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Preterm Birth and Its Associated Factors among Mothers Delivered at Lira Regional Referral Hospital in Lira District

Anei Peter

Faculty of Clinical Medicine and Dentistry, Kampala International University Western Campus Uganda

ABSTRACT

This study aimed to assess the prevalence of preterm birth and its associated factors among mothers delivered at Lira Regional Referral Hospital in Lira District in 2022. A hospital-based cross-sectional study and non-probability systematic sampling technique were employed to assess the prevalence of preterm birth and its associated factors among mothers delivered at Lira Regional Referral Hospital between August 2022 and November 2022. The normative sample was N-325; however, only 278 were analysed. Preterm birth and its associated factors were measured using a face-to-face pre-test interview, and additional data was extracted from medical records, an antenatal care chart, and a baby chart. Data was collected, coded, sorted, and processed using manual compilation and analysed using SPSS Version 25. Results showed that the prevalence of preterm birth was at 14%, mid-upper arm circumference p>0.000, baby delivered p>0.002, birth weight p>0.000, antenatal care number of times attended p>0.001, urinary tract infection p>0.000, premature rupture of membrane p>0.000, antepartum haemorrhage p>0.000, and pregnancy-induced hypertension p>0.000 were significantly associated with preterm birth. Preterm birth was more likely to occur in mothers who didn't attend ANC and was higher in mothers who got PROM, UTI, APH, and PIH. Early detection of diseases, especially hypertension, hyperemesis gravidarum, and UTI, as well as improving health care quality delivery and carrying out community health education and awareness campaigns, can reduce the prevalence of preterm birth.

Keywords: Preterm birth, Lira Regional Referral Hospital, Mothers, Antenatal care, Hypertension.

INTRODUCTION

Globally, of the estimated 130 million born each year, approximately 15 million babies are born preterm annually (11.1%), and more than 1 million die due to complications related to preterm birth for example; neurological impairment, stunting and development of non-communicable diseases in adulthood often at great cost to families and society [1–3]. In 2015, neonatal mortality accounted for 2.7 million (45.1%) of the 5.9 million under-five deaths globally, and complications of prematurity were responsible for approximately one-third of deaths during the first 28 days of life. More than 60% of preterm births occur in Africa and South Asia, and 12% are born too early in low-income countries. Uganda is the 28th country globally with the highest rate of preterm birth at 13.6% per 1000 live births. preterm birth accounts for 0.7% ofall hospital admissions in Uganda, and yet it is responsible for 11.1% of under 5 live deaths, 5% of deaths among children of all ages, with an estimated neonatal mortality rate of 21.3(17.2,26.5) per 1000live births. WHO defines Preterm as babies born alive before 37 weeks of pregnancy is completed. There are sub-categories of preterm birth, based on gestational age: extremely preterm (less than 28 weeks), very preterm (28 to 32 weeks), moderate to late preterm (32 to 37 weeks). Preterm birth occurs for a variety of reasons.[4] Most preterm births happen spontaneously, but some are due to early induction of labour or caesarean birth, whether for medical or non-medical reasons. Common causes of preterm birth include multiple pregnancies, maternal age, infections and chronic conditions such as diabetes and high blood pressure; however, often no cause is identified. There could also be a genetic influence. Currently preterm birth is the leading cause of death among children under five across the globe, and the leading cause of disability and ill health later in life such as cerebral palsy, learning disabilities, impaired respiration, difficulty in feeding, poor body temperature regulation andhigh risk of infection[5]. According to WHO, Malawi and Congo are among the ten countries with the highest rates of preterm birth globally 18.1% and 16.7% respectively. The findings of previous research studies around the globe revealed that several factors are associated with preterm birth like maternal age, wealth index, maternal education, residence, marital status, physical activity, mode of delivery, history of miscarriage or stillbirth, interpregnancy interval,

antenatal care, substance abuse, (Cigarette and tobacco use) and multiple pregnancies[6, 7]. The other factors also include antepartum haemorrhage, urinary tract infections, premature rupture of membranes, polyhydramnios or oligohydramnios, pregnancy-induced hypertension and exposure to intimate partner violence[8, 9]. Though many studies have been carried out elsewhere, Little data and literature have been done about preterm birth in Uganda, especially at Lira Regional Referral Hospital therefore, this study will make a significant contribution to assessing the prevalence of preterm birth and its associated factors among mothers delivered at Lira Regional Referral Hospital.

Many mothers have had or experienced a preterm birth in their lives which poses a threat to their lives and babies, though the Ministry of Health has tried in its efforts to reduce the prevalence of preterm birth by improving healthcare systems[10], the problem is still evident and on the rise. Globally, 15 million babies are born preterm of which 60% of the cases occur in Africa and Asian countries. Preterm birth comes with long-term or short-term implications for the mothers and babies which include disabilities caused by many factors [11]. Uganda is ranked 28th country globally with the highest preterm birth rate estimated at 13.6 per 100 live births. However, little is known about its prevalence and associated factors at Lira Regional Referral Hospital. Therefore, this study will make a significant contribution to assessing the prevalence of preterm birth and its associated factors among mothers delivered at Lira Regional Referral Hospital. The study was designed to assess the prevalence of preterm birth and its associated factors among mothers delivered atLira Regional Referral Hospital in Lira West City.

METHODOLOGY

Study Design

This study used a hospital cross-sectional research design where the researcher collected data from many populations at a single point. This type of design was employed because it's cost-effective, reliable, and captures data at a point in time.

Area of Study

This study was conducted in the Lira Regional Referral Hospital, situated in Lira municipality in Lira Town. Lira District is located in Northern Uganda and serves as a referral hospital for districts like Amolatar, Apac, Dokolo, Kole, and Oyam, among others. at a latitude of 2.25180 north and a longitude of 32.902^0 east. Its public hospital is funded by the Ministry of Health, offering both specialised and general services, and it is situated on 16.34 hectares of land along Kitgum Road in Adyel Division, neighbouring Lira School of Nursing to the north, the central police station to the south, and Uganda Prison to the west. This site was chosen because, as the referral hospital, most cases are referred here.

Study population

This study was carried out among mothers who delivered at Lira Regional Referral Hospital and their babies between August and November 2022. I was interested in this population because of the increased prevalence of preterm birth among mothers.

Inclusion criteria

The study included mothers who had delivered at Lira Regional Referral Hospital between August and November 2022 and were mentally stable enough to understand the contents of the questionnaire and provide informed consent.

Exclusion criteria

The study excluded mothers who had not delivered at Lira Regional Referral Hospital between January and July 2022; those with acute mental illness that interfered with their ability to understand questionnaires and consent were excluded from this study.

Sample Size Determination

According to Kelkay et al. [12], the proportional of their study about factors associated with singleton preterm birth in Shire Suhal General Hospital in Northern Ethiopia was 25.9%, and therefore, the researcher adopted the same proportional in this study. The study adopted a formula developed by Keish Leslie [13] for single proportional as follows:

$n = Z^2 * p(1 - p)/d^2$+ Non-response rate, i.e., then doing the calculations, increased the number by 10% to cater for the non-response rate.

Where:

n=sample size

Z was the estimate (1.96), corresponding to a 95% confidence interval.

p was the proportional of preterm birth (25.9% was used because of the unknown incidence of which is being measured).

q = Standard (1-p) = 0.05

D was the error margin (0.05).

On substituting the above formula,

$n= (1.96)^2*0.259*0.05/0.05^2$+ (10% of the previous calculation)

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=294.88 + (10% * 294.88)
Hence, n = 325

Sampling procedures

Consecutive sampling was used in this study, involving all participants who met the inclusion criteria. The study involved all mothers who delivered at the hospital between August and October 2022, until the principal investigator reached the predetermined sample size.

Data collection methods and management

Mothers were interviewed using a standard pretested questionnaire divided into 3 sections. The first section included respondents' socio-demographic factors, obstetric and neonatal information, and also information from the antenatal card, respectively. Additional data was extracted from the medical records of the mother, the ANC chart, and the baby chart. The mothers' nutritional status was assessed using mid-upper arm circumference measured on the left. Gestational age was assessed clinically using the Finnstrom Score. Data entry and cleaning was undertaken in Excel; the data was checked for completeness by the principal investigator, cleaned manually for inconsistencies and missing values before entry, and any that were incomplete were excluded from entry. During data entry, the data was coded carefully and cleaned by checking categories of all variables for impossible codes, cross-tabulating two variables, and looking for logically impossible combinations. After the entry of all values was complete, the soft copy of each questionnaire was once again cross-checked with its hard copy to avoid missing values, outliers, and other inconsistencies before analysis.

Quality Control (Validity and reliability of tools)

To ensure the validity of the questionnaires, some research experts were involved. I used modified and validated questionnaires. To ensure content reliability, the research used either the test-retest method or the questionnaire to ensure reliability.

Data Analysis

SPSS version 25 Windows was used for analysis. The first step before analysis was data exploration to visualise the general features of the data to be analyzed. At the univariate level, analysis of descriptive statistics was carried out using percentages, frequencies, and tables to describe the study participants by sociodemographic, health characteristics, preterm, and associated factors. In bivariate analysis, the strength of the association between variables was computed using the odds ratio and chi-square. After this, a bivariate logistic regression analysis was done to identify the relationship each independent variable has with the dependent variable. Statistical significance was declared at a p-value of <0.005.

Ethical Considerations

This proposal was presented before the Department of Medicine and Surgery research committee for approval. Once passed by the department, an approval letter was issued from the head of the department and then taken to the hospital director of Lira Regional Referral Hospital for permission to conduct a study. The privacy of participants was put into great consideration. The researcher invigilator used identifiers like names, actual places of residence, and phone numbers in questionnaires. The information in the field was coded and fed into computers with passwords. Researchers encrypted computer-based files. Participants first filled out a consent form before participating in the study, were made aware of the purpose of the study, research aims and objectives, benefits, and risks, and participated in the study voluntarily without being coerced. Participants were protected from COVID-19 by observing the SOPs of washing hands, wearing masks, social distancing, and sanitising during the process of data collection.

RESULTS

Response rate

The estimated sample size was 325, but only 310 responded to the questionnaire, giving a response rate of 95%. However, 32 questionnaires were excluded due to missing information, and also given the sensitivity of the study, some were not completed due to psychological triggers; the physical pain they were going through could not give them room to respond, and because some information was gotten from medical record rooms, some questions were left unanswered, giving a total of 278 participants for the final analysis. The distribution of the response rate is shown in the table below.

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Table 1: Shows the response rate of study participants

Response	Frequency	Percentage (%)
Duly filled and returned Questionnaire	278	95%
Unreturned	32	5%

Maternal socio-demographics Characteristics of study participants. (N- 278)

A total of 278 participants were included in this study, and their characteristics are shown below: At a univariate analysis, the majority of the mothers were 24-32 years of age (n = 120; 43.2%); 15-23-year-olds were n = 98 (35.3%); 33-41-year-olds were n = 59 (21.3%); most of the participants were married (n = 237; 85.3%); singles were n = 36 (12.9%); and about 93 (33.5%) and 92 (33.1%) were Catholic and protestants, respectively. 30 (10.8%) were Muslims, and 63 (22.7%) belonged to other religions. More than half of the study participants had attained a primary education (147, 52.9%). The majority of participants in this study were subsistence farmers (109, 39.2%), 254 (91.4%) had not smoked, nor had their partners, and 270 (97.1%) had not used alcohol.

Table 2: shows the maternal socio-demographics of mothers who delivered at Lira Regional Referral Hospital in Lira City.

Variable	Category	Frequency	Percentage (%)
Age	15-23	98	35.3
	24-32	120	43.2
	33-41	59	21.2
	42-45	1	4
Marital status	Single	36	12.9
	divorced	4	1.4
	married	237	85.3
	widowed	1	4
Religion	Catholic	93	33.5
	Muslim	30	10.8
	Protestant	92	33.1
Others	(born again, SDA)	63	22.7
Education level	Primary	147	52.9
	Secondary	87	31.3
	Tertiary	44	15.8

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Occupation	**formal employment**	**39**	**14**
subsistence farmer		109	39.2
business person		32	11.5
housewife		86	30.9
student		12	4.3
Smoking	non smoked	254	91.4
only my partner		22	7.9
i smoked but my partner did not		2	7
No		270	97.1
yes, but occasionally		8	2.9

Prevalence of preterm birth

Table 3: showing prevalence of preterm birth

Variable	Frequency	Percentage (%)
Preterm	39	14
Term	239	86

The prevalence of Preterm birth in this study was at 39(14%)

Obstetric factors of study participants

In Table 3, the results show that the majority of the mothers had an inter-pregnancy interval of less than forty-eight (266; 95.7%) and had been pregnant more than five times. 254 (91.4%), 162 (58.2%), their babies were alive, 61 (21.9%) had never been pregnant before, many of the mothers had experienced SVD, 180 (64.7%), 95 (34.2%) had C/S, 185 (64.75%) mothers had a spontaneous birth, 269 (98.8%) attended ANC, and 192 (69.1%) attended more than three times. 50% of the mothers gave birth to male babies, 140 (50.4%), of which 269 (96.8%) were singletons. The babies born had a normal weight of greater than 2500 grams (239 (89%)),), 215 (77.3%) had an HIV status of negative, and 203 (73%) had a haemoglobin level greater than ten. 261 (93.9%) had no history of Eclampsia. 266 (95.7%) had no history of antepartum haemorrhage, 223 (80.2%) had no history of drainage liquor, 180 (64.7%) had no experience of UTI, and 222 (79.9%) had a MUAC of 25–30 cm.

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Table 4: shows the obstetric factors of mothers

Variable	Category	Frequency	Percentage (%)
Times of pregnancy	>5	254	91.4
	<5	24	8.6
Inter -pregnancy	>48months	266	95.7
interval	<48months	12	4.3
Status of baby	Alive	162	58.3
	Dead	12	4.3
	Miscarriage	43	15.5
	Never been pregnant before	61	21.9
Mode of delivery	Svd	180	64.7
	Breech	3	1.1
	C/S	95	34.2
Pregnancy outcome	Spontaneous	185	66.5
	Induced/CS due to medical indication	93	33.5
Birth weight	>2400	39	14
	<2400	239	86
Sex of baby	Male	140	50.4
	Female	138	49.6
ANC attendance	Yes	269	96.8
	No	9	3.2
Number of times	Once	16	5.8
	Twice	70	25.3
	Three/more	192	69.1
HIV status	Positive	36	12.9
	Negative	215	77.3
	Unknown	27	9.7
Hemoglobin level	>10g/dl	75	27
	->10g/dl	203	73
Eclampsia	Yes	17	6.1
	No	261	93.9
Antepartum	Yes	12	4.3
haemorrhage	No	266	95.7
History of drainage	Yes	55	19.8
liquor	No	223	80.2
UTI	Yes	98	35.3

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No	180	64.7
MUAC 16-24cm	56	20.1
25-30cm	222	79.9
Birth outcome Singleton	260	93.5
Twins/more	18	6.5

Bivariate analysis of maternal socio-demographics and preterm birth

According to bivariate analysis, maternal age was not significantly associated with preterm birth ($p > 0.110$). Mothers who were 42 years of age or older were likely to have a preterm delivery; marital status, religion, education, occupation, alcohol use, and smoking were also not significantly associated with preterm birth. MUAC was significantly associated with preterm birth ($p > 0.000$).

Table 5: shows a bivariate analysis of maternal socio-demographic characteristics of mothers and preterm birth

Variable	Preterm (n-39)14%	Term (239)86%	AOR (CL95%)	P-Value
Age: 15-23	18(18.4%)	80(81.6%)		
24-32	15(12.5%)	105(87.5%)	0.022-0.044	>0.110
33-41	5(8.5%)	54(91.5%)		
42-50	1(100%)	0(0%)		
Marital status				
single	9(25%)	27(75%)		
Divorced	1(25%)	3(75%)	0.250-0.049	>0.037
Married	29(12.2%)	208(87.8%)		
Widowed	0(0%)	1(100%)		
Religion				
Catholic	12(12.9%)	81(87.1%)		
Muslim	6(20%)	3(75%)	1.418-1.480	>0.449
Protestant	14(15.2%)	208(87.8%)		
Others				
SDA, Born-again	7(11.4%)	56(88.9%)		

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Education				
Primary	18(12.2%)	128(87.8%)	1.394-1.456	>0.425
Secondary	16(18.4%)	71(81.6%)		
Tertiary	5(11.4%)	39(88.6%)		
Occupation				
Formal	6(15.4%)	33(84.6%)		
Subsistence farmer	16(14.7%)	93(85.3%)		
Business person	7(21.9%)	25(78.1%)	1.177-2.227	>0.202
House wife	9(10.5%)	77(89.5%)		
Student	1(8.3%)	11(91.7%)		
Smoking				
non smoked	34(13.4%)	220(86.6%)		
Only my partnersmoked	5(22.7%)	17(77.3%)	0.269-0.325	>0.297
Smoked but my partner did not	0(0%)	2(100%)		
Alcohol use	36(13.3%)	234(86.7%)	0.052-0.087	>0.052
No				
Yes, but occasionally	3(37.5%)	5(62.5%)		
MUAC:				
15-24cm	16(28.6%)	40(71.4%)		>0.000
25-30cm	23(10.4%)	199(89.6%)		

Bivariate analysis of factors associated with preterm birth (obstetrics factors)

Baby delivered either singleton or twins and more were found to be significantly associated with preterm birth at p>0.002, mothers who delivered babies of birth weight less than 2400grams were likely to have a preterm, (p>0.000) mothers who did not attend ANC were also likely to have a preterm birth (p>0.001), PIH, APH, Prolonged PROM and UTI were found to be significantly associated with preterm birth at p>0.000 and P>0.001 UTI. Mode of delivery, labour onset, pregnancy outcome, sex of baby, HIV status, and haemoglobin level were not significantly associated with preterm birth.

Table 6: shows a bivariate analysis of obstetrics factors and preterm birth

Variable	Preterm (n-39)	Term (n-239)	AOR (CL95%)	P-value
Pregnancy	36(14.2%)	218(85.8%)		
times:				
0-5times	3(12.5%)	21(87.5%)	**0.822-1.000**	>0.822
6-10times				
Pregnancy months:				
6-48 months	37(13.9%)	229(86.1%)		
49-96months	1(9.1%)	10(90.9%)	**2.239-2.293**	>0.266
Previous pregnancy outcome:				
Alive	25(15.4%)	137(84.6%)		
Dead	4(33.3%)	8(88.7%)	**0.079-1.113**	>0.095
Miscarriage	4(9.3%)	39(90.7%)		
Never been pregnant before	6(9.8%)	55(90.2%)		
Mode of delivery:				
Svd	29(16.1%)	151(83.9%)	1.116-1.158	>0.137
Breech	0(0%)	3(100%)		
C/S	10(10.5%)	85(89.5%)		
Labour onset				
Spontaneous	27(14.6%)	158(85.4%)	0.702-0.720	>0.702
Induced	12(12.9%)	81(87.1%)		
Baby delivered				
Singleton	32(12.3%)	228(87.7%)	0.002-0.006	>0.002
Twins/more	7(38.9%)	11(61.1%)		
Birth weight:				

500-2400grams	31(79.5%)	8(20.5%)	0.000-0.000	>0.000
2500-5000grams	8(3.3%)	231(96.1%)		
Sex				
Male	19(13.9%)	121(86.4%)	1.825-1.854	>0.825
Female	20(14.5%)	118(85.5%)		
ANC				
Yes	38(14.1%)	231(85.9%)	1.518-1.580	>0.549
No	1(14>3%)	6(85.7%)		
Number of times: Once	4(25%)	12(75%)		
	18(25.7%)	52(74.3%)	0.000-0.003	>0.001
Twice				
Three/more	17(8.9%)	175(91.1%)		
HIV status				
Positive	5(13.9%)	31(86.1%)		
Negative	29(13.5%)	186(86.5%)	1.375-1.435	>0.405
Unknown	5(18.5%)	22(81.5%)		
Hemoglobin level	15(20%)	60(80%)	0.081-1.118	>0.081
7-10g/dl	24(11.8%)	179(88.2%)		
11-16g/dl				
PIH				
Yes	8(47.1%)	9(52.9%)	0.000-0.001	>0.000
No	31(11.9%)	230(88.1%)		
APH				
Yes	6(50%)	6(50%)		
No	33(12.4%)	233(87.6%)	0.000-0.003	>0.000
PROM				

Yes	21(38.2%)	34(61.8%)	0.000-0.000	>0.000
No	18(8.1%)	205(91.5%)		
UTI				
Yes	23(23.5%)	40(71.4%)		>0.000
No	16(8.9%)	199(89.6%)		

DISCUSSION

The findings of the study showed that the prevalence of preterm birth was 14%. The results suggest that preterm birth is a very major public health problem among mothers and a threat to their lives and babies in Uganda. However, my results are low compared to a study carried out at the Jimma University specialised and referral hospital in south-west Ethiopia, where the prevalence of preterm birth was at 25%. [14]. The rate is higher than those reported in Tirgray, Northern Ethiopia, at 12.8% [15] and Debretabor town health institutions, which were at 12.8% [16]. This variation might be due to the difference in study area and period, improvements in healthcare-seeking behaviour due to continuous education, and improvements in the quality of healthcare provided to pregnant mothers. Another study reported preterm birth at a prevalence of 13% in Dodola town hospitals in southwest Ethiopia [17]. However, my results are low compared to a study carried out at Kenyatta National Hospital, where the prevalence of preterm birth was 20.2% [18]). My results are slightly in line with those of Tanzania, where the prevalence of preterm babies was 14.2%. The higher prevalence of preterm delivery in my study may be explained by the referral nature of the study setting, where mothers with high risk of medical and obstetric complications are referred to deliver for advanced management and care. This is an important caveat for referral and tertiary hospitals in developing countries that call for well-equipped neonatal units that are capable of supporting preterm newborns.

In my study, mid-upper am circumference ($p > 0.000$) was significantly associated with preterm. This is in line with a study carried out in Tirgray, Northern Ethiopia, which found a mid-upper arm circumference of less than 11cm (AOR = 2.42, 95% CC = 1.204–4.851). Additionally, another study carried out in Drebretabor town showed that maternal mid-upper arm circumference less than 24 cm [AOR = 2.6, 95% CI (1.1–6.1)] was significantly associated with preterm birth. % [18]. Maternal age was not associated with an increased risk of preterm delivery, according to the present study. In contrast to other studies, maternal age below 19 years and advanced maternal age were associated with an increased risk of preterm delivery.

In my study, mothers who attended one antenatal visit were at risk of preterm birth. These results are in line with a study done in Kenya where antenatal care follow-up < 4 visits [AOR = 3.0, 95% CI (1.6–5.9)] and premature rupture of the membrane [AOR = 3.0, 95% CI (1.5–6.2)] were found to be statistically significantly associated with preterm birth. (Dawit Gebeyehu Mekonen et al., 2019) In southwest Ethiopia, the number of ANC visits [AOR = 4.07; 95% CI: 1.21, 13.67] was associated with preterm. These results agree with my study. Another study shows that a history of urinary tract infection during pregnancy [AOR = 4.62; 95% CI = 1.56–4.67; P = 0.013] and a history of hypertension during pregnancy [AOR = 2.04; 95% CI = 1.14–3.64; P = 0.012] were determined to be significant risk factors for preterm birth, which results agree with my current study. Infection in the urinary system may raise the release of inflammatory chemokines and cytokines such as interleukins and tumour necrosis factors. Microbial endotoxins and pro-inflammatory cytokines stimulate the production of prostaglandins (other inflammatory mediators) and matrix-degrading enzymes that finally result in the stimulation of uterine contractions, preterm rupture of the membrane, and preterm birth. Hypertension during pregnancy greatly reduces placental blood flow and leads to foetal restriction and poor growth, resulting in obstetric emergencies that require surgical delivery or induced preterm delivery as a lifesaving measure for both the mother and the fetus. Placental abruption—the separation of the placenta from the wall of the uterus before birth—is another complication of hypertension that requires the termination of pregnancies. Reduced placental blood flow in hypertensive pregnant women decreases foetal growth, with an increased risk of intrauterine growth restriction leading to either low birth weight or premature birth. Therefore, disorders like placenta abruption and pre-eclampsia that cause intrauterine growth restriction may result in surgical operations and preterm birth, pre-eclampsia (AOR 4.120; CI 1.818–9.340, p-value 0.001), parity (AOR 2.139; CI

1.249–3.662, p-value 0.006), and premature rupture of membranes (AOR 4.161; CI 2.323–7.456, p-value 0.000) and abnormal amniotic fluid volume (AOR 4.534; CI 1.364–15.071, p-value 0.014) were also associated with preterm birth. [19]. A study carried out in Uganda at Mulago showed pregnancy-related risk factors including PPROM (OR 287.11 (49.26–1673.28)), antepartum haemorrhage (OR .33 (1.23–43.72), and preeclampsia/eclampsia (OR 16.24 (3.11–84.70)) were significantly associated with preterm birth. [19]. Similarly, my study agrees with a study done in Ghana where premature rupture of membrane (aOR: 2.3; 95% CI: 1.0–5.5) and pre-eclampsia (aOR: 3.4; 95% CI: 1.0–11.9) were found to be associated with preterm delivery. In Tanzania, a study showed that low birth weight was significantly associated with preterm birth (OR 34.27, 95% CI: 15.93–73.7).

CONCLUSION

The prevalence of preterm birth in this study was high (14%), and preterm birth is more likely to occur in women who do not attend antenatal care clinics. The preterm birth risk is higher for women who get PPROM, APH, preeclampsia, and urinary tract infections in pregnancy. The factors identified in this study can be easily prevented by clinicians and other health care providers routinely assessing women at high risk of preterm delivery during prenatal care to prevent the occurrence of preterm delivery and associated adverse perinatal outcomes. Timely identification of obstetric complications and health education to improve antenatal care utilisation will minimise the proportion of preterm births while also encouraging women to attend ANC fully and timely since it is through this that clinicians, nurses, and midwives can identify those who are most likely to have a preterm birth and attend to them accordingly.

REFERENCES

1. Walani, S.R. Global burden of preterm birth. Int. J. Gynaecol. Obstet. Off. Organ Int. Fed. Gynaecol. Obstet., 2020, 150, 31–33. https://doi.org/10.1002/ijgo.13195
2. Blencowe, H., Cousens, S., Chou, D., Oestergaard, M., Say, L., Moller, A.-B., Kinney, M., & Lawn, J. The Born Too Soon Preterm Birth Action Group (see acknowledgement for full list): Born Too Soon: The global epidemiology of 15 million preterm births. Reprod. Health., 2013, 10, S2. https://doi.org/10.1186/1742-4755-10-S1-S2
3. Weinberg, A., Huo, Y., Kacanek, D., Patel, K., Watts, D., Wara, D., Hoffman, R., Klawitter, J., & Christians, U. Markers of Spontaneuous Preterm Delivery in Women living with HIV: Relationship with Protease Inhibitors and Vitamin D. J. Acquir. Immune Defic. Syndr., 2019, 1999. 82. https://doi.org/10.1097/QAI.0000000000002111
4. Kolan, A.S., & Hall, J.M. Association of Preterm Birth and Exposure to Endocrine Disrupting Chemicals. Int. J. Mol. Sci., 2023, 24, 1952. https://doi.org/10.3390/ijms24031952
5. Egesa, W.I., Odoch, S., Odong, R.J., Nakalema, G., Asiimwe, D., Ekuk, E., Twesigemukama, S., Turyasiima, M., Lokengama, R.K., Waibi, W.M., Abdirashid, S., Kajoba, D., & Kumbakulu, P.K. Germinal Matrix-Intraventricular Hemorrhage: A Tale of Preterm Infants. Int. J. Pediatr. 2021, 6622598. https://doi.org/10.1155/2021/6622598
6. Mbayo, F.I., Nsenga, Y.B., Lupitshi, G.K., Nyemba, K.T., Mpingisha, C.M., Kambala, J.B., & Muzinga, G.K. (2020). The determinants of premature birth during the year 2018 at the General Reference Hospital of Malemba in the Democratic Republic of Congo. Pan Afr. Med. J. 37, 30. https://doi.org/10.11604/pamj.2020.37.30.25205
7. Gondwe, A., Munthali, A.C., Ashorn, P., & Ashorn, U. Perceptions and experiences of community members on caring for preterm newborns in rural Mangochi, Malawi: a qualitative study. BMC Pregnancy Childbirth, 2014, 14, 399. https://doi.org/10.1186/s12884-014-0399-6
8. Alamneh, T.S., Teshale, A.B., Worku, M.G., Tessema, Z.T., Yeshaw, Y., Tesema, G.A., Liyew, A.M., & Alem, A.Z. Preterm birth and its associated factors among reproductive aged women in sub-Saharan Africa: evidence from the recent demographic and health surveys of sub-Sharan African countries. BMC Pregnancy Childbirth, 2021, 21, 1–11. https://doi.org/10.1186/s12884-021-04233-2
9. Ajiya, A., Rabiu, A., Hamisu, A., & Daneji, S. Otorhinolaryngological health of women attending antenatal care clinic in a tertiary hospital: The Aminu Kano Teaching Hospital experience. Niger. J. Basic Clin. Sci., 2016, 13, 119. https://doi.org/10.4103/0331-8540.187358
10. Odongkara, B., Nankabirwa, V., Ndeezi, G., Achora, V., Arach, A.A., Napyo, A., Musaba, M., Mukunya, D., Tumwine, J.K., & Thorkild, T. Incidence and Risk Factors for Low Birthweight and Preterm Birth in Post-Conflict Northern Uganda: A Community-Based Cohort Study. Int. J. Environ. Res. Public. Health., 2022, 19, 12072. https://doi.org/10.3390/ijerph191912072
11. Tel-Aviv Sourasky Medical Center: Effect of Fenugreek Use in Mothers of Preterm on Breast Milk Production and Macronutrient Content. clinicaltrials.gov (2020)
12. Kelkay, B., Omer, A., Teferi, Y., & Moges, Y. Factors Associated with Singleton Preterm Birth in Shire Suhul General Hospital, Northern Ethiopia, 2018. J. Pregnancy. 2019, e4629101. https://doi.org/10.1155/2019/4629101
13. Wiegand, H., & Kish, L. Survey Sampling. John Wiley & Sons, Inc., New York, London 1965, IX + 643 S., 31 Abb., 56 Tab., Preis 83 s. Biom., 1968, 10, 88–89. https://doi.org/10.1002/bimj.19680100122

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14. Desta, M., Getaneh, T., Memiah, P., Akalu, T.Y., Shiferaw, W.S., Yimer, N.B., Asmare, B., & Black, K.I. Is preterm birth associated with intimate partner violence and maternal malnutrition during pregnancy in Ethiopia? A systematic review and meta analysis. Heliyon., 2021, 7, e08103. https://doi.org/10.1016/j.heliyon.2021.e08103
15. Muchie, K.F., Lakew, A.M., Teshome, D.F., Yenit, M.K., Sisay, M.M., Mekonnen, F.A., & Habitu, Y.A. Epidemiology of preterm birth in Ethiopia: systematic review and meta-analysis. BMC Pregnancy Childbirth., 2020, 20, 574. https://doi.org/10.1186/s12884-020-03271-6
16. Mekasha, A., Tazu, Z., Muhe, L., Abayneh, M., Gebreyesus, G., Girma, A., Berhane, M., McClure, E.M., Goldenberg, R.L., & Nigussie, A.K. Factors Associated with the Death of Preterm Babies Admitted to Neonatal Intensive Care Units in Ethiopia: A Prospective, Cross-sectional, and Observational Study. Glob. Pediatr. Health., 2020, 7, 2333794X20970005. https://doi.org/10.1177/2333794X20970005
17. Jena, B.H., Biks, G.A., Gete, Y.K., & Gelaye, K.A. Effects of inter-pregnancy intervals on preterm birth, low birth weight and perinatal deaths in urban South Ethiopia: a prospective cohort study. Matern. Health Neonatol. Perinatol., 2022, 8, 3. https://doi.org/10.1186/s40748-022-00138-w
18. Lassi, Z.S., Middleton, P., Bhutta, Z.A., & Crowther, C. Health care seeking for maternal and newborn illnesses in low- and middle-income countries: a systematic review of observational and qualitative studies. F1000Research., 2019, 8, 200. https://doi.org/10.12688/f1000research.17828.1
19. Kifle, D., Azale, T., Gelaw, Y.A., & Melsew, Y.A. Maternal health care service seeking behaviors and associated factors among women in rural Haramaya District, Eastern Ethiopia: a triangulated community-based cross-sectional study. Reprod. Health., 2017, 14, 6. https://doi.org/10.1186/s12978-016-0270-5

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https://doi.org/10.59298/NIJSES/2024/10.5.13244