found statistically significant (χ^2=16.852, p<0.05). A congenital malformed baby was seen in study group, who died after birth.

DISCUSSION

In the present study, the prevalence of elderly primigravida was found to be 17.8% whereas in another study conducted by Chan BC et al, prevalence of 24.9% was reported.[9] Three cases (5.65%) had chronic hypertension with superimposed preeclampsia and 12 (22.2%) had pregnancy induced hypertension and preeclampsia in study group whereas in control group nine (7.5%) had PIH and preeclampsia and none had chronic hypertension. The above findings showed significant different in contrast to study by Shehadeh A where no significant difference was found.[1]

In this study, IUGR (14.8% vs. 8.3%, p>0.05) and preterm (3.7% vs. 0%, p>0.05) results were found statistically insignificant in both the groups and the findings were dissimilar to what was noticed in other studies.[10,11] The rate of gestational diabetes was significantly high in the study group (5.6%) and no case found in control group. Similar results were found in the study conducted by Rajmohan L et al and Sahu et al.[2,12]

A significant difference about fetal distress has been seen between both the groups (25.9% vs. 8.3%, p<0.05). Bekowetz et al, also demonstrated an increase in fetal distress in women with advanced maternal age.[13] There was increased risk of instrumental vaginal delivery among elderly primigravida (11.1% vs 6.7%) in compare to control group which was statistically significant (χ^2=6.586 and p<0.05). Similar findings were reported in the study done by Yerushalm YJ et al.[14]

A total of 32 (59.3%) LSCS were done in elderly primigravida and only 20 (16.7%) had under gone in case of control case. The finding was statistically significant (p<0.05%) Increased risk of cesarean section in elderly primigravida have been reported by other authors.[5,10]

There were no significant findings observed in birth weight, still birth and neonatal death between both the groups except Apgar score. Similar findings were seen in the study conducted by Ezra et al.[15] Nine (16.7%) low

birth weight babies were seen in elderly primigravida in comparison to 10 (8.3%) in comparison group.

CONCLUSION

This study shows that elderly primigravida women have higher rates of complications like preterm deliveries, gestational diabetes mellitus, pregnancy induced hypertension, intra uterine growth retardation, instrumental deliveries and cesarean section in comparison to younger primigravida. So, women in advanced age should go for pre-conceptional counseling and physician should educate and inform them about pregnancy expectations and possible outcomes.

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