

Outcomes of Multiple Gestation in a Nigerian Tertiary Hospital in Nnewi, Nigeria

Osita Samuel Umeononihu^{1,2}, Chioma Edeh², George Uchenna Eleje^{1,2*}, Obinna Chukwuebuka Nduagubam³, Charlotte Blanche Oguejiofor², Chukwunonso Isaiah Enechukwu², Chukwuemeka Chukwubuike Okoro², Chigozie Geoffrey Okafor², Arinze Chidiebele Ikeotuonye², Chukwudubem Chinagorom Onyejiaka², Sylvester Onuegbunam Nweze⁴, Ekene Agatha Emeka⁵, Kingsley Emeka Ekwuazi⁶, Onyeka Chukwudalu Ekwebene⁷, Nnanyereugo Livinus Onah⁴, Chidinma Theresa Ezidiegwu⁸, Chukwuemeka Jude Ofojebe^{1,2}, Chijioke Ogomgbunam Ezeigwe^{1,2}, Onyecherelam Monday Ogelle^{1,2}, Chekwube Martin Obianyo⁹, Johnbosco Emmanuel Mamah¹⁰, Chisom God'swill Chigbo¹¹, Chukwuemeka Chidindu Njoku², Chukwunwendu Alloysius Okeke², and Gerald Okanandu Udigwe^{1,2}

¹Department of Obstetrics and Gynaecology, Nnamdi Azikwe University, Awka, Nigeria

²Department of Obstetrics and Gynaecology, Nnamdi Azikwe University Teaching Hospital, Nnewi, Nigeria

³Department of Paediatrics, Enugu State University Teaching Hospital (ESUTH), Parklane, Enugu, Nigeria

⁴Department of Obstetrics and Gynecology, ESUT Teaching Hospital, Parklane, Enugu, Nigeria

⁵Department of Family Medicine, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria

⁶Department of Obstetrics and Gynaecology, College of Medicine, University of Nigeria Ituku-Ozalla, Enugu, Nigeria

⁷Department of Biostatistics and Epidemiology, East Tennessee State University, Johnson City, Tennessee USA

⁸Department of Internal Medicine, Aiken Regional Medical and Mental Health Center, Aiken, South Carolina, USA

⁹Jiann-Ping Hsu College of Public Health, Georgia Southern University, Georgia, USA.

¹⁰Department of Obstetrics and Gynecology, Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Nigeria

¹¹School of Public Health, University of Port Harcourt, Port Harcourt, Nigeria

*Corresponding author:

DR. GEORGE UCHENNA ELEJE,
Effective Care Research Unit,
Department of Obstetrics and
Gynaecology, Nnamdi Azikiwe
University, Awka (Nnewi Campus),
P.M.B. 5001 Nnewi, Anambra State,
Nigeria. Tel: +234806811744.

Received: May 12, 2025;

Accepted: May 19, 2025;

Published: May 26, 2025

ABSTRACT

Background: Multiple pregnancies are high-risk pregnancies associated with an increased likelihood of adverse maternal and perinatal outcomes. The global incidence of multiple gestations is rising, yet recent data on their prevalence and outcomes at the University Teaching Hospital in Nnewi, are limited.

Objective: To determine the prevalence, associated risk factors, and maternal and fetal outcomes of multiple gestations at Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi, Nigeria.

Materials and Methods: This was a retrospective review of obstetric records and case notes of pregnant women who delivered multiple gestations at NAUTH between June 1, 2018, and May 31, 2022. A total of 117 cases were analyzed. Data were processed using SPSS version 25.0, employed for statistical analysis.

Results: The prevalence of multiple gestation was 3.7%, higher than some national averages reported in Nigeria. The main associated risk factors included maternal age >30 years (70.1%), high parity (44.4%), a family history of multiple gestation (41.0%), and assisted reproduction (12.0%). Maternal complications were common, with the most frequent being preterm labour (52.1%), premature rupture of membranes (32.5%), and hypertensive disorders (14.5%). Fetal complications included low birth weight (61.8%), special care baby unit (SCBU) admission (26.9%), and fetal distress (16.9%). Fetal mortality occurred in 8.8% of cases.

Conclusion: The prevalence of multiple gestation at NAUTH is relatively high and is associated with significant maternal and perinatal complications. These findings underscore the need for improved antenatal surveillance and tailored obstetric care for multiple pregnancies.

Keywords: Multiple Gestation, Maternal Outcomes, Fetal Complications, Nigeria, Prevalence.

Citation: Osita Samuel Umeononihu, Chioma Edeh, George Uchenna Eleje, Obinna Chukwuebuka Nduagubam, Charlotte Blanche Oguejiofor, et al. (2025) Outcomes of Multiple Gestation in a Nigerian Tertiary Hospital in Nnewi, Nigeria. J Gyne Womens Heal Care 1: 1-7.

Introduction

Multiple pregnancy refers to a gestation in which the uterus contains more than one fetus, most commonly twins, though higher-order multiples can occur [1, 2]. Globally, multiple gestation is considered a high-risk pregnancy due to its association with an increase in adverse maternal and perinatal outcomes, including preterm delivery, low birth weight, and hypertensive disorders [3, 4]. These complications not only pose medical risks but also result in significant social and financial implications for families and healthcare systems [5].

The global incidence of multiple pregnancies varies, with monozygotic twinning occurring at a relatively constant rate of 3–4 per 1,000 live births worldwide [6]. However, the incidence of dizygotic (fraternal) twinning differs widely by population and region. Africa, particularly Nigeria, has the highest rates of multiple births globally. National estimates in Nigeria range from 28 to 49 per 1,000 live births, and can be as high as 68.1 per 1,000 live births among the Yoruba ethnic group in the southwest, representing the highest twinning rate documented globally [1, 7, 8].

Several risk factors have been implicated in the increased occurrence of multiple gestations. These include advanced maternal age, high parity, a positive family or personal history of multiple births, use of ovulation-inducing medications, obesity, and assisted reproductive technologies [3, 4, 9].

Maternal complications associated with multiple pregnancies include hypertensive disorders such as preeclampsia, postpartum haemorrhage, gestational diabetes, anaemia, increased likelihood of caesarean delivery, and longer hospital stays [10–13]. Perinatal complications are often due to prematurity and include low birth weight, respiratory distress, intrauterine growth restriction, low Apgar scores, neonatal jaundice and sepsis, special-care baby unit (SCBU) admission, and increased perinatal mortality [14–17].

While numerous studies have evaluated the impact and outcomes of multiple gestations globally and nationally, there is a paucity of recent data specific to Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi [18–20]. A better understanding of the local prevalence, risk factors, and outcomes is essential to inform clinical practice and improve maternal and neonatal health outcomes in the region. This study is aimed at determining the prevalence of multiple gestation at NAUTH, Nnewi, identify the associated risk factors for multiple gestation, and assess maternal and fetal outcomes of multiple gestation.

Materials and Method

This study was a retrospective descriptive cross-sectional review conducted over a five-year period. The labour ward delivery registers at Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi, Anambra State, were reviewed to identify all cases of multiple gestations delivered between June 1st, 2018, and May 31st, 2022.

Sampling and Inclusion Criteria

All women who had multiple deliveries during the study period and whose complete medical records were available were in-

cluded. Cases with incomplete or missing records were excluded from the analysis.

Data Collection Tool

A structured data extraction proforma was used to collate relevant information from the patients' case folders. The proforma, which was developed specifically for this study based on a review of relevant literature and existing data tools, captured socio-demographic characteristics, booking status, chorionicity, mode of conception, associated risk factors, route of delivery, gestational age at delivery, and maternal and fetal complications. The patients' hospital identification numbers were used to retrieve their medical records from the hospital's records department.

Data Analysis

Data were entered and analyzed using the Statistical Package for Social Sciences (SPSS), version 25.0. Descriptive statistics were used to summarize the data. The chi-square test was employed to assess associations between categorical variables, with a p-value of <0.05 considered statistically significant.

Ethical Considerations

Ethical approval was granted by the NAUTH Research and Ethics Committee, under approval number NAUTH/CS/66/VOL 15/VER 3/121/2022/068. Patient confidentiality was maintained through anonymisation of records. Patient confidentiality was maintained throughout the study by anonymizing data and ensuring that all records were handled in compliance with institutional guidelines on data protection and privacy.

Results

Out of 3,683 deliveries recorded at Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi, during the study period, 138 were multiple gestations, giving a prevalence of 3.7% (37 per 1,000 births). Of these, 117 case notes were retrieved (folder retrieval rate: 84.8%).

Socio-demographic Characteristics

Table 1 shows the analysis of socio-demographic variables. The modal age group was 30–34 years (40.2%). Women aged ≥35 years constituted 29.9%, while those <20 years were 2.6%. Multiparity (44.4%) was most common, followed by nulliparity (36.8%) and primiparity (18.8%). Booking status was near evenly split: 53.0% booked and 47.0% unbooked.

Obstetric Features among Parturient with Multiple Gestation

Table 2 shows the analysis of obstetric variables. Majority of the pregnancies- 96(82.0%) were achieved through natural conception while 14(12.0%) was achieved through assisted reproduction. The mode of conception was not specified in 7(6.0%) of the women. Out of the 117 women evaluated, 104(88.9%) had twin delivery, 11(9.4%) had delivery of triplets and 2(1.7%) delivered quadruplet. The chorionicity was not specified in almost half- 49(41.9%) of the women. The commonest documented chorio-amniocity was dichorionic-diamniotic (DCDA) which was present in 48(41.0%) of the deliveries, followed by mono-chorionic-diamniotic in 17(14.5%) while the least was mono-

chorionic-monoamniotic present in 3(2.6%) of the deliveries. Majority of the deliveries 78(66.7%) occurred through caesarean section (CS), of which majority-63(80.8%) were emergency and 15 (19.2%) were elective CS.

A total of 249 babies were delivered from the 117 multiple pregnancies evaluated. 97(38.9%) had normal birth weight; 96(35.6%) had low birth weight, 37(14.9%) had very low birth weight and 19(7.6%) had extreme low birth weight. Apgar scores were normal in 209(83.9%) and 214(86.0%) of the babies in 1st and 5th minutes respectively.

Associated Risk Factors of Multiple Gestation

Table 3 and Figure 1 illustrate the associated risk factors for multiple pregnancy. Notable associated risk factors for multiple gestation included advanced maternal age ≥ 35 years (29.9%), high parity (44.4%), family history of multiple gestation (41.0%), and use of assisted reproduction (12.0%).

Maternal Outcomes and Complications

Table 4 and Figure 2 show the maternal outcomes and complications of multiple pregnancy. No maternal death was recorded. Identified maternal complications include preterm labour which occurred in 61(52.1%); premature rupture of membrane in 38(32.5%); hypertensive disorders in 17(14.5%); postpartum haemorrhage in 9(7.7%); abruption placenta in 5(4.3%); placenta previa in 4(3.4%); anaemia in pregnancy in 12(10.3%); and gestational diabetes in 3(2.6%) of the 117 women with multiple gestations. More than one of these complications occurs in some participants while none of these complications was recorded in 29(24.8%) of the participants.

Fetal Outcome and Complications

Table 5 and figure 3 show the fetal outcomes and complications of multiple pregnancy. Out of the 249 babies delivered from multiple gestation, fetal death was recorded in 22(8.8%) of the babies and this involved 10 miscarriages and 12 still births. 154(61.8%) had birth weight less than 2.5kg; 67 (26.9%) was admitted to special care baby unit; 42(16.9%) had fetal distress; and 35(14.1%) had APGAR score less than 7 in 5th minute. There was only 1(0.4%) gross fetal abnormality (extra digit) recorded among the participants.

The association of maternal complications and fetal outcomes of the participants was shown in Table 7, which showed no significant differences between booked and unbooked women. For instance, anaemia occurred in 8.1% of booked versus 12.7% of unbooked women ($p = 0.564$), and hypertensive disorders in 9.6% versus 20.0% ($p = 0.225$). Preterm labour was more frequent among unbooked women (60.0% vs. 45.2%), though not statistically significant ($p = 0.522$).

Fetal complications showed significant differences: low birth weight was more common in unbooked women (76.1% vs. 49.6%, $p = 0.039$), as was birth asphyxia (19.7% vs. 9.2%, $p = 0.042$). Other outcomes like fetal distress (20.5% vs. 13.7%, $p = 0.355$) and fetal death (11.1% vs. 6.87%, $p = 0.394$) were higher in unbooked women but not statistically significant.

Table 1: Analysis of Socio-demographic Variables

Variable	Options	Frequency n (%) N=117
Age (years)	<20 20-24 25-29 30-34 >34	3 (2.6) 11 (9.4) 21 (17.9) 47 (40.2) 35 (29.9)
Education	No formal Primary Secondary Tertiary	2 (1.7) 5 (4.3) 76 (65.0) 34 (29.0)
Occupation	House wife Trader Civil servant Others	27 (23.1) 43 (36.8) 17 (14.5) 30 (25.6)
Parity	Nullipara Primipara Multipara	43 (36.8) 22 (18.8) 52 (44.4)
Booking status	Booked Unbooked	62 (53.0) 55 (47.0)

Table 2: Analysis of Obstetric Variables

Variable	Options	Frequency n (%)
Mode of conception	Natural Assisted Unspecified	96 (82.0) 14 (12.0) 7 (6.0)
Order of multiple gestation	Twins Triplet Quadruplet	104 (88.9) 11 (9.4) 2 (1.7)
Chorionicity	DCDA MCDA MCMA Unspecified	48 (41.0) 17 (14.5) 3 (2.6) 49 (41.9)
Gestational age at delivery (weeks)	<28 28-33 34-36 ≥ 37	13 (11.1) 23 (19.7) 39 (33.3) 42 (35.9)
Mode of delivery	Caesarean section Vaginal delivery	78 (66.7) 39 (33.3)
Type of CS	Elective Emergency	15 (19.2) 63 (80.8)
Birth weight (kg)	<1.0 1.0-1.4 1.5-2.4 ≥ 2.5	19 (7.6) 37 (14.9) 96 (35.6) 97 (38.9)
Apgar score at 1min	0-3 4-6 >6	26 (10.4) 14 (5.6) 209 (83.9)
Apgar score at 5min	0-3 4-6 >6	22 (8.8) 13 (5.2) 214 (86.0)

Abbreviations: CS=caesarean section

Table 3: Associated Risk Factors

Risk factor	Frequency n (%) N=117
Advanced maternal age	35 (29.9)
Family history	48 (41.0)
Assisted reproduction	14 (12.00)
High parity	52 (44.4)

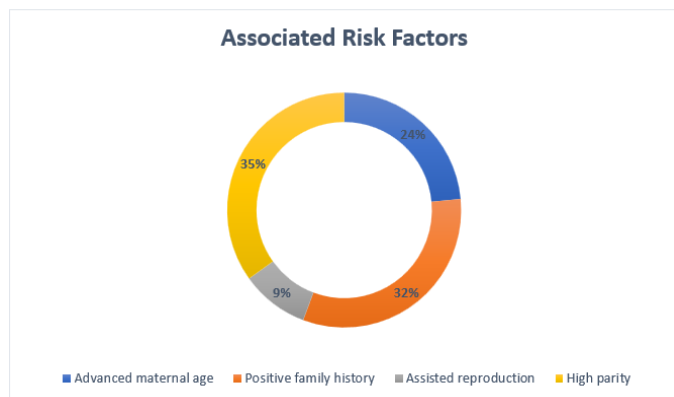


Figure 1: Associated risk factors for multiple gestation

Table 4: Maternal Complications of Multiple Pregnancy

Complication	Frequency n (%) N=117
Anaemia in pregnancy	12 (10.3)
Post-partum haemorrhage	9 (7.7)
Uterine atony	6 (5.1)
Genital laceration	2 (1.7)
Retained product	1 (0.9)
Abruptio placentae	5 (4.3)
Placenta praevia	4 (3.4)
Hypertensive disorders	17 (14.5)
PIH	2 (1.7)
Preeclampsia	8 (6.8)
Superimposed preeclampsia	5 (4.3)
Eclampsia	2 (1.7)
Gestational diabetes	3 (2.6)
PROM	38 (32.5)
Preterm labour	61 (52.1)

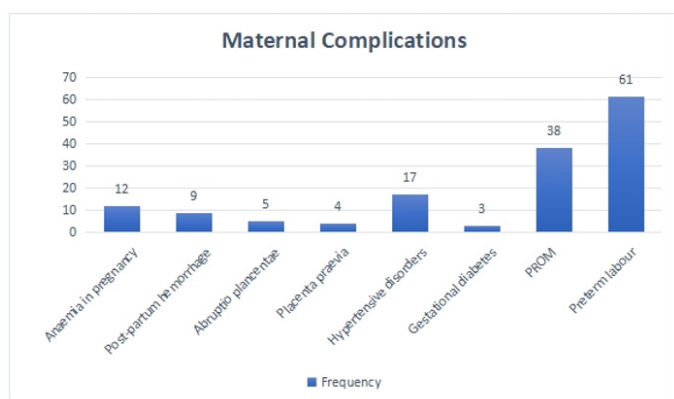


Figure 2: Maternal complications in multiple gestation

Table 5: Fetal complications of multiple pregnancy

Complication	Frequency n (%) N=249
Fetal distress	42 (16.9)
Low birth weight	154 (61.8)
Birth asphyxia	35 (14.1)
Gross fetal anomaly	1(0.4)
SCBU admission	67 (26.9)
Fetal death	22 (8.8)

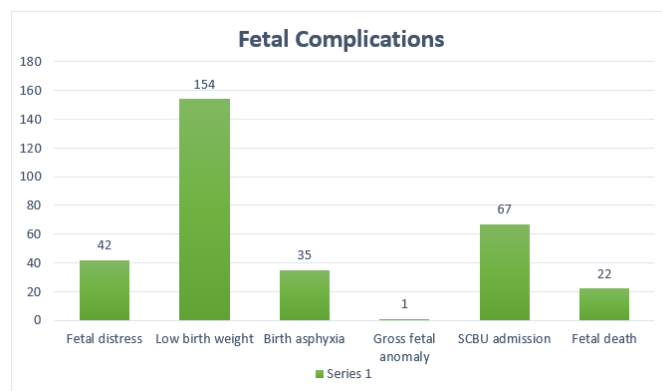


Figure 3: Fetal complications in multiple gestation

Table 6: Association of Complications and Booking Status

Complication/ Booking Status	Frequency n (%)			
	Booked (n = 62)	Unbooked (n = 55)	X2	p- value
Maternal complications				
Anaemia in pregnancy	5 (8.1))	7 (12.7)	0.333	0.564
Post-partum haemorrhage	3 (4.8)	6 (10.9)	1.000	0.317
Abruptio placentae	2 (3.2)	3 (5.5)	0.200	0.655
Placenta praevia	3 (4.8)	1 (1.8)	1.000	0.317
Hypertensive disorders	6 (9.6)	11 (20.0)	1.471	0.225
Gestational diabetes	1 (1.6)	2 (3.6)	0.333	0.564
PROM	18 (29.0)	20 (32.7)	0.105	0.746
Preterm labour	28 (45.2)	33 (60.0)	0.410	0.522
Fetal complications				
Fetal distress	18 (13.7)	24 (20.5)	0.857	0.355
Low birth weight	65 (49.6)	89 (76.1)	5.41	0.039
Birth asphyxia	12 (9.2)	23 (19.7)	4.98	0.042
Gross fetal anomaly	0	1 (1.8)	-	-
SCBU admission	35 (26.7)	32 (27.4)	0.134	0.714
Fetal death	9 (6.87)	13 (11.1)	0.727	0.394

Abbreviations: PROM=Premature rupture of membranes; SC-BU=special care baby unit.

Discussion

Twin gestation was the most common form of multiple gestation, accounting for 88.9% of the cases at NAUTH, Nnewi. This is similar to the 92.1% reported by Omoikhefe et al in Port Harcourt and aligns with findings from multiple studies on multiple gestations worldwide [1]. The prevalence of multiple gestation in this study was 3.7%, which is higher than the 2.4% reported by Adewale et al in Bida, Niger State in Nigeria; the 2.9% reported by Omoikhefe et al in Port Harcourt in Nigeria; and the 1.7% reported by Yeasmin in Bangladesh. However, it is comparable to the 3.6% reported by Oriji et al in Yenagoa in Nigeria and by Wekere et al in Rivers State in Nigeria [1-4, 21]. This high prevalence may be attributed to the hospital's role as a referral center for high-risk pregnancies and those at risk of preterm delivery.

The mean age of participants was 31.65 ± 7.82 years, which is similar to the 30.5 ± 5.28 years reported by Attah et al. But higher than the 29.04 ± 4.3 years reported by Omoikhefe et al. [1]. The modal age range was 30–34 years, consistent with findings by Wekere et al in Rivers State, possibly due to increased follicle-stimulating hormone levels in this age group and the greater use of assisted reproductive technologies (ART) among older women [3, 4].

Multiparity was the most frequent parity, observed in 44.4% of participants, followed by nulliparity. This finding is similar to the 52.3% multiparity reported by Oriji et al. but contrasts with findings by Preeta et al., where primiparity was most common at 70.7% [22, 23]. Yeasmin et al also reported multiparity as most common but at a higher rate of 87.2% [21]. These variations suggest that parity may not have a consistent association with multiple gestations.

Most of the pregnancies (82%) were achieved spontaneously, while 12% occurred via assisted reproduction; in 6% of cases, the mode of conception was unspecified. These findings are similar to the 85% spontaneous and 15% assisted conception rates reported by Omoikhefe et al. [1].

Nearly half of the participants (47.0%) were unbooked. This is comparable to the 51.5% reported by Oriji et al. but significantly higher than the 19.8% reported by Wekere et al. [3, 4]. Although not explicitly stated, the high rate of unbooked pregnancies may be linked to poverty, ignorance, or low socioeconomic status.

Chorionicity was recorded in only 58.1% of participants, while 41.9% was unspecified, despite its significant impact on the management and perinatal outcomes of multiple gestation [19]. This lack of data may be related to the high proportion of unbooked cases.

The most common mode of delivery was caesarean section (CS), occurring in 66.7% of participants. This aligns with findings by George et al [21] and Wekere et al [4] but differs from the 39.8% CS rate reported by Attah et al in Kano, Nigeria [24] and the 71% reported by Omoikhefe et al [1]. The high rate of CS, including emergency procedures, likely reflects the hospital's status as a referral center for obstetric complications.

Risk factors associated with multiple gestation included high parity (44.4%), family history of multiple gestations (41.0%), advanced

maternal age (29.9%), and assisted reproduction (12.0%). The rate of assisted reproduction is similar to the 12.13% reported by Yeasmin et al., though the 13.09% rate of associated family history in Yeasmin's study is notably lower than the 41.0% found in this study [21].

Preterm labour was the most common maternal complication (52.1%), similar to the 53% reported by Omoikhefe et al., lower than the 62.4% found by Wekere et al., but higher than the 47.2% reported by Oriji et al. [1, 3, 4]. Other complications included premature rupture of membranes (32%), hypertensive disorders (14.5%), and anaemia in pregnancy (10.3%). This pattern differs from that in Attah et al., where hypertensive disorders were most common (43.5%), and studies by George et al. and Quazi which identified anaemia as the leading maternal complication [23, 25]. Postpartum haemorrhage occurred in 9 cases (7.7%), higher than the 5.0% reported by Akaba et al. [7]. Uterine atony, linked to excessive uterine distension in multiple gestations and impaired myometrial contractility, was the most common cause. This reveals the critical need for uterotonic use during the third stage of labour and immediate postpartum care in multiple pregnancies [17].

Out of 249 babies delivered, there were 22 fetal deaths, resulting in a perinatal mortality rate (PMR) of 88.4 per 1000 live births. This aligns with findings by Adewale et al. [2], but is higher than the PMR of 7.8 per 1000 reported by Wekere et al. [4], 58.5 per 1000 by Oriji et al. [3], and 77 per 1000 by Omoikhefe et al. [1]. Low birth weight was the most common fetal complication (61.8%) [1-4]. Admission to the special care baby unit (SCBU) was required for 26.9% of neonates, mainly due to prematurity and birth asphyxia. Gross fetal malformation (extra digit) occurred in 0.4% of babies, lower than the 7.0% reported by Quazi [25].

Both fetal and maternal complications were higher among unbooked participants compared to booked ones. However, statistical significance was found only for birth asphyxia and low birth weight. A larger sample size may be needed to detect significant differences in other complications.

Conclusion

Multiple gestation is a high-risk condition due to its association with elevated maternal and perinatal complications. Chorionicity, a crucial determinant of outcomes, is best identified early in the first trimester. Early booking, antenatal supervision, and delivery in well-equipped facilities are essential to reducing complications. Future prospective studies are needed to understand the reasons behind unbooked status, assess awareness of the risks associated with multiple gestations, and inform policy development to mitigate associated morbidity and mortality. Women with multiple gestations—particularly those unbooked—should be counselled on the importance of early antenatal care and expert management in future pregnancies due to their sustained risk of recurrence.

Acknowledgement

The authors extend their gratitude to all the study participants who contributed their information, as well as to the NAUTH hospital staff involved in this study.

Disclosure Statement for Publication

This manuscript has not been submitted to any journal for publication. The conceptualisation, design, writing, critical editing, data collection, and analysis of the article were all substantially contributed to by each author. The authors have given their full approval for the submission of this work to a journal for review.

Declaration of Conflicting Interest

The authors have no conflict of interest to declare.

Ethical Approval

Ethical approval for the study was obtained from the Nnamdi Azikiwe University Teaching Hospital (NAUTH) ethics review committee on July 5, 2022, with approval reference number NAUTH/CS/66/VOL 15/VER 3/121/2022/068. The research was carried out in accordance with ethical guidelines for human scientific research as outlined in the Helsinki Declaration.

Consent to Participate

This is not applicable as this is a retrospective study.

Consent for Publication

This is not applicable.

Author Contributions

CE and OSU are the principal investigators. GUE, FEM, CBO, ACI, CCO, CCO1, CIE, and SON conceived the study. Data assessment was performed by EAE, KEE, OCE, NLO, CTE, CJO, COE, OMO, OSU and CE. Calculations and data interpretation were performed by OSU, CE, CMO, CGO, CCN, KCO, GOU and GUE. Statistical analysis was performed by CE and FEM and FEM prepared tables and figures. The first draft of the paper was written by OSU, CE, GUE, FEM, CBO, ACI, CCO, CCO1, CIE, CAO and SON. EAE, KEE, OCE, NLO, CTE, CJO, COE, OMO, OSU and GUE critically revised the paper. All authors reviewed and edited the final draft. All authors thoroughly reviewed the article, gave their final approval for the version to be published, agreed on the journal to which the article was submitted, and took responsibility for all aspects of the work.

Funding

The authors did not receive any financial support for the research, writing, or publication of this article.

Data Availability Statement

The datasets generated and/or analysed during the current study are available from the corresponding author upon reasonable request.

References

1. Omoikhefe Justina KE (2020) Pregnancy Outcome of Multiple Gestation at the University of Port Harcourt Teaching Hospital, Nigeria: A 5-Year Review. *Br J Med Heal Res* 7: 31-39.
2. Adewale FB, Ashimi A, Oyewopo OA (2018) Trends of multiple birth at federal medical centre bida. *Trop J Obstet Gynaecol* 35: 68-72.
3. Orij PC, Allagoa DO, Briggs DC, Adhuze JI, Mbooh R, et al.(2021) Multiple gestation and perinatal outcome in the Federal Medical Centre, Yenagoa, South-South, Nigeria: A 5-year review. *Magna Sci Adv Res Rev* 03: 1-11.
4. Wekere FCC, Clement-wekere GAF, Iwo-amah RS (2021) Prevalence, trend and outcome of twin pregnancy in Rivers State University Teaching Hospital, Southern Nigeria. *Int J Reprod Contraception, Obstet Gynecol* 10: 2571-2577.
5. Raff J, Fresc DAS, Metcalfe A, Mph ZFC, Raff J, et al. (2022) Maternal, fetal, and neonatal outcomes of elective fetal reduction among multiple gestation pregnancies: A systematic review. *J Obstet Gynaecol Canada* 44: 60-70.
6. Ezenwa B, Oseni O, Akintan P, Aligwekwe P, Chukwukelu B, et al.(2017) Higher order multiple births in Nigeria: Experiences, challenges and neonatal outcomes in a private health facility. *Niger J Clin Pract* 20: 1439-1443.
7. Akaba OG, Agida ET, Onafowokan O, Offiong AR, Adewole DN.(2013) Review of Twin Pregnancies in a Tertiary Hospital in Abuja, Nigeria. *J Heal Popul Nutr* 31: 272-277.
8. Santana DS, Surita FG, Cecatti JG (2018) Multiple pregnancy: Epidemiology and association with maternal and perinatal morbidity. *Bras Ginecol Obstet* 40: 554-562.
9. Esteves-Pereira AP, da Cunha AJLA, Nakamura-Pereira M, Moreira ME, Domingues RM soares madeira, et al. (2021) Twin pregnancy and perinatal outcomes: Data from 'Birth in Brazil Study.' *PLoS ONE* 16: 1-13.
10. Figueras M, Cabot R, Viñes M, Torres X, Martinez-Portilla RJ (2021) Effect of multiple pregnancy and laterality on infant neurodevelopment. *J Matern Neonatal Med* 35: 1-8.
11. Khalil A, Liu B (2021) Controversies in the management of twin pregnancy. *Ultrasound Obstet Gynecol* 57: 888-902.
12. Cheong-See F, Schuit E, Arroyo-Manzano D, Khalil A, Barrett J, et al. (2016) Prospective risk of stillbirth and neonatal complications in twin pregnancies: Systematic review and meta-analysis. *BMJ* 354: i4353.
13. Chantanahom N, Phupongi V (2021) Clinical risk factors for preeclampsia in twin pregnancies. *PLoS One* 16: 1-8.
14. Su RN, Zhu WW, Wei YM, Wang C, Feng H, et al. (2015) Maternal and neonatal outcomes in multiple pregnancy: A multicentre study in the Beijing population. *J Chronic Dis Transl Med* 1: 197-202.
15. Narang K, Szymanski LM (2021) Multiple Gestations and Hypertensive Disorders of Pregnancy: What Do We Know? *Curr Hypertens Rep* 23: 1.
16. Hayes-Ryan D, Meaney S, Hodnett A, Geisler M, O'Donoghue K (2020) The maternal and perinatal implications of hypertensive disorders of pregnancy in a multiple pregnancy cohort. *Acta Obstet Gynecol Scand* 99: 525-536.
17. Blitz MJ, Yukhayev A, Pachtman SL, Reisner J, Moses D, et al. (2020) Twin pregnancy and risk of postpartum hemorrhage. *J Matern Neonatal Med* 33: 3740-3745.
18. Wei J, Wu Q jun, Zhang T ning, Shen Z qi, Liu H, et al. (2016) Complications in multiple gestation pregnancy : A cross-sectional study of ten maternal-fetal medicine centers in China. *Impact J* 7: 30797-30803.
19. D'antonio F, Odibo A, Berghella V, Khalil A, Hack K, et al. (2019) Perinatal mortality, timing of delivery and prenatal management of monoamniotic twin pregnancy: systematic review and meta-analysis. *Ultrasound Obs Gynecol* 53: 166-174.
20. Blickstein I (2015) Multiple gestation. *Clin Matern Med ON-LINE*.

-
21. Yeasmin S, Uddin SKJ (2019) Maternal and Perinatal Outcome of Twin Pregnancy in a Tertiary Hospital of Bangladesh. *Card Med J* 18: 35-39.
 22. Oriji PC, Allagoa DO, Briggs DC, Oguche OI, Ikoro C, et al. (2021) Average gestational age at spontaneous onset of labour for pregnant women in a Tertiary Health Institution in South-South Nigeria-A 5 year review. *Asian Res J Gynaecol Obstet* 6: 17-30.
 23. George P, George M, Thankachi VMJ (2015) Multiple gestation and their outcome: a study from a rural Teaching Hospital in south India. *J Evol Dent Sci* 4: 2013-2014.
 24. Attah RA, Mohammed Z, Gobir M (2014) A review of twin deliveries in Aminu Kano Teaching Hospital, North - West Nigeria. *Niger J Basic Clin Sci* 11: 3-7.
 25. Qazi G (2012) Obstetric and perinatal outcome of multiple pregnancy. *J Coll Physicians Surg Pakistani* 21: 142-145.