

DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20261595>

Original Research Article

Maternal and perinatal outcomes associated with advanced maternal age in an urban tertiary hospital in Nigeria: a prospective cohort study

Taiwo O. Kuye-Kuku^{1*}, Ayokunle M. Olumodeji¹, Folashade D. H. Olalere¹,
Joy O. Chionuma¹, Oladimeji O. Makinde¹, Modupe O. Adedeji¹,
U. O. Olumodeji², Isaac-Lan Oloke³

¹Department of Obstetrics and Gynaecology, Lagos State University Teaching Hospital, Lagos, Nigeria

²Department of Ophthalmology, Lagos State University Teaching Hospital, Lagos, Nigeria

³Department of Psychology, Lagos University Teaching Hospital Lagos, Nigeria

Received: 17 March 2026

Revised: 23 April 2026

Accepted: 05 May 2026

*Correspondence:

Dr. Taiwo O. Kuye-Kuku,

E-mail: bethkuku@yahoo.co.uk

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Advanced maternal age (AMA) is increasingly common worldwide and is associated with heightened maternal and perinatal risks. However, evidence from low- and middle-income countries, including Nigeria, remains limited. This study assessed the association between advanced maternal age and selected maternal and perinatal outcomes in an urban Nigerian tertiary hospital.

Methods: This was a prospective cohort study conducted at the Department of Obstetrics and Gynaecology, Lagos State University Teaching Hospital, Ikeja. Pregnant women with singleton gestations who booked for antenatal care in the first trimester were consecutively recruited and followed until delivery. Participants were categorized into advanced maternal age (≥ 35 years) and normal maternal age (< 35 years). Data on socio-demographic characteristics, obstetric history, and maternal and perinatal outcomes were collected using a standardized questionnaire. Statistical analysis was performed using statistical package for the social sciences (SPSS) version 26. Associations were assessed using Chi-square tests and logistic regression, with statistical significance set at $p < 0.05$.

Results: A total of 119 women were enrolled, of whom 45 (37.8%) were of advanced maternal age. Women in the AMA group were predominantly multiparous (70.3%), compared with an equal distribution of primiparous and multiparous women in the normal maternal age group ($p = 0.047$). Advanced maternal age was strongly associated with mode of delivery, with significantly higher caesarean section rates among AMA women (77.8% versus 43.7%; $p < 0.001$). Although not statistically significant, clinically relevant trends were observed in the AMA group, including higher rates of obesity and preterm delivery. Increasing maternal age was associated with higher odds of pregnancy-related diagnoses, though this did not reach statistical significance.

Conclusion: Advanced maternal age in this cohort was strongly associated with multiparity and a markedly increased likelihood of caesarean delivery.

Keywords: Advanced maternal age, Perinatal health, Pregnancy, Maternal health

INTRODUCTION

There is a global trend towards advanced maternal age, which poses a great burden on maternal and perinatal health and fetal health. Advanced maternal age (AMA) is

considered a risk factor for adverse birth outcomes.¹ The International Federation of Gynaecology and Obstetrics (FIGO) defines AMA as age ≥ 35 years at the time of expected delivery.¹ Other studies have extended this to very advanced maternal age > 40 years and extreme.² Studies have shown that women of advanced maternal age

are at a higher risk for complications such as antepartum hemorrhage, postpartum haemorrhage, operative delivery, hypertensive disorders of pregnancy anemia, gestational diabetes, preeclampsia, chromosomal abnormalities, preterm birth, intrauterine growth restriction, and stillbirth premature rupture of membranes, multiple pregnancies, and maternal deaths.³⁻⁶

According to the World Health Organisation (WHO), the prevalence of AMA is 12.3%, in 29 countries in Africa, Asia, Latin America, and the Middle East.⁶ Globally, the trend varies based on a variety of factors. Higher values are typically found in developed regions. For example, in Israel 4.57%, United Kingdom 18.8%, Norway 33.4%, Canada 33%, Iran 50.2%, Japan 31.1% and in USA 11% of primigravida were AMA.^{6,7} In contrast, lower values are observed in middle- and lower-income countries, such as Ethiopia 29.5%, Malaysia 14.8%, Nepal 2.8%, Brazil 5.9%, South Africa 17.7%, Cameroon 3% and DR Congo has a percentage of 18%.^{6,8}

In general, there is an increasing trend in late pregnancies, particularly in developed countries where education, delayed childbearing, career advancement, delayed marriage, contraceptives, socio-economy, and national policy, for instance, Japan's child policies.^{6,9} This trend is also evident in some African countries, including Nigeria. Cultural norms and access to healthcare still play a pivotal role in shaping maternal age and pregnancy outcomes.¹⁰ Despite some progress in recent years, the country is still faced with significant challenges in its efforts to lower the number of pregnancy-related problems and unfavourable outcomes.¹⁰

In Nigeria, there is a dearth of substantial evidence regarding the association of AMA with perinatal outcomes. Therefore, this study aims to assess the impact of AMA on a range of adverse pregnancy outcomes in order to contribute to the improvement of maternal health education and access to healthcare services for women considering delaying pregnancy or those who are already pregnant and concerned about the risk of developing complications due to their age, while attempting to address the growing trends of AMA in Nigeria.

METHODS

The study was conducted at the Department of Obstetrics and Gynaecology, Lagos State University Teaching Hospital, Ikeja, Lagos. The study population included pregnant women who attended the antenatal clinic at the Department of Obstetrics and Gynaecology, Lagos State University Teaching Hospital, Ikeja, Lagos. It was carried out between August and October 2025.

These criteria for inclusion were women who attended antenatal clinic in the first trimester, singleton pregnancy, and consented. Excluded were women with multiple gestations (such as twins or triplets).

Study design

The study is a prospective cohort design. A prospective study of 119 hospital-based pregnant women in the obstetrics department of Lagos State University Teaching Hospital 119 from first trimester attending the antenatal clinic at LASUTH were recruited for the study. Data collection was at the booking antenatal visit and the participants were followed prospectively to record delivery outcomes were consecutively recruited over three months. The information was obtained using a standardised questionnaire was used to collect data on participants' socio-demographic characteristics, such as age, marital status, educational level and socioeconomic status, body mass index (BMI), and medical condition before and during pregnancy.

Perinatal outcomes

Following delivery, data was collected on the following outcomes for each participant: mode of delivery (vaginal and caesarean section), baby birth, weight, estimated gestational age (EGA) at delivery, neonatal outcome (alive and stillbirth) and Apgar scores.

Statistical analysis

The data obtained was analyzed using the statistical package for social sciences (SPSS 26.0). Demographic and baseline variables were summarized using descriptive statistics expressed as mean (\pm standard deviation) or median and range for continuous variables and percentages for categorical variables. Comparison of continuous variables was done using the student's t- test and categorical variables were compared using the Chi square or Fisher's exact test as appropriate. Multivariable logistic regression was used to examine the relationship between predictor and outcome variables. Odd ratios were calculated at 95% confidence interval. $P < 0.05$ were considered significant.

Ethical considerations

This study adhered to the principles of medical ethics and ensured participant confidentiality. Approval was obtained from the LASUTH Health Research and Ethics Committee before data collection. Informed consent was obtained from all participants, and they have the right to withdraw from the study at any time without consequences.

RESULTS

A total of 119 participants were included in the study. The findings are presented in three parts: the descriptive characteristics of the study population, the results of the multivariate logistic regression for birth complications, and the bivariate analysis for perinatal outcomes. Descriptive characteristics of the study population in Table 1.

The mean age of the participants was 32.51±5.35 years. The cohort was divided into advanced maternal age (37.8%, n=45) and normal maternal age (61.3%, n=73).

The following analysis explored the association between maternal age (advanced versus normal) and six key demographic variables using the Pearson Chi-square test. A p<0.05 was considered statistically significant. There is a statistically significant association between maternal age

and religion (p=0.004), as the data shows a distinct difference in religious distribution between the two groups with AMA group been overwhelmingly Christian (86.4%), While the normal maternal age (NMA) group was also majorly Christian (61.6%), but a larger proportion of Muslim participants (38.4%) are in the Normal maternal age (NMA) compared to the AMA group where the Muslim population is (13.6%).

Table 1: Socio-demographic of the AMA and below 35 years age group.

Variable (total, N)	Category	Advanced maternal age [n (%)] 35 years and above	Normal maternal age below age-35 years [n (%)]	χ^2 (df)	P value
Religion (n=117)	Christian	38 (86.4)	45 (61.6)	8.138 (1)	0.004
	Muslim	6 (13.6)	28 (38.4)		
Ethnicity (n=117)	Yoruba	29 (64.4)	50 (69.4)	1.597 (3)	0.660
	Igbo	11 (24.4)	14 (19.4)		
	Hausa	1 (2.2)	4 (5.6)		
	Others	4 (8.9)	4 (5.6)		
Education (n=116)	Secondary	9 (20.5)	19 (26.4)	0.525 (1)	0.469
	Tertiary	35 (79.5)	53 (73.6)		
Marital status (n=117)	Single	0 (0.0)	4 (5.5)	4.100 (2)	0.129
	Separated	1 (2.3)	0 (0.0)		
	Married	43 (97.7)	69 (94.5)		
Occupation (n=71)	Self employed	9 (32.1)	19 (44.2)	1.867 (2)	0.393
	Employed	19 (67.9)	23 (53.5)		
	Student	0 (0.0)	1 (2.3)		
Parity (n=101)	Primiparous	11 (29.7)	32 (50.0)	3.940 (1)	0.047
	Multiparous	26 (70.3)	32 (50.0)		

There is a statistically significant association between maternal age and parity p=0.047). The AMA group was predominantly multiparous (70.3%), meaning the majority had given birth at least once before. Conversely, the NMA group was evenly split, with 50% being primiparous (first-time mothers) and 50% being multiparous. There was no statistically significant association found between maternal age and marital status (p=0.129). This variable showed very little variation. The vast majority of participants in both groups were married (97.7% of AMA and 94.5% of NMA). There was no statistically significant association between maternal age and ethnicity p=0.660). The ethnic distribution was very similar across both age groups. Both were composed primarily of Yoruba participants (64.4% in AMA, 69.4% in NMA), followed by Igbo (24.4% versus 19.4%). There was no statistically significant association between maternal age and education level (chi square=0.525, p=0.469).

A large majority of participants in both groups had a tertiary-level education (79.5% of AMA and 73.6% of NMA). There was no statistically significant association found between maternal age and occupation (p=0.393). The distribution of occupations was broadly similar, with "employed" being the largest category in both groups (67.9% in AMA, 53.5% in NMA). It is also important to note the smaller sample size for this variable (n=71).

Clinical interpretation of findings

The analysis revealed a highly statistically significant clinical strong association between maternal age and the mode of delivery (p<0.001) as the data showed that mothers in the AMA group had a substantially higher rate of caesarean sections (77.8%) compared to the NMA group (43.7%).

The analyses for the remaining five variables did not yield statistically significant results. However, several findings present clinically relevant patterns despite the fact that they limited by statistical. There was no statistically significant association found between maternal age and maternal BMI category (chi square=7.112, p=0.068) as the result did not reach the p<0.05 threshold due to the p=0.068 which suggests a potential trend that may be clinically meaningful as data showed a higher prevalence of obesity in the AMA group (51.6%) compared to the NMA group (40.0%), this pattern is consistent with the general population trends where obesity prevalence increases with age (Table 2).

The association between maternal age and gestational age at delivery was not statistically significant (2(4)=7.353, p=0.118) but despite the non-significant p value, the raw percentages show a pattern that warrants clinical attention as the AMA group had a visibly higher proportion of

preterm births, particularly in the "moderate late preterm" category (47.7% for AMA versus 27.0% for NMA). Conversely, the NMA group had a much higher rate of "completed weeks" (full-term) deliveries (60.3% versus

36.4%). In Table 3, a Chi-square test of independence was performed to examine the relationship between maternal age (advanced versus normal) and key perinatal outcomes.

Table 2: Bivariate analysis of association between maternal age and clinical characteristics.

Variable (total, N)	Category	Advanced maternal age [N (%)]	Normal maternal age [N (%)]	χ^2 (df)	P value
Delivery mode (n=116)	Caesarean	35 (77.8)	31 (43.7)	13.072 (1)	<0.001
	Vagina	10 (22.2)	40 (56.3)		
Who (bmi) (n=81)	Underweight	2 (6.5)	9 (18.0)	7.112 (3)	0.068
	Normal weight	2 (6.5)	11 (22.0)		
	Overweight	11 (35.5)	10 (20.0)		
	Obese	16 (51.6)	20 (40.0)		
Gestation age (n=107)	Extremely preterm	1 (2.3)	1 (1.6)	7.353 (4)	0.118
	Very preterm	5 (11.4)	4 (6.3)		
	Preterm	21 (47.7)	17 (27.0)		
	37-40 weeks	16 (36.4)	38 (60.3)		
	40-42 weeks	1 (2.3)	3 (4.8)		
Birth weight (kg) (n=116)	<1.5	1 (2.2)	2 (2.8)	0.999 (2)	0.607
	<2.5	8 (17.8)	8 (11.3)		
	2.5-3.5	36 (80.0)	61 (85.9)		
Pregnancy diagnosis (n=58)	Prolonged labour	1 (3.8)	2 (6.3)	10.799 (11)	0.460
	Diabetes mellitus	2 (7.7)	1 (3.1)		
	PIH	13 (50.0)	11 (34.4)		
	Intrauterine growth restriction	0 (0.0)	2 (6.3)		
	Rupture of membrane	1 (3.8)	0 (0.0)		
	Birth asphyxia	0 (0.0)	1 (3.1)		
	Prolonged/ difficult labour	1 (3.8)	0 (0.0)		
	Third/ fourth degree laceration	0 (0.0)	2 (6.3)		
	Fibroid	0 (0.0)	1 (3.1)		
	Anaemia in pregnancy	1 (3.8)	1 (3.1)		
	APH	1 (3.8)	1 (3.1)		
Preterm birth	11 (34.4)	6 (23.1)			

Table 3: Association between maternal age and perinatal outcomes.

Variables	Advanced maternal age	Normal maternal age	χ^2 (df)	P value
Birth weight	n=44 (%)	n=70 (%)		
Very low	1 (2.3)	2 (2.9)	1.036 (2)	0.596
Low	8 (18.2)	8 (11.4)		
Normal	35 (79.5)	60 (85.7)		
NICU/SCBU admission	n=42 (%)	n=64 (%)		
Yes	23 (54.8)	43 (67.2)	1.666 (1)	0.197
No	19 (45.2)	21 (32.8)		
Apgar score (1 min)	8.0 (1.0)	8.0 (1.0)	1245.50	0.295 ^u
Apgar score (5 min)	9.0 (1.0)	9.0 (.0)	1207.00	0.131 ^u

U=Mann-Whitney U statistic, Z=Z-score approximation, p value based on asymptotic significance (2-tailed)

Maternal age and birth weight

Maternal age did not significantly influence birth weight categories. While the advanced maternal age group had a slightly higher percentage of "low birth weight" infants (18.2%) compared to the normal age group (11.4%), this variation was not statistically significant ($\chi^2=1.036$,

$p=0.596$). The majority of infants in both groups had normal birth weights (79.5% versus 85.7%).

Maternal age and NICU/SCBU admission, there was no significant association between maternal age and the likelihood of NICU admission (Chi square=1.666, $p=0.197$). Interestingly, the normal maternal age group

actually had a higher rate of admission (67.2%) compared to the advanced maternal age group (54.8%), though this difference did not reach statistical significance.

A Mann-Whitney U test was conducted to determine if there were differences in neonatal Apgar scores between mothers of advanced age (n=41) and mothers of normal age (n=68).

1-minute Apgar

Distributions of the 1-minute Apgar scores were similar for both groups. There was no statistically significant difference in scores between the advanced maternal age group (mean rank=51.38) and the normal maternal age group (mean rank=57.18); U=1245.50, z=-1.05, p=0.295.

5-minute Apgar

Similarly, at 5 minutes, the scores did not differ significantly. The advanced maternal age group (mean rank=50.44) and the normal maternal age group (mean rank=57.75) showed comparable distributions; U=1207.00, z=-1.51, p=0.131.

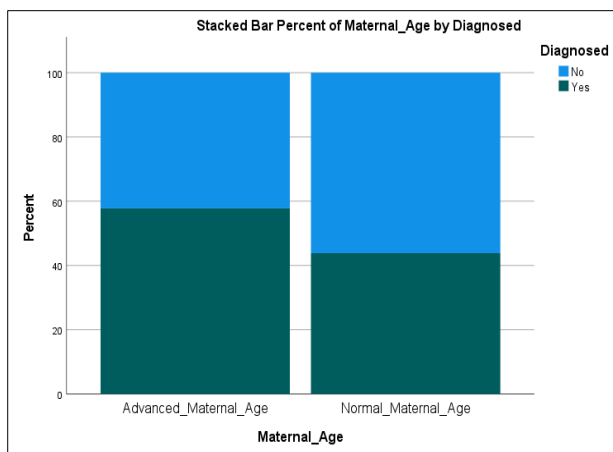


Figure 1: Stacked bar percentage of maternal age.

DISCUSSION

The sociodemographic composition of the study population reveals a relatively homogenous and urbanized cohort typical of women accessing tertiary care. The mean maternal age approximated 32 years, with over one-third (37.8%) having advanced maternal age (≥ 35 years). This age pattern > 35 years aligns with recent demographic transitions in Nigeria, where delayed childbearing has become more prevalent due to educational attainment, career advancement, delayed marriage, contraceptives, urban setting, and socioeconomic stability.¹⁰⁻¹² The narrative has been enhanced through assisted reproductive techniques and donor egg opportunities extending into menopause.¹⁴ The majority of the women in the study were multiparous. While some studies have linked AMA to nulliparity, others have associated multiparity with

extended childbearing age due to factors such as remarriage, contraceptive failure, cultural influences, religious beliefs, and preferences for the sex of children.^{6,11,12} The findings of this study showed that multiparity was statistically significant, as a high proportion of women with AMA were multiparous.

In terms of education, a higher proportion of the AMA group 79% had tertiary education, against the women age group below 35 years 73%. The high level of education is consistent with the urban setting of the hospital, though not statistically significant. This shows that other co-founding factors beyond education determine the continuity of childbirth beyond 35 years. The predominance of married women among the two groups suggests strong social support, an important determinant of antenatal adherence and birth preparedness.

The majority of deliveries occurred via caesarean section (56.3%), a figure considerably higher than WHO recommendations but characteristic of tertiary centers that manage high-risk pregnancies and referrals for obstetric complications. The study showed that the majority of women in AMA group had cesarean delivery. This finding is consistent with established clinical practice that puts advanced maternal age as an independent risk factor for a host of pregnancy complications (such as pre-eclampsia, maternal exhaustion, and fetal distress), problems of labour such as prolonged labor with age, slow progress of labor, impaired uterine contractility, and uterine dysplasia that often necessitate prompt delivery to prevent adverse pregnancy outcome.^{2,16} Furthermore, there is often a lower clinical threshold for obstetric intervention in older mothers, either from maternal wish or physician's anxiety alike, leading to a higher rate of both planned and emergency C-sections. This has been seen in other studies, even in developed countries, where women above 40 years and doctors choose abdominal delivery in the absence of any obstetric complications.¹⁶

The complications encountered were diabetes, hypertension, prolonged labour, premature rupture of membrane, intrauterine growth restriction, preterm birth, and antepartum hemorrhage. This has been documented in several studies.^{1,2,6,7,9,10,16} Maternal age showed non-significant but clinically plausible trends. Advanced maternal age was associated with increased odds of complications (aOR=1.11, p=0.08), consistent with evidence linking ageing oocytes and comorbid conditions such as hypertension and diabetes to adverse intrapartum outcomes. The study showed that the AMA age group had more women with pregnancy-induced hypertension and preterm birth, as seen in the literature.^{1,6,8,10,11,13} According to the American College of Obstetrics and Gynaecology (ACOG) AMA women are two to four times more at risk of chronic hypertension.¹ Hypertensive disease has been found among AMA women and it mirrors the findings in several studies. The bedrock endothelial dysfunction, decreased uterine receptivity, vascular age stiffness, inflammatory stress and coexisting comorbidities.^{1,2} The

presence of hypertensive disease in pregnancy is a precipitator for early delivery and may account for the higher level of preterm birth among the AMA age group as observed in other studies.¹⁹

Notably, the study demonstrated that AMA did not have a statistically significant effect on perinatal outcomes, which encompassed birth weight, Apgar scores, and neonatal admissions. While some studies corroborated this finding, other research indicated that AMA was associated with reduced Apgar scores and birth weights, as well as an increase in neonatal admissions and birth weight increasing neonatal admissions.²

Limitations

Future research should employ larger, multi-centre cohorts to enhance statistical power and explore the mechanistic pathways linking maternal age, gestational weight trajectories, and neonatal outcomes in diverse Nigerian populations. Furthermore, qualitative research could be employed to explore underlying reasons for the apparent protective association of lower income with reduced complications, particularly in relation to healthcare access and health-seeking behaviour.

CONCLUSION

In conclusion, the study reinforces the multidimensional nature of maternal and perinatal health of women of advanced maternal age in which biological, behavioural, and socioeconomic determinants interact. Comprehensive preconception care, personalised counselling, and tailored pregnancy management are essential for ensuring the health and well-being of women of advanced maternal age. Thereby, prioritizing these approaches, we can significantly enhance outcomes for both mothers and their babies.

ACKNOWLEDGEMENTS

Authors would like to thank all the mothers who participated in the study for their contribution.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Pregnancy at Age 35 Years or Older: ACOG Obstetric Care Consensus No. 11. *Obstet Gynecol.* 2022;140(2):348-66.
2. Glick I, Kadish E, Rottenstreich M. Management of Pregnancy in Women of Advanced Maternal Age: Improving Outcomes for Mother and Baby. *Int J Womens Health.* 2021;13:751-9.
3. Khanolkar AR, Hanley GE, Koupil I, Janssen PA. 2009 IOM guidelines for gestational weight gain: how well do they predict outcomes across ethnic groups? *Ethn Heal.* 2020;25(1):110-25.
4. Dabiran S, Khosravi S, Pournali L, Ayati S, Ardebili ZM, Delavari S. Childbearing in Advanced Maternal Age and Pregnancy Outcomes: A Cross-Sectional Study. *J Obstet Gynecol Cancer Res.* 2023;8(1):35-40.
5. Attali E, Yogev Y. The impact of advanced maternal age on pregnancy outcome. *Best Pract Res Clin Obstet Gynaecol.* 2021;70:2-9.
6. Mersha A, Ayele G, Worku T, Zerdo Z, Shibiru S, Bante A, et al. Association between maternal age and adverse perinatal outcomes in Arba Minch zuria, and Gacho Baba district, southern Ethiopia: a prospective cohort study. *BMC Pregnancy Childbirth.* 2020;20(1):590.
7. Mnabwiru LR, Cho YS, Mahande MJ, Mazugun N, Mchome BL, Park EY. Impact of advanced maternal age on perinatal outcomes in Tanzania: Insights from Kilimanjaro Christian Medical Center Birth Registry. *Heliyon.* 2024;10(2):e24608.
8. Shan D, Qiu PY, Wu YX, Chen Q, Li AL, Ramadoss S, et al. Pregnancy Outcomes in Women of Advanced Maternal Age: a Retrospective Cohort Study from China. *Sci Rep.* 2018;8(1):12239.
9. Correa-de-Araujo R, Sarah Yoon SS. Clinical Outcomes in High-Risk Pregnancies Due to Advanced Maternal Age. *J Women's Health.* 2021;30(2):160-7.
10. Oladipo IA, Akinwaare MO. Trends and patterns of maternal deaths from 2015 to 2019, associated factors and pregnancy outcomes in rural Lagos, Nigeria: a cross-sectional study. *Pan Afr Med J.* 2023;44:185.
11. Orazulike NC, Jeremiah I, Green KI, Uzoigwe SA. Effect of Age on Childbearing in Port Harcourt, Nigeria. *Int J Biomed Sci.* 2015;11(2):82-5.
12. Muhammad RA, Adesiyun AG. Advanced Maternal Age: Correlates and Awareness of Complications among Antenatal Clinic Attendees in a Northern Nigerian Tertiary Hospital. *J Med Bas Sci Res.* 2022;3(2):117-22.
13. Awoyesuku P, Okagua E, Iwo-Amah S, Ohaka C, Altraide Oi, Kwosah J. Pregnancy outcomes in women of advanced maternal age: A retrospective cohort study. *Int J Clin Obstet Gynaecol.* 2024;8(2):20-8.
14. Masembe S, Migisha R, Turyasingura G, Aheisibwe H, Nzabandora E, Lule JC. Adverse maternal outcomes and associated factors among mothers of advanced age delivering at a tertiary hospital, southwestern Uganda: a cross-sectional study. *BMC Pregnancy Childbirth.* 2024;24(1):348.
15. Dangat K, Gupte S, Wagh G, Lalwani S, Randhir K, Madiwale S, et al. Gestational weight gain in the REVAMP pregnancy cohort in Western India: Comparison with international and national references. *Front Med (Lausanne).* 2022;9:1022990.
16. Huang C, Jiang Q, Su W, Lv F, Zeng J, Huang P, et al. Age-specific effects on adverse pregnancy outcomes vary by maternal characteristics: a

population-based retrospective study in Xiamen, China. *BMC Public Health*. 2023;23(1):326.

17. Smithson SD, Greene NH, Esakoff TF. Pregnancy outcomes in very advanced maternal age women. *Am J Obstet Gynecol MFM*. 2022;4(1):100491.
18. Ahmed HM, Walke KF. Evidence-based management of women of advanced maternal age. *Obstet Gynaecol Reprod Med*. 2025;35(2):32-6.
19. Brown HK, McKnight A, Aker A. Association between pre-pregnancy multimorbidity and adverse

maternal outcomes: A systematic review. *J Multimorb Comorb*. 2022;12:26335565221096584.

Cite this article as: Kuye-Kuku TO, Olumodeji AM, Olalere FDH, Chionuma JO, Makinde OO, Adedeji MO, et al. Maternal and perinatal outcomes associated with advanced maternal age in an urban tertiary hospital in Nigeria: a prospective cohort study. *Int J Reprod Contracept Obstet Gynecol* 2026;15:1924-30.