

ORIGINAL RESEARCH

Evaluation of late pregnancy complications among women aged 35 years and above: A Retrospective Study at Tertiary Care Hospital in Jammu

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ABSTRACT

Background: In the present research paper, we aim to evaluate pregnancy related issues encountered by women aging 35 years or above. We will highlight the possible complications faced by women who have reached the advanced age with young women pregnancies. **Method:** A prospective study of 13952 patients was conducted at SMGS, a tertiary care hospital in Jammu these patients which were divided into two groups based on age of patients. Group A consists of 7658 pregnant women aged < 35 years and group B consists of 2691 pregnant patients aged \geq 35 years. **Result:** Evidently we observed that women aging 35 years or above are more vulnerable to multiple intrapartum and postpartum complications than younger women in group B. **Conclusion:** The observations made in this study corroborate the negative impact of advanced maternal ages on pregnancy. Extreme maternal age is undoubtedly attributed with some serious pregnancy issues. Apart from antenatal and postnatal complications, spontaneous conception becomes all the more challenging. We suggest Obstetricians to provide the evidence based knowledge to women so that their procreate choices be optimized.

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INTRODUCTION

There are multiple factors that determine the likelihood of pregnancy among women; however, age of women plays a vital and significant role in the conception process. There are multiple studies that reveal pregnancy is affected by maternal age and the associated risk factors like hypertension, diabetes and thyroid add to the obstetric risk related parameters of pregnancy [1, 2]. Evidently advanced maternal age is largely correlated with inferior pregnancy outcomes among women because of higher incidence of some chronic medical conditions in older women. Apart from underlying medical disorders, several factors delay the pregnancy among women which also include social discourse and acceptability of risks over their convenience [3]. The evaluation of pregnancy risk related factors by health care providers is completely different from that of women's evaluation; it is believed that women evaluate the risk factors of pregnancy through social and personnel experience while as health care providers use the scientific

methods to evaluate the risk factors associated with pregnancy [4]. This miscalculation of risk factors by women sometimes encourages them to halt the pregnancy process and ultimately invite major complications like; chromosomal abnormality, miscarriages, ectopic pregnancies and congenital anomalies, pre-eclampsia, gestational diabetes, intrauterine growth restriction and antepartum hemorrhage [5,6]. Cesarean sections, instrumental assisted deliveries are more commonly adopted procedures among these women [7]. In addition to this, the bed occupying tendency in NICU admission increases because of some grave multiple medical conditions among neonates which include low birth weight, IUGR and fetal distress etc [5, 7]. Authors like Aldous and Edmonson [8] have also attributed the advanced maternal age as an independent risk factor for low birth-weight, preterm delivery, placenta previa and NICU admission. Women are delaying childbearing option for numerous reasons across the world which includes financial goals, longer life

expectancy, higher education, pursuit of career (Hansen 1986; and Bottoms, 1995) [9, 10]. On the other hand, some authors like (Barkan and Bracken, 1987; Kirz et al., 1985; Ales et al., 1990) [11-13] have reported no or very little adverse outcomes related with pregnancy among older women.

MATERIAL AND METHODS

The present study was conducted at SMGS, a tertiary care hospital in Jammu from January 2022 to December 2022. The total number of patients included in the study was 13952 which were divided into two groups based on age of patients. Group A consists of 7658 pregnant women aged < 35 years and group B consists of 2691 pregnant patients aged \geq 35 years. Women who qualified inclusion criteria and agreed to willfully participate in the study were evaluated for different parameters at out-patient department of Obstetrics and Gynecology. The patients were thoroughly analyzed clinically, apart from history, routine antenatal examination along with some additional lab investigations like KFT; LFT etc. as per requirement were performed. The qualified included patients were asked for monthly follow-up till 28 weeks and then fortnightly follow was advised to these patients up to 36 weeks and thereafter weekly follow-up (unless some emergency issue) was recommended to them.

STATISTICAL METHODS

The recorded data on various parameters like; assisted conception, early pregnancy loss, cesarean section, antepartum complications, intra and postpartum complications and NICU admission was compiled and entered in a spreadsheet (Microsoft Excel) and then exported to data editor of SPSS Version 20.0 (SPSS Inc., Chicago, Illinois, USA). Statistical software SPSS (version 20.0) and Microsoft Excel were used to carry out the statistical analysis of data. Continuous variables were expressed as Mean \pm SD and categorical variables were summarized as percentages. Chi-square test was employed for comparison of categorical variables. A P-value of less than 0.05 was considered statistically significant. All P-values were two tailed.

RESULTS AND OBSERVATIONS

In this section we present our observation on recorded parameters; from a study population of 13952, 1256 (9%) had early pregnancy due to ectopic pregnancy or miscarriage, 2058 (14.7%) lost to follow-up, 289 (2.07%) had ongoing pregnancy and 10349 (74.17%) delivered their babies during the course of study. We analyzed few parameters like gravidity, conception mode and early pregnancy losses in the entire study population, however, rest of the parameters were analyzed among the women (10349) who delivered during the course of study.

Table 1:

Parameter	Various parameters				P-value
	Women < 35 Yrs [n=10324] Group A		Women \geq 35 Yrs [n=3628] Group B		
	No.	%age	No.	%age	
Assisted conception	327	3.2	364	10.1	<0.001*
Early pregnancy loss	709	6.9	547	15.1	<0.001*
Cesarean section	3731	36.1	1362	40.5	0.091

*Statistically Significant Difference (P-value<0.05)

Table 1, show that there were 10324 women aged <35 years and 3628 women aged \geq 35 years. Out of 10324 women who were placed in group A, 3731 (36.1%) had cesarean section, 709 (6.9%) women had early pregnancy loss and 327 (3.2%) had assisted conception. On the other hand in group B out of 3628 patients, 1362 patients had cesarean section, 547

(15.1%) had early pregnancy loss and 364 (10.1%) women had assisted conception. The difference in number of assisted pregnancies and early pregnancy loss between group A and group B was statistically significant. However, the difference in number of cesarean sections between group A and group B was insignificant

Parameter	Table 1: Antepartum complications				P-value
	Women < 35 Yrs [n=7658] Group A		Women \geq 35 Yrs [n=2691] Group B		
	No.	%age	No.	%age	
Hypertensive disorder of pregnancy	631	8.2	517	19.2	<0.001*
Gestational diabetes mellitus	559	7.3	218	8.1	0.175
Placenta previa	67	0.87	31	1.2	0.201
Preterm delivery	857	11.2	494	18.4	<0.001*
Induced labour	825	10.8	261	9.7	0.118

Table 2 displays the antepartum complications among women in group A and group B, we observe that out of 10324 women in group A, 7658 had antepartum complications, of them 857 (11.2%) had preterm delivery, 825 (10.8%) had induced labour, 631 (8.2%)

had hypertensive disorder of pregnancy, 559 (7.3%) had gestational diabetes mellitus. In group B out of 3628 women, 2691 developed antepartum complications, of them 517 (19.2%) had hypertensive disorder of pregnancy, 494 (18.4%) had preterm

delivery, 261 (9.7%) had induced labour, 218 (8.1%) had gestational diabetes mellitus and 31 (1.2%) developed placenta previa. Statistically, we found both the groups significantly different from one another

with respect hypertensive disorder and preterm delivery and comparable with respect to rest of the antepartum complication

Parameter	Women < 35 Yrs [n=7658] Group A		Women ≥ 35 Yrs [n=2691] Group B		P-value
	No.	%age	No.	%age	
Vaginal trauma	71	0.93	165	6.1	<0.001*
Postpartum hemorrhage	178	2.3	193	7.2	<0.001*

Table 3, reflects the intra and postpartum complications among women in group A and group B whereby we observe that out of 7658 women in group A, 71 (0.93%) had vaginal trauma and 178 (2.3%) had postpartum hemorrhage. However, in group B, out of 2691 women, 165 (6.1%) had vaginal trauma and 193 (7.2%) had postpartum hemorrhage. The difference in number of intrapartum and postpartum complications was statistically highly significant in favor of group A

NICU Admission	Women < 35 Yrs [n=7658] Group A		Women ≥ 35 Yrs [n=2691] Group B		P-value
	No.	%age	No.	%age	
Yes	942	12.3	362	13.5	0.122
No	6716	87.7	2329	86.5	
Total	7658	100	2691	100	

Table 4, show the proportion of NICU admissions in both the groups. We observe that NICU rates are similar in both the groups (12.3% vs 13.5%). Hence both the groups are statistically comparable with a p-value of 0.122

DISCUSSION

There is no doubt that obstetricians and gynecologists face a great deal of challenge to deal with the complications associated with late pregnancies. In this present study on pregnancy in women aged 35 years and above; we thoroughly analyzed patients data based on: assisted conceptions, early pregnancy loss, cesarean sections, antepartum complications, intra and postpartum complications and NICU admission. There were total of 13952 patients enrolled in the study which were divided in two groups; group A consists of 10324 women with age <35 years and group B consists of 3628 women with age ≥ 35 years. Out of 10324 women placed in group A, 3731 (36.1%) had cesarean section, 709 (6.9%) women had early pregnancy loss and 327 (3.2%) had assisted conception. On the other hand in group B out of 3628 patients, 1362 patients had cesarean sections, 547 (15.1%) had early pregnancy loss and 364 (10.1%) women had assisted conception. The difference in number of assisted pregnancies and early pregnancy loss between group A and group B was statistically significant with a p-value of <0.001*. However, the difference in number of cesarean sections between group A and group B was insignificant. Contemporary to the research, Pawde et al [14] reported that women with 35 years of age and above had significantly higher rates of assisted conception (12.6%) compared to (3.5%) in women with < 35 years old which in consonance to our observation, similarly they reported higher rates of early pregnancy (18.9%) in women

with 35 years of age and beyond compared to (10.5%) in women with < 35 years of age. Several authors [7, 15, 16] have reported the similar kind of observations with regard to early pregnancy losses and assisted conceptions. We analyzed patients for antepartum complications and observed that there is a significant difference between the two groups with respect hypertensive disorder and preterm delivery and both the groups are comparable with respect to gestational diabetes, induced labor and placenta previa complication; we observed that out of 10324 women in group A, 7658 had antepartum complications, of them 857 (11.2%) had preterm delivery, 825 (10.8%) had induced labour, 631 (8.2%) had hypertensive disorder of pregnancy, 559 (7.3%) had gestational diabetes mellitus. In group B out of 3628 women, 2691 developed antepartum complications, of them 517 (19.2%) had hypertensive disorder of pregnancy, 494 (18.4%) had preterm delivery, 261 (9.7%) had induced labour, 218 (8.1%) had gestational diabetes mellitus and 31 (1.2%) developed placenta previa. Most of the authors have also reported higher incidence of hypertensive disorders and placenta previa in women aged 35 years and above [17, 18]. Pawde et al [14] also reported significantly higher rates of hypertension (17.54%), preterm delivery (17.5%), gestational diabetes (10.52%) in women aging 35 years or above compared to hypertension (7.23%), preterm delivery (10.3%), gestational diabetes (6.43%) in women less than 35 years of age. However, Sahu et al [19] reported (10.1%) incidence

of hypertensive disorders among pregnancy in older women while as Chibber et al [20] and reported (6.1%) of incidence of hypertensive disorders among older women. Some papers have also reported significant difference between the two groups with respect to placenta previa, gestational diabetes [6, 18] however, we did not notice such type significance in our observations. We observed a cesarean rate of (36.1%) in group A compared to (40.5%) in group B, however the difference was statistically insignificant. Contrary, to our observation [1, 2] reported significantly higher rates of cesarean sections for group B. In present study we found that the difference in number of intrapartum and postpartum complications is statistically significant in favor of group A. we observed that out of 7658 women in group A, 71 (0.93%) had vaginal trauma and 178 (2.3%) had postpartum hemorrhage. However, in group B, out of 2691 women, 165 (6.1%) had vaginal trauma and 193 (7.2%) had postpartum hemorrhage. Labri et al [21] have also reported a significant difference between the two groups with respect to vaginal trauma and postpartum hemorrhage. However, Pawde et al [14] reported that (5.26%) of women with 35 years of age and above had intrapartum complications compared to (0.9%) in women with less than 35 years of age, reportedly there was a significant difference in intrapartum complications between the two groups, however, they found that both the groups are comparable with respect to postpartum complications. Due to some antenatal complications developed in patients in both the groups, we also studied neonatal outcome in terms of neonatal admission; we found that the percentage of NICU admissions in both the groups were statistically comparable with a p-value of (0.122) regardless of the fact that most of the antenatal complications were evidently from group B. Reportedly Pawde et al [14] has also made a similar observation; the insignificant difference between the two groups with respect to NICU admissions is essentially due to the time intervention of health care workers.

CONCLUSION

Extreme maternal age is undoubtedly attributed with some serious pregnancy issues. Apart from antenatal and postnatal complications, spontaneous conception becomes all the more challenging. The observations made in this study corroborate the negative impact of advanced maternal ages on pregnancy. Evidently we observed that women aging 35 years or above are more vulnerable to multiple intrapartum and postpartum complications than younger women. We suggest Obstetricians to provide the evidence based knowledge to women so that their procreate choices be optimized.

REFERENCES

1. Luke B, Brown MB. Elevated risk of pregnancy complications and adverse outcomes with increasing maternal age. *Hum Repro.* 2007;22:1264–72
2. Carloan MC, Davey M, Biro M, et al. Very advanced maternal age and morbidity in Victoria, Australia: a population based study. *BMC Pregnancy and Childbirth.* 2013;13:80–9
3. Carolan M, Nelson S. First mothering over 35 years: questioning the association of maternal age and pregnancy risk. *Health Care Women Int* 2007; 28(6): 534-55
4. Carolan MC. Towards understanding the concept of risk for pregnant women: some nursing and midwifery implications. *J Clin Nurs* 2009; 18(5): 652-8.
5. Shimrit SY, Amalia I, Arnon W, et al. A significant linear association exists between advanced maternal age and adverse perinatal outcome. *Arch Gynecol Obstet.* 2011;283 (4):755–59.
6. Yogev Y, Melamed N, Haroush B. Pregnancy outcome at extremely advanced maternal age. *Am J Obstet Gynecol* 2010;203: 558:e1–7.
7. Hsieh TT, Liou JD, Hsu JJ, et al. Advanced maternal age and adverse perinatal outcomes in Asian population. *Ejog* 2010; 148 (1):21–6.
8. Aldouss, M.B. and Edmonson, M.B. (1993) Maternal age at first childbirth and risk of low birth weight and preterm delivery in Washington State. *J. Am. Med. Assoc.*, 270, 2574–2577.
9. Cleary-Goldman J, Malone FD, Vidaver J, et al. Impact of maternal age on obstetric outcome. *Obstet Gynecol.* 2005;105:983–90.
10. Hansen, J.P. (1986) Older maternal age and pregnancy outcome: A review of the literature. *Obstet. Gynecol. Surv.*, 41, 726–742
11. Barkan, S.E. and Bracken, M. (1987) Delayed childbearing: No evidence for increased risk of low birth weight and preterm delivery. *Am. J. Epidemiol.*, 125, 101–109
12. Kirz, D.S., Dorchester, W. and Freeman, R.K. (1985) Advanced maternal age: The mature gravida. *Am. J. Obstet. Gynecol.*, 152, 7–12
13. Ales, K.L., Druzin, M.L. and Santini, D.L. (1990) Impact of advanced maternal age on the outcome of pregnancy. *Surg. Gynecol. Obstet.*, 171, 209–216.
14. Pawde Anuya A. • Kulkarni Manjiri P. Unni Jyothi Pregnancy in women aged 35 years and above: a prospective observational study *Journal of Obstetrics and Gynecology of India* (March–April 2015) 65(2):93–96 DOI 10.1007/s13224-014-0616-2
15. Leridon H. Can assisted reproductive technology compensate for the natural decline in fertility with age? A model assessment. *Hum reprod.* 2004;19:1548–53.
16. Delbaere I, Verstraelen H, Goetgeluk S, et al. Pregnancy outcome in primiparae of advanced maternal age. *Ejog.* 2007;135:41–6.
17. Jacobsson B, Ladfors L, Milsom I. Advanced maternal age and adverse perinatal outcome. *Obstet Gynecol.* 2004;104:727–33.
18. Weerasekera DS, Udugama SG. Pregnancy outcome at 40 and over: a case control study in a developing country. *J Obstet Gynecol.* 2003;23:625–7.
19. Sahu TM, Agarwal A, Das V. Advanced maternal age and obstetric outcome. *J Obstet Gynecol India.* 2007;57:320–3.
20. Chibber R. Problems of older maternal age and pregnancy outcome. *Bahrain Med Bull.* 2004; 26 (4).

21. Larbi RKT, Buchmann EJ, Matshidze PR, et al. Pregnancy outcome in urban black South African women aged 35 years and older. *J Obstet Gynaecol.* 2000;20:259–62