Gazette of Medicine
A Peer-reviewed Medical Journal of the Association of Resident Doctors
University of Port Harcourt
Teaching Hospital,Port Harcourt,
Rivers State, Nigeria
Volume 10 No 2, Dec. 2022 - May, 2023

OBSTETRIC AND PERINATAL OUTCOME OF TEENAGE PREGNANCY IN UNIVERSITY OF PORTHARCOURT TEACHING HOSPITAL: A 10 YEAR REVIEW

John Celestine Osita[1], Ayodeji Oluwaseun Owolabi[1]

1 Department of Obstetrics and Gynaecology, University of Port Harcourt Teaching Hospital

Correspondence: *ositacelestinejohn@gmail.com*

ABSTRACT

Introduction: *Teenage pregnancies are high-risk pregnancies that are associated with varying degrees of maternal and fetal complications.*

Materials and Methods: *This was a 10-year retrospective study on all teenage mothers who carried their pregnancy to 28 completed weeks and beyond and had delivered at the University of Port Harcourt Teaching Hospital. The data was extracted from case notes using pre-established and piloted data extraction forms. A statistical package for the social sciences (SPSS) version 25.0 was used to analyze the data.*

Results: *A total of 16,763 deliveries were conducted during the period under review, of which 206 were teenage mothers, giving an incidence of 1.2%. The mean age of the teenage mothers was 17.78±1.322 (SD) years. The peak age incidence was 17-19years (80.1%). Most of them were single (73.1%), and only 29.8% of them were booked. Most of the women had spontaneous vaginal delivery 89(52.0%), the rate of caesarean delivery was high (39%). Preeclampsia/eclampsia was the most common complication (25.7%), followed by PROM and preterm delivery (16.3%). Obstructed labour and anaemia accounted for 8.8% and 10.5% respectively. This study had a mortality of 2.3%.*

Conclusion: *Teenage pregnancy remains a high-risk pregnancy with associated complications and poor obstetric outcomes.*

Keywords: *Teenage, Pregnancy, Obstetric outcome, Port Harcourt*

INTRODUCTION

Teenage pregnancy is a high-risk pregnancy with serious medical and psychosocial consequences. It therefore demands expert care to achieve a satisfactory outcome.[1] Teenage pregnancy is defined as the occurrence of pregnancy in girls aged 10 to 19years.[2,3] It is also referred to as adolescent pregnancy. This age corresponds to a time when there is a gradual switch from childhood to adulthood with potential conflict between biological and social factors.[4] It has become a significant public health problem, particularly in Africa, where it contributes to its high rate of maternal and child morbidity and mortality.[5,6] In current times, governmental and Non-governmental organizations in some African countries have concentrated on reducing the rate of teenage pregnancy, though only very slight progress has been made.[7]

Globally, around 1 in 6 people are teenagers. Almost 1 in 10 of all childbirth are in women below 20years old. More than 90% of such birth occur in developing countries.[5,8] World Health Organization (WHO) 2014 report showed that the global teenage birth rate was 49 per 1000 girls aged 15 to 19years,[9] while Sub-Saharan Africa alone is 143 per 1000 girls. In Nigeria, teenage pregnancy rates range from 1.7% to 11.8%. The increased rate of teenage pregnancies is attributable to decreasing age at menarche, increased/improved nutrition, early marriages, cultural permissiveness, low socio-economic status of parents, lack of knowledge of sexual education, peer group influences, lack of knowledge/or use of contraceptives and poor parental care amongst others.[4,10] Teenage pregnancy is associated with a high negative impact on the mother and her child, from a medical complications (immediate and long term) to psychosocial effects.[11]

More than 70,000 adolescent girls die yearly from pregnancy-related complications, mostly in developing countries.[7] Teenage pregnancies are associated with poor obstetric and perinatal

outcomes compared to their adult counterparts, especially in developing and underdeveloped countries.[2,12] Studies show that pregnant adolescents are less likely to receive prenatal care than older women, and even if they eventually do so, it's usually late in the third trimester.[13]Teenage pregnancy is more likely to be complicated by; malaria, anemia, hypertensive disorders in pregnancy, unsafe abortions and its complications, preterm labour/deliveries, low birth weight babies, congenital anomalies, cephalopelvic disproportion and obstructed labour causing the high incidence of operative deliveries and vesicovaginal fistulae, perinatal morbidity and mortalities.[1,11]

It is also associated with adverse socio-psychosocial effects like; dropping out of school, low or no formal education, unemployment, low socio-economic condition, single parenting and its attendant consequences, victims of sexual abuse, depression and suicidal intentions. It is a burden to the government and the society at large. The child of a teenager is more likely to live in poverty, become a victim of neglect, abuse, and social vices, eventually become a teenage parent and begin the vicious cycle all over again.

MATERIALS AND METHODS

The study was a 10-year retrospective study on all teenage mothers who carried their pregnancy to 28 completed weeks and beyond and delivered at the University of Port Harcourt Teaching Hospital, Port Harcourt, Rivers State, between January 2012 - January 2021.

The case notes of these patients were retrieved and analysed for their socio-demographic characteristics, booking status, pregnancy complications, labour, delivery and fetal outcome.

The cases were obtained from the labour ward and labour ward theatre registers.

The data was extracted using pre-established and piloted data extraction forms. A statistical package for the social sciences (SPSS) version 25.0 was used to

analyze the data. The level of statistical significance was set at <0.05.

RESULT

A total of 16,763 deliveries were conducted during the period under review, of which 206 were teenage mothers with an incidence of 1.2%.

The mean age of the teenage mothers was 17.78±1.322 (SD) years, and they were predominantly of the Igbo tribe. Only 171 of the 206 case files were available for retrieval from the medical records department giving a retrieval rate of 83%.

As shown in **Table 1**, most of the teenage mothers (53.8%) had secondary education, 39.8% had primary education, while only 5.3% had tertiary education. The peak age incidence was 17-19years (80.1%). Most of them were single (73.1%), and only 29.8% of them were booked.

Majority of the teenage mothers (81.3%) knew about contraceptives, but only 73(42.6%) used a contraceptive method which was majorly the male condom (77.4%), as shown in **table 2.**

Table 3; although most of the women had spontaneous vaginal delivery 89(52.0%), the rate of caesarean delivery was high (39%).

Preeclampsia/eclampsia was the most common complication (25.7%), followed by PROM and preterm delivery (16.3%). Obstructed labour and anaemia accounted for 8.8% and 10.5 respectively. This study had a mortality of 2.3%, as illustrated in **table 4.**

In **Table 5** below, the Apgar score in the first minute was <7 (asphyxia) in 83 (55.8%) of the babies. 88(52.5%) had good Apgar scores. Stillbirth accounted for 26(15.2%), and 46.2% had low birth weight.

Table 1: Socio-demographic characteristics

Variables	Frequency (n)	Percentage
Age		
14 – 16	34	19.9
17-19	137	80.1
Total	171	100
Parity		
0	133	77.8
1	30	17.5
2	2	4.7
Level of education		
No formal	2	1.2
Primary	68	39.8
Secondary	92	53.8
Tertiary	9	5.3
Booking status		
Booked	51	29.8
Unbooked	120	70.2
Marital status		
Single	125	73.1
Married	46	26.9

Table 2. knowledge and use of contraception.

	Frequency (n)	Percentage (%)
Awareness		
Aware	139	81.3
Unaware	32	18.7
Usage		
Non-user	109	63.7
User	62	37.3
Method used		
Male condom	48	77.4
Emergency contraception	21	33.9
Others	4	6.5

Table 3. Mode of delivery.

	Frequency (n)	Percentage (%)
Spontaneous vaginal delivery	99	61.1
Caesarean section	63	39
Instrumental delivery	9	5.3

Table 4. Morbidities & Mortalities

	Frequency (n)	Percentage (%)
Preeclampsia/eclampsia	44	25.7
Preterm labour/PROM	28	16.3
Anaemia	18	10.5
Malaria	12	7.0
Obstructed labour	15	8.8
CPD	11	6.4
Others	17	11.7
Mortality	4	2.3

Table 5. Foetal outcome.

	Frequency (n)	Percentage (%)
Foetal status		
Alive	145	84.8
Stillbirth	26	15.
Birth weight		
Less than 2.5kg	79	46.2
2.5-3.9	90	52.6
4kg and above	2	1.2
Apgar scores at 1 minute		
0-3	39	29.8
4-6	44	25.7
7 and above	88	52.5
Apgar score at 5 minute		
0-3		
4-6	26	15.3
7 and above	18	10.4
	127	74.3
Congenital anomaly		
Present		
Nil	2	1.2
	169	98.8

DISCUSSION

The hospital incidence of teenage pregnancy in this study was 1.2%. This is comparable to 1.1% reported in southwest Nigeria.[14] It is also similar to some studies in this country which include 1.67% from Enugu(ezegui) and 1.5% from Port Harcourt.[15] It is, however, lower than the reported study of 2.25%[11], 6.5%[4], and 6.2%[16] from Abakaliki, Calabar and Delta state, respectively.

This study showed a decline in teenage pregnancy incidence from 1.5% in a previous study in our centre. This may be because the previous study included pre-viable pregnancy losses and improved state primary and secondary health facilities. Also, it is not unexpected that a significant majority with less social support and unable to cope with hospital bills may opt for deliveries in obscure and poorly equipped places with their attendant risks.[12]

This study showed that 70.2% of the teenage mothers were unbooked and did not use antenatal services, and most of those booked presented late. Other studies have also reported poor antenatal care utilization, thus the higher chance of antenatal and intrapartum complications.[1,12,15,17] The reasons for the non-utilization of antenatal services include ignorance of its importance, lack of family and social support, non-availability of the services, poverty, unpleasant remark by antenatal workers, and attempt to hide their pregnancy from the public.[1,18]

Most teenage pregnant mothers (53.8%) had secondary education, and only 5.3% had tertiary education. Higher education is associated with lower rates of adolescent childbearing probably due to its impact on contraceptive acceptance[1] and the attendant delay of pregnancy to complete the academic program.[12]

The majority of them (teenage mothers) as seen in this study, have a low level of education, are unemployed, and unmarried. This puts them in the low socio-economic class. This finding agrees with the result of other works.[12,18]

Thus low socio-economic status is a predisposing factor to teenage pregnancy. It also risks the pregnant teenager adverse maternal and foetal outcomes.[18] Therefore the poor outcomes might be due to low socio-economic status, lack of reading interest, inadequate antenatal care, lack of social support, and low use of the contraceptive method.[19]

There was a high incidence of pregnancy complications in these teenage mothers. These were also reported in other studies.[1,11,17]

Preeclampsia/eclampsia was the commonest complication. This was also observed in previous studies.[2,13,20] Preterm labour was also a common complication in pregnant teenagers in this study, accounting for 16.3%. This is comparable to some other studies.[3,14,16] This is attributed to the fact that extremes of maternal age (to which teenage pregnancies fall) are a risk factor for preterm labour. Low pre-pregnancy weight, infections like urinary tract infection (UTI), and malaria infestation, which are risk factors for preterm labour are common among pregnant teenagers.[21]

Vaginal delivery was the primary route of delivery in the study group (61.1%). However, 39% had Caesarean section, of which 85.6% were emergencies; often, they had been in labour for more than 24 hours at other centres and were often referred late at night for various reasons. This was similar to other studies, 41.5% in pakinstan[13], 36% in calabar[4] and 32% in Ife.[17]

The major indication for the Caesarean section was preeclampsia. This is not unexpected as the definitive treatment of preeclampsia with unfavourable cervix is through the fastest possible mode of delivery.

This study showed a high rate of perinatal asphyxia (15.6%), hence an increased rate of admission into the special care baby unit. Stillbirth accounted for 15.2% and 46.2% had low birth weight. These observations was also reported in previous studies.[3,14]

Most teenage mothers were unbooked and

arrived late from the homes of traditional birth attendants.

Most (81.3%) of the teenage mothers knew about contraception, but only 37.3% had used a contraceptive method, of which the male condom accounted for 77.4%. this is comparable to studies in Benin,[10] Indonesia[19] and Nepal.[2]

CONCLUSION

This study has shown that teenage pregnancy remains a high-risk pregnancy with associated complications and poor obstetric outcomes. Thus, there is a need for advocacy to raise and sustain community awareness, discourage teenage marriages and emphasis the empowerment of the girl child, primarily through education.

REFERENCES

1. Department of Obstetrics and Gynaecology, University of Uyo Teaching Hospital, Uyo. Akwa Ibom State Nigeria, Etuk MSE. Incidence and Obstetric Outcome of Teenage Pregnancies at a Tertiary Hospital in Southern Nigeria. *Jmscr.* 2020 ;08(06).
2. Ganchimeg T, Ota E, Morisaki N, Laopaiboon M, Lumbiganon P, Zhang J, et al. Pregnancy and childbirth outcomes among adolescent mothers : a World Health Organization multicountry study. BJOG : *An International Journal of Obstetrics & Gynaecology.* 2014 ;121(s1):40–8.
3. Abebe AM, Fitie GW, Jember DA, Reda MM, Wake GE. Teenage pregnancy and its adverse obstetric and perinatal outcomes at Lemlem Karl Hospital, Tigray, Ethiopia, 2018. *BioMed research international.* 2020 Jan 19;2020.
4. Iklaki CU, Inaku JU, Ekabua JE, Ekanem EI, Udo AE. Perinatal Outcome in Unbooked Teenage Pregnancies in the University of Calabar Teaching Hospital, Calabar, Nigeria. *ISRN Obstetrics and Gynecology.* 2012 Mar 4;2012:1–5.

5. Chandra-Mouli V, Camacho AV, Michaud P-A. WHO Guidelines on Preventing Early Pregnancy and Poor Reproductive Outcomes Among Adolescents in Developing Countries. *Journal of Adolescent Health*. 2013 May 1;52(5):517–22.

6. Hadian T, Mousavi S, Meedya S, Mohammad-Alizadeh-Charandabi S, Mohammadi E, Mirghafourvand M. Adolescent pregnant women's health practices and their impact on maternal, fetal and neonatal outcomes : a mixed method study protocol. *Reprod Health*. 2019 Apr 25 ;16(1):45.

7. Kassa GM, Arowojolu AO, Odukogbe AA, Yalew AW. Prevalence and determinants of adolescent pregnancy in Africa : a systematic review and Meta-analysis. *Reproductive Health*. 2018 Nov 29 ;15(1):195.

8. WHO Adolescent and young adult health. *WHO* 2021. Available from : https://www.who.int/news-room/fact-sheets/detail/adolescents-health-risks-and-solutions

9. Aung SH. A reterospective study of maternal and fetal outcome of adolescent pregnancy in Kawthaung province, Myanmar. Bangladesh *Journal of Medical Science*. 2017 Aug 19 ;16(4):535–40.

10. Osaikhuwuomwan J, Osemwenkha A. Adolescents' perspective regarding adolescent pregnancy, sexuality and contraception. *Asian Pacific Journal of Reproduction*. 2013 Mar 1 ;2:58–62.

11. Onoh RC, Ezeonu PO, Anozie BO, Esike COU, Obuna JA, Egbuji C, et al. Outcome of Teenage Pregnancy at a Tertiary Hospital in Abakaliki Southeast Nigeria. *Journal of Basic and Clinical Reproductive Sciences*. 2014 ;3(1):22–6.

12. Ezegwui HU, Ikeako LC, Ogbuefi F. Obstetric outcome of teenage

pregnancies at a tertiary hospital in Enugu, Nigeria. Nigerian Journal of Clinical Practice. 2012 ;15(2):147–50.

13. Zahiruddin S, Chetandas P, Ahmed SI, Baloch R. Obstetrical and Perinatal Outcomes of Teenage Pregnant Women Attending a Secondary Hospital in Hyderabad. *Open Journal of Obstetrics and Gynecology*. 2017 May 16;7(5):503-10.
14. Olofinbiyi BA, Oluleye JT, Simeon O, Olatunya BP, Olofinbiyi RO, Akintoye OO, Olaogun OD, Rosigi BO, Adewumi OA. Teenage pregnancy at a tertiary health institution in south-western Nigeria: Socio demographic correlates and obstetric outcome. *International Journal of Clinical Obstetrics and Gynaecology*. 2019;3(4):97-101.
15. Onwubuariri MI, Kasso T. Teenage pregnancy: Prevalence, pattern and predisposing factors in a tertiary Hospital, Southern Nigeria. *Asian Journal of Medicine and Health*. 2019;17(3):1-5.
16. Isa AI, Gani IO. Socio-demographic determinants of teenage pregnancy in the Niger Delta of Nigeria. *Open Journal of Obstetrics and Gynecology*. 2012 Sep 21;2(3):239-43.
17. Ijarotimi OA, Biobaku OR, Badejoko OO, Loto OM, Orji EO. Obstetric outcome of teenage pregnancy and labour in Obafemi Awolowo University Teaching Hospitals complex, Ile-Ife: A ten-year review. *Tropical Journal of Obstetrics and Gynaecology*. 2019 Apr 23;36(1):105-11.
18. Garba I, Adewale TM, Ayyuba R, Abubakar IS. Obstetric outcome of teenage pregnancy at Aminu Kano Teaching Hospital: A 3-year review. *J Med Trop* 2016; 18:43-6
19. Kayika IP, Lidyasna F. The Prevalence and Outcome of Teenage Pregnancies in a Tertiary

Care Teaching Hospital. Indonesian *Journal of Obstetrics and Gynecology*. 2018 Oct 12:209-12.

20. Karai A, Gyurkovits Z, Nyári TA, Sári T, Németh G, Orvos H. Adverse perinatal outcome in teenage pregnancies: an analysis of a 5-year period in Southeastern Hungary. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2019 Jul 18;32(14):2376-9.

21. Louis B, Steven B, Margret N, Ronald N, Emmanuel L, Tadeo N, Namagembe I, Kasangaki A, Cecily B. Prevalence and factors associated with low birth weight among teenage mothers in new Mulago hospital: a cross sectional study. *Journal of health science (El Monte)*. 2016 Jul; 4:192.

22. Shrestha DR, Bhadra R, Dangal G. Use of Contraceptives among Adolescents: What Does Global Evidence Show and How Can Nepal Learn? *Journal of Nepal Health Research Council*. 2021 Jan 21;18(4):588-95.