A Retrospective Study on Factors Influencing Poor Outcomes of Pregnancy between 2015 and 2019 In The Two Teaching Hospitals Lagos State Nigeria

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Abstract
Background : *Poor pregnancy and childbirth outcomes such as still births, pre-term births, neonatal and maternal deaths are major global challenges. The outcomes of pregnancy may be good or poor due to interplay of many antecedent factors. From a retrospective approach, there is limited research evidence on factors influencing poor outcomes of pregnancy in the two teaching hospitals in Lagos, Therefore the goal of this study was to evaluate the   factors influencing poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals in Lagos State.*
Materials and methods : *A retrospective design was adopted and total enumeration was used to obtain data from review of delivery registers of 11,343 women who delivered between 2015 and 2019 in the two teaching hospitals. A Self- designed checklist was used as instrument for data collection. Data were analysed using SPSS version 23 software. One research question was answered and three hypotheses were tested using descriptive and inferential statistics. Regression analysis was used   in testing the hypotheses at 0.05 level of significance.*
Results: *Findings from the study revealed that majority of the delivered women were within the age range of 25-30 years and the mean age was 27.66± 10.22. Preterm birth recorded the highest percentage (35.5%) of occurrence out of all the poor outcomes of pregnancy between 2015 and 2019 , followed by low birth weight (30.5%) and stillbirth (15.6%), while ruptured uterus was the least (0.7%) for the five years under review. Also the result of regression analysis showed that age was found insignificant (β = 0.235; t=1.190; p=0.273), while parity was significant in the poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals (β = 0.0751; t=3.797 p=0.007), booked status was found significant (β =0.682;t=2.844; p = 0.025) while unbooked status was insignificant in the poor outcomes of pregnancy between 2015 and 2019. (β=0.309; t=1.288;p= 0.239 respectively. However an insignificant influence (β = 0.555; t= 1.886; p=0.096) was established   between pre-existing diseases and poor outcomes of pregnancy for the five years period*
Conclusion: *Preterm birth was the most occurring poor outcome of pregnancy and theinfluence of parity and booking were significant on the poor outcomes of pregnancy, while pre-existing diseases had no significant influence on the poor outcomes of pregnancy. It is therefore recommended that pregnant women should be encouraged to book early so as to reduce the incidence of poor outcomes of pregnancy.*
Keywords: *Factors, poor outcomes of pregnancy, retrospective*

I.   Introduction

1.1   Background of study

Globally, pregnancy and its associated poor outcomes such as maternal mortality, neonatal mortality, and low birth weight, are still a major public health concern.The greater percentage of such outcomes (maternal mortality) occurred in in Sub-Saharan Africa with 546 maternal mortalities per 100,000 live births annually (WHO, 2017).Approximately 810 women die from preventable causes related to pregnancy and childbirth (WHO, UNFPA and United Nations Population 2019), almost 7000 newborns die and more than 7000 babies are stillborn, (UNICEF, 2019). The large majority of these deaths occur in low and middle-income countries.

According to Lagadec , et al.,(2018), pregnancy is a period of transition with important physical and emotional changes, while most pregnancies and childbirths are uneventful, all pregnancies are at risk with various poor outcomes. The outcomes of pregnancy are the end result of a fertilization process which may be good or poor. The good outcomes for both maternal and infant are live mother without morbidity and life

birth of infant at full term with normal birth weight, which ranges between 2.5 kg and 3.5kg. Some of the factors that can influence good outcomes of pregnancy include preconception care, prenatal care, expert management of obstetrics emergencies and reproductive health of women of child-bearing age and adequate perinatal care of the newborn.

WHO (2015) had observed that, the rates of poor outcomes of pregnancy are higher in low and middle income countries compared to high- income countries. Still birth is 29/ 1000 births in low/middle income countries as against 3/1000 births in high- income countries. Ninety –four percent of all maternal deaths occur in low and middle-income countries. Also in the low income countries, 12% of babies are delivered prematurely compared to 9% in high- income countries, and the neonatal mortality rates are about ten times higher in low and middle income countries when compared to high-income countries.

Also WHO (2013) stated that, stillbirth (which refers to a baby born without any signs of life at or after 28 weeks of gestation), is one of the most common poor outcomes of pregnancy. An estimate of 2.6 million stillbirths occur annually especially in low income countries and that Nigeria has a stillbirth rate of 41.7 per 1000 births. This accounts for one of the highest rates of stillbirth in the African Continent. Furthermore, UNICEF (2019) had reported that the global stillbirth rate in 2018   was 13.9 stillbirths per 1,000 total births and approximately 2 million stillbirths occurred worldwide in 2019 and many of these might have been prevented with proper care.

Adane, Ayele, Ararsa, Bitew and Zeleke (2014) noted that, the poor outcomes of pregnancy for the mother include ; miscarriages, death of the mother and maternal morbidity such ruptured uterus, while that of the baby may be stillbirth, preterm birth, low birth weight, birth defect, and neonatal death   The risk factors for these identified poor outcomes of pregnancy include pre-existing disease condition such as chronic hypertension, diabetes mellitus, maternal age, parity, pregnancy related conditions (such as pregnancy induced hypertension, obstructed labour,   exposure to environmental toxin substance use, infections, anaemia, to mention but a few . However, most of these risk factors can be modified in order to achieve a good outcome of pregnancy which is live baby at term and live mother

According to Sedgh, Singh and Hussain (2014) approximately 213 million pregnancies occurred globally, out of which 190 million were in low income countries. About 10% to 15% of these recognized pregnancies ended in spontaneous abortion .A report on   Global Burden of Disease Study in 2016 showed that, pregnancy related   complications resulted in 230,600 maternal deaths and the common causes include haemorrhage, infections, preeclampsia/eclampsia, obstructed labor, and abortion.

 In Nigeria, the maternal mortality rates vary in the regions and states of the country.   For example; Lagos State being one of the densely populated urban states in the country has an estimated maternal mortality ratio of 450/100,000 live births (Oye-Adeniran et al 2014). Also, a four year retrospective study conducted by Agbata , Eze, Ukaegbe , and Odio (2015) in Federal Teaching Hospital, Abakaliki, Ebonyi State from 2012-2015 found out that, out of 9,670 deliveries 401 were stillbirths, giving the Hospital stillbirth rate of 41.4/1000 births. Statistics of similar studies conducted in few other states of the Federation showed a rate of 46.9/1000 birth in Kastina State (Suleiman,2015). While Okeudo,Ezem and Ojiyi (2012) reported rate of 180/1000 stillbirth in Imo State University Teaching Hospital, Orlu, These information are reflections of high rates of stillbirths in Nigeria. Nigeria has a very high number of preterm births, about 773, 600, next to India with 3,519, 100 and China with 1,172, 300 respectively. The complications of preterm birth are the leading cause of death among infants especially in developing and among the top ten countries with the highest number of preterm birth. (Blencowe, et al ,2012). Furthermore, in 2012 an estimate of 1.25 million abortions occurred in Nigeria, giving the rate of 33 abortions/1,000 among women of child-bearing age (Center for Reproductive Rights, 2013), and estimate of low birth weight infants in Nigeria is 16% (Takai, Bukar&Audu, 2014).

The researcher has also observed a significant number of pregnancies ending in poor outcomes such as, still birth, spontaneous abortion, preterm birth with its associated risk of neonatal morbidity and mortality. Some of these women end up having morbidities such as ruptured uterus ,vaginal fistulae, while others lose their lives or remain in a vegetative state postpartum. Several factors influence the outcomes of pregnancy, these include; maternal demographic characteristics (age and parity), booking status pre-existing disease conditions, as well as   health facility factors such as; lack of equipment and consumables, inadequate skilled health personnel, long waiting time/delayed response to emergencies, attitude of health workers ,hospital logistics and protocols, all these factors interact in one way or the other to influence outcomes of pregnancy (WHO, 2015).

Prenatal care improves the outcomes of pregnancy, therefore prevention of complications arising from pregnancy and delivery starts with a healthy pregnancy. Quality preconception care, adequate care during pregnancy, intra-partum and postpartum will ensure that all women of child-bearing age have a positive pregnancy experience and outcome (which is live birth at term and live mother). To achieve a positive outcome of pregnancy, World Health Organization has established guidelines for antenatal care which include vital interventions to help prevent preterm birth, such as; early booking, counseling on adequate diet and optimal nutrition, avoidance of tobacco and substance use; adequate fetal and maternal monitoring, accurate

determination of gestational age, proper management of pre-existing disease conditions, and detection of multiple pregnancies/abnormal pregnancies through the use of advanced health technology as early as possible so as to achieve a healthy pregnancy and positive outcome (Lancet Global Health, 2018).

1.2 Statement of the Problem

Poor pregnancy and childbirth outcomes such as still births, pre-term births, miscarriages, neonatal and maternal deaths are major global challenges. The interplay of many antecedent factors, including biological, cultural factors, and pre-existing medical conditions, combined with an overwhelming poor health services delivery, is a basic challenge in several countries, especially in low-income countries. Although the global number of neonatal deaths declined from 5.0 million in 1990 to 2.4 million in 2019, infants still face the greatest risk of death in their first 28 days (WHO,2020). Also there was a decline in maternal mortality ratio by 38% from 342 deaths to 211 deaths per 100,000 live births between 2000 and 2017. This translates into an average annual rate of reduction of 2.9 per cent, while this may be substantive, it is less than half the 6.4 per cent annual rate reduction needed to achieve the Sustainable Development global goal of 70 maternal deaths per 100,000 live births. (WHO & UN ,2019).Furthermore Sustainable Development Goal (SDG) 3 aims for the end of preventable neonatal deaths by 2030, with the goal of reducing neonatal mortality to at least as low as 12 per 1000 live births in every country. However it is estimated that more than 60 countries will miss the target and majority of them being low -income countries (UN,2018)

Nigeria has a very high number of preterm births, about 773, 600, next to India with 3,519, 100 and China with 1,172, and the estimate of low birth weight infants in Nigeria was 16% (Agbata , Eze, Ukaegbe , &Odio 2015). Also the rate of poor outcomes of pregnancy vary in regions and states of the country. For example; Lagos State has an estimated maternal mortality ratio of 450/100,000 live births. (Oye-Adeniran, Odeyemi ,Gbadegesin , Ekanem , Osilaja& Akin-Adenekan, 2011). EbonyiState has an estimated stillbirth rate of 41.4/1000 births in 2015 (Agbata, et al, (2015). Kastina State had still birth rate of 46.9/1000 birth , while a rate of 180/1000 birth was reported in Imo State University Teaching Hospital(Mokuolu,2015). Preterm birth rate of 120/1,000 deliveries was reported in Ilorin teaching hospital,(Ekure, Ezeaka, Iroha and Egri-Okwaji (2013).

According to Abimbola, OkoiOlubajo, Abdullahi and Pate (2012) many studies on outcomes of pregnancy in Nigeria have been reported, the following were identified as factors influencing outcomes of pregnancy; demographic characteristics such as age, parity, poverty, lack of essential amenities and deficient healthcare services Numerous studies have found that respondents who never received antenatal care during their pregnancy were associated with poor pregnancy outcomes. Preexisting medical conditions were significantly associated with poor pregnancy outcomes and the illness which significantly affected pregnancy outcome included chronic hypertension .

Evidence abound that poor outcomes of pregnancy had a strong and consistent association with biological, social and environmental factors and even though studies have been conducted on factors influencing outcomes of pregnancy majority of these studies were cross-sectional in nature which utilized data on a small sample of pregnant women collected in a short period of time Also, from a retrospective approach, there is limited research evidence on factors influencing poor outcomes of pregnancy in the two teaching hospitals in Lagos, Therefore the objective of this study was to evaluate factors influencing poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, Lagos.

1.3 Objective of the study

The main objective of this study was to evaluate the factors influencing poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospital; Lagos University Teaching Hospital (LUTH) and Lagos State University Teaching Hospital (LASUTH).

The specific objectives were to:

1. identify the most occurring poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals in Lagos State
2. evaluate the influence of maternal demographic characteristics; age and parity on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals in Lagos State
3. determine the influence of booking/non booking status on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals in Lagos State
4. examine the influence of preexisting disease conditions on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals in Lagos State

1.4 Research Questions

1. What are the most occurring poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals

1.5   Hypotheses

H_01 There is no significant influence of maternal demographic characteristics (age and parity) on   poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals

$H_0 2$ There is no significant   influence of   booking /non booking status on poor outcomes of pregnancy between 2015 and 2019 in two teaching hospitals.

H_03 There is no significant influence of pre-existing diseases on   poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals.

1.6   Justification of the study

The problem of poor outcomes of pregnancy may be due to the interplay of many antecedent factors that could be demographic characteristics, booking status, or pre-existing disease conditions. Adeusi ,Adekeye and Ebere (2014) observed that socio- economic factors may limit women's health seeking bahavior, making pregnancy and childbirth precarious, pre-existing medical conditions place the pregnant mother at high risk for poor outcomes of pregnancy. Reducing adverse outcomes of pregnancy requires comprehensive and systematic examination of the complex relations among factors that can influence such outcomes There is no single intervention measure that will considerably reduce poor outcomes of pregnancy, which indicates the need to examine various factors   that can influence the outcomes of pregnancy. The study is aimed at assessing the factors influencing outcomes of pregnancy. This might therefore reduce incidence of poor outcomes of pregnancy in the State and Nigeria as a whole , thereby achieving sustainable development goal (SDG 3): which is reduce the global maternal mortality ratio to <70 maternal deaths per 100,000 live births and to end preventable deaths of newborns in all countries (neonatal mortality:12/1,000 live births)   (UN, 2015).

1.7 Significance of the Study

The study is in line with the sustainable development goals, therefore   findings from this study may give insight into the incidence of poor outcomes of pregnancy in the study setting. It may help in addressing the factors influencing poor outcomes of pregnancy in these institutions and with such information available, appropriate planning may be made and adequate measures put in place to ensure favorable outcomes of pregnancy. This may lead to ripple effect and enable other parts of the country to use same measures

It could give insight into factors that can influence outcomes of pregnancy and help curb the burden of poor outcomes of pregnancy on the individuals and families.

The findings may be communicated to pregnant women who may attend   antenatal clinic in the nearby future and this will enable them to embrace the focused antenatal care as recommended by WHO as well as improve their birth preparedness so as to reduce future occurrence of poor outcomes of pregnancy.

It may help the government to plan in order to ensure that facilities are adequately equipped and well-staffed. The findings may enable institutions to maintain available equipment   periodically as well as organize training for staff to update their knowledge. The findings of this study could help in planning and developing strategies for the reduction of maternal and infant mortality.

1.8   Scope of the Study

This retrospective study evaluated   factors influencing poor outcomes of pregnancy (such factors include demographic characteristics, booking status, and pre-existing disease conditions, that could affect poor outcomes of pregnancy between 2015 and 2019 e in the two Teaching Hospitals in Lagos. The study settings were Lagos University Teaching Hospital (LUTH) Idiaraba, Surulere and Lagos State University Teaching Hospital Ikeja, Lagos. Delivery registers were used to collect data for the study.

II.   Operational Definition of Terms

Factors ; are element that contribute to poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, which include;

•   Demographic characteristics such as age, parity that can influence outcomes of pregnancy

•   Booking status of delivered women   such as booked cases that have attended antenatal care and unbooked cases but delivered in the two hospitals

•   Pre-existing diseases   such as chronic hypertension, diabetes mellitus, cardiac diseases and sickle cell disease that can influence outcomes of pregnancy.

Poor outcomes of pregnancy ; in this study are   adverse or   poor result of pregnancy and childbirth between 2015 and 2019 in the two teaching hospitals, which include ; stillbirths, preterm births, spontaneous abortions, low birth weight infants, neonatal, ruptured uterus and maternal deaths / morbidity.

Retrospective ; in this study is the act or process of surveying or reviewing the past records of deliveries between 2015 and 2019 in the two teaching hospitals.

III.   Research Methodology

This chapter describes the procedures used in the research work. It presents in a systematic way how the research work was conducted. The research methodology include; research design, population of study, method of data collection, and method of data analysis.

3.1 Research Design

This study adopted retrospective design and content evaluation method was used to review records of deliveries to evaluate factors influencing poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals Lagos.

Research Setting

The settings for the research study were the two teaching hospitals in the State which are ; Lagos University Teaching Hospital, Idi-araba and Lagos State University Teaching Hospital, Ikeja. Lagos University Teaching Hospital (LUTH), was established in July 1962 in the outskirt of Surulere Local Government Area. It is located along Ishagaraod in Idi-Araba, Surulere. It has 28 wards, 761 beds and 12 clinics. The obstetrics and gynaecology clinic is one out of the 12 clinics in the Hospital, and it is divided into 4 subunits; oncology and pathological studies, experimental and maternal medicine, ultrasound and fetal medicine and reproductive, endocrinology and fertility regulation. The obstetrics and gynaecology clinic provides antenatal, delivery and postnatal services for registered clients as well as unbookedclinents. The labour wards are in cubicles with two delivery couches in each and is equipped with equipment for monitoring progress of labour.

Lagos State University Teaching Hospital (LASUTH), emerged from a modest cottage hospital, which was established, 25th of June 1955. In July 2001, the General Hospital Ikeja was formally converted to Lagos State University Teaching Hospital by the Lagos State Government. It has 14 clinics and 774 beds for in-patient admissions.   Ayinke House, is maternal and child centre (institute of maternal and child health) located within the premises of the Lagos State University Teaching Hospital (LASUTH), Ikeja is a clinical wing of the Department of Obstetrics and Gynaecology of the Hospital. Ayinke house has 153 obstetrics and gynaecological beds and fprovides care for pregnant women, new mothers and their babies. The labourward suits has a delivery couch with gadgets for monitoring feto-maternal conditions during labour

3.2 Population of Study

The study population were delivery registers which has records of pregnant women who delivered in the two teaching hospitals. A total number of eleven thousand, four hundred and ninety-eight (11,498) deliveries as documented from January 2015 to December 2019 were considered for this study

3.3 Sample Size and Sampling Technique

Total enumeration was adopted for this study andthe records of delivered mothers between January 2015 and December 2019 were reviewed
The total enumeration of records of all delivered mothers in the two teaching hospitals was done and the total numbers of deliveriesfrom LUTH between 2015-2019 were 3,408 while that of LASUTH was 7,935 for the same period under review making a total of 11,343 deliveries for the two teaching hospital for a period of 5 years.

3.4   Instrumentation

The instrument for data collection was a self-developed checklist constructed by the researcher to review delivery records in the two teaching hospitals. The checklist was developed after literature review and it is based on the objectives and variables of interest of this study.
The checklist is described below;
Demographics factors; this includes age and parity
Booking status; this consists of booking /non booking status
Pre-existing diseases; this includes chronic hypertension, diabetes mellitus, cardiac diseases, HIV, sickle cell disease, hepatitis, kidney diseases
Outcomes of pregnancy; this consists of stillbirth, preterm birth, low birth weight, neonatal death, ruptured uterus and maternal death,
The checklists were used to evaluate the influence of demographic characteristics (age and parity), booking status (booked /unbooked) and preexisting disease conditions on outcomes of pregnancy

3.5 Validity of Instrument : The validity of the instrument was established by the researcher's supervisor and other lecturers in the department, necessary corrections were made to ensure the instrument is relevant to the topic, met the objectives, and fit to measure what it supposed to measure. The face and content validity were ensured.

3.6 Method of Data Collection
A letter of introduction from the Dean School of Nursing, BUREC clearance letter, letter of approval from LUTH and LASUTH were presented to officers in-charge of records in the two teaching hospitals. The researcher trained four assistants to be familiar with the data collection procedure. A check list of what to look out for was used to train the assistants and it include the following ; demographic characteristics, booking status, pre-existing diseases, outcomes of pregnancy such as stillbirth, preterm birth, LBW, miscarriages, neonatal death, maternal morbidity/mortality. Data was extracted from LUTH and LASUTH labour ward delivery registers and neonatal unit registers with the support of medical records officers. The registers are the only official record of deliveries and has recorded information on the variables of interest of the researcher. All these data were recorded by the attending midwives between 2015 and 2019 which are the years under review.

3.7 Method of data analysis.
Data gathered from the study were analyzed using descriptive statistics such as mean, frequency, and standard deviations Inferential statistics were done with regression analysis / Chi-square at significant level of $p \leq 0.05$ to test the influence of variables of interests, which include; demographic characteristics of the subjects, (age and parity), booking status (booked/unbooked), preexisting disease conditions and the outcomes of pregnancy. Data analysis was carried out using SPSS software version 23

3.8 Ethical considerations.
Ethical clearance was obtained from Babcock University Health Research Ethical Committee (BUHREC) with ethical approval number 209/20 to conduct the study. A letter of introduction and permission to conduct the research was obtained from the Dean of School Nursing to LUTH and LASUTH. Then a letter of permission to carry out the study was obtained from Ethical Research Committee of the Lagos University Teaching Hospital, Idi-Araba, and Lagos State University Teaching Hospital Ikeja respectively.Informed consent was gained through verbal interaction with the heads of records department.

IV. Data Analysis, Result And Discussion Of Findings
The study assessed factors influencing poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals Lagos State; LUTH and LASUTH for a period of five years . The basic result of the study are presented with descriptive and inferential statistics. Eleven thousand three hundred and forty-three (11,343) record of delivered mothers from January 2015 to December 2019 were reviewed for analysis.

4.1 Presentation of Result
Table 4.1: Maternal demographic characteristics (age and parity), booking status and pre-existing diseases

Variable	Frequency	Percentage (%)
Age		
15—19	91	0.8
20—24	894	7.9
25—30	4111	36.2
31—35	3982	35.1
36—40	1899	16.7
41 and above	366	3.2
Total	11343	100.0
Mean age =27.66± 10.22		
Parity		
0—1	7416	65.4

2—4	3730	32.9
5 and above	197	1.7
Total	11343	100.0
Booking status (booked/unbooked)		
Booked	9437	82.3
Unbooked	1906	16.8
Toatal	11343	100.0
Pre-existing diseases		
Chronic hypertension	80	8.5%
Diabetes mellitus	16	1.7%
Cardiac disease	1	0.1%
Kidney disease	0	0.0%
HIV positive	759	81.2%
Sickle cell disease	54	5.7%
Pulmonary tuberculosis	1	0.1%
Hepatitis	21	2.2%
Asthma	3	0.32%
Total	935	100.0

Source: Teaching Hospitals' Archives, 2015-2019

As shown in Table4.1 the record revealed that most of the delivered women were within the age range of 25-30 years with mean age of 27.66± 10.22 and the record of parity shows that majority (56.4%) were primigravdea. The record also revealed that majority (83.2%) of the delivered women between 2015 and 2019 were booked. Furthermore, with reference to pre-existing diseases, the record revealed HIV as the most common pre-existing disease 759 (81.2%), compared to chronic hypertension 80 (8.5%), sickle cell recorded 54(5.7%), hepatitis 21 (2.2%), and diabetes 16 (1.7%) for the 5-years period under review.

Answer to research question

Research question one : What are the most occurring poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals in Lagos ?

Table 4.2: Poor outcomes of pregnancy

Poor outcomes	Frequency	Percentage (%)
Stillbirth	583	15.6
Miscarriages	331	8.9
Birth weight < 2.5kg	1139	30.5
Preterm birth < 37 weeks	1325	35.5
Neonatal death	247	6.6
Maternal Death	78	2.1
Ruptured uterus	26	0.7
Total	3729	100.0

Source: Teaching Hospitals' Archives, 2015-2019

Table 4.3 revealed that the most occurring poor outcome of pregnancy between 2015 and 2019 was preterm birth 1,325 (35.5%), followed by low birth weight 1,139 (30.5) and stillbirth (583 (15.6) while ruptured uterus was the least 26 (0.7%)

4.2: Hypotheses testing

Hypothesis one: $H_0 1$; There is no significant influence of maternal demographic characteristics on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals,Lagos State

Table 4.3; Influence of maternal demographic characteristics (age and parity) on poor outcomes of pregnancy

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	176170.405	2	88085.203	13.216	.004[b]
	Residual	46656.495	7	6665.214		
	Total	222826.900	9			
Model summary & coefficients: **Demographics : R=0.889; R^2=0.791; Adj=0.731**						
Indicators	β	T	Sig			
Constants		1.750	.124			
Age	.235	1.190	.273			
Parity	.751	3.797	.007			
Predictors: (Constant), **Demographics** (parity, age); Dependent Variable: outcome of pregnancy						

Source: Field Survey Results, 2021

Table 4.3 Revealed a multiple regression analysis showing the influence of demographic characteristics on the poor outcomes pregnancy between 2015 and 2019 in the two teaching hospitals TheAdjR^2 is the coefficient of determination which explains the variation in the dependent variable due to changes in the independent variable. R^2 is the coefficient of determination which explains the variation in the dependent variable due to changes in the independent variable.

From this findings, age was found insignificant (β = 0.235; t=1.190; p=0.273) while parity was significant in the poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals (β = 0.0751; t=3.797 p=0.007) .

The Adj$R^2$of 0.731 indicated that demographic factor explained 73.1% level of significance on poor outcomes of pregnancy between 2015 and 2019.. The *F* value of 13.216 (DF = 2, 7; *p* < 0.05) suggests that the regression model is reliable for the estimation of the relationship between maternal demographics and poor outcomes of pregnancy. Therefore, the null hypothesis was rejected. The finding simply suggests that demographic factor contributes significantly to the poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals in Lagos State.

Hypothesis two :$H_0 2$; There is no significant influence of booking status on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, Lagos State.

Table 4.4: Influence of booking status on poor outcomes of pregnancy

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	133874.866	2	66937.433	5.268	.040[b]
	Residual	88952.034	7	12707.433		
	Total	222826.900	9			
Model summary & coefficients: **Booking status : R=0.775[a]; R^2=0. 601.Adj R^2=.487**						
Indicators	β	T	Sig			
Constants		.228	.826			
Booked	.682	2.844	.025			
Unbooked	.309	1.288	.239			
Predictors: (Constant), Booking status**:** un-booked, booked ; Dependent Variable: outcomes						

Table 4.4: Shows the influence of booking status on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals for the period of 5 years .

From this finding booked status was found significant (β=0,682;t=2.844; p=0.025) while unbooked was insignificant in the poor outcomes of pregnancy (β =0.309; t=1.288 ;p=0.239)The Adj R^2 is the coefficient of determination which explains the variation in the dependent variable due to changes in the independent variable. From table 4.4 the AdjR^2 of 0.487 indicated that booking status explained 48.7% of changes in the poor outcomes of pregnancy The F value of 5.596 (DF = 3, 6; $p < 0.05$) suggests that the regression analysis is reliable for the estimation of the relationship between booking status and poor outcomes of pregnancy between 2015 and 2019, therefore, the null hypothesis was rejected. The finding simply suggests that booking status would significantly contribute to the poor outcomes of pregnancy in the two teaching hospitals, Lagos State.

Hypothesis three :$H_0$3 There is no significant influence of pre-existing diseases on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, Lagos State.

Table 4.5: Influence of pre-existing diseases on poor outcomes of pregnancy

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	68567.333	1	68567.333	3.556	.096[b]
	Residual	154259.567	8	19282.446		
	Total	222826.900	9			
Model summary & coefficients: Pre-existing diseases : R=0. 555; R^2=0.308.Adj R^2= 0.221						
	B	t	Sig			
Constant		2.033	.076			
Pre-existing diseases	.555	1.886	.096			
Predictors: (Constant), Pre-existing diseases; Dependent Variable: outcomes						

Source: Field Survey Results, 2021

Table 4.5.revealed a simple linear regression analysis showing the influence of pre-existing diseases on poor outcomes of pregnancy between 2015 and 2019 for a period of 5 years in the two teaching hospital Lagos State. The R^2 is the coefficient of determination which explains the variation in the dependent variable due to changes in the independent variable. From table 4.5, pre-existing diseases had no significant influence (β =0.55; t=1.886 ; p=0.096) on the poor outcomes of pregnancy , therefore, the null hypothesis was hereby accepted by this finding. This might be as a result of their early discovery and treatment in the hospital.

4.3 Discussion of Findings
Research question 1:What are the most occurring poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, Lagos State ?

The record revealedthat preterm birth was the most (35.5%), occurring poor outcome of pregnancy while ruptured uterus was the least 26 (0.7%) between 2015 and 2019 in the two teaching hospitals. This finding is in line with the report of WHO (2015), which stated that
preterm birth is a global problem and more than 60 per cent of preterm births occur in Africa and South Asia and Nigeria is ranked among the top ten countries with greatest number of preterm birth.

Hypotheses

H_0 1: There is no significant influence of maternal demographic characteristics on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, Lagos State.
The findings revealed a significant influence of parity (β = 0.0751; t=3.797 p=0.007)on poor outcomes of pregnancy, this may be due to high number 7416 (65.4%) of primiparous delivered women recorded for the 5 years under review. This corresponds with a study conducted by Mgaya, Massawe, Kidanto, and Mgaya, (2013) who discovered that parity remains a significant index in obstetrics outcomes among the population of women of child-bearing age. This is also supported by Alsammani and Ahmed (2015) who discovered that primiparity was more likely to be related to poor outcomes of pregnancy, such as stillbirth, low birth weight, and neonatal mortality. However, age was found insignificant (β = 0.235; t=1.190; p=0.273) on the poor outcomes pregnancy This is at variance with a study by Gibbs, Wendt , Peters, and Hogue, (2012) who posited that, reproductive age is thought to place mothers at risk for poor outcomes of pregnancy.

$H_0$2 : There is no significant influence of booking /non booking status on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, Lagos State .
Findings from the study revealed a significant influence (β =0.682; t=2.844;p=0.025) of booked status on poor

outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, while un-booked status was found insignificant (β=0.309;t=1.288; p-0.239) on the poor outcomes of pregnancy for the five years period under review. In this perspective, Omo-Aghoja, Onohwakpor, Adeyinka, and Omene, (2013) pointed out that there is statistically significant difference between babies of booked and unbooked women in term of still births (1.75%; vs 5.75%) and neonatal deaths (2.75% vs 5%). Also a study by Ifenne, and Utoo, (2012) showed that booking status by pregnant women was associated with higher risk of poor outcomes of pregnancy such as miscarriages, preterm births, stillbirths, maternal mortality, while most of the survivors recover slowly and with various degrees of morbidity. Sodje and Ande, (2016) discovered that poor outcomes of pregnancy were three times more common in the un-booked pregnant women and that unbooked mothers were thirteen times more likely to die in the hospital than booked mothers.

$H_0 3$: There is no significant influence of pre-existing diseases on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, Lagos State.

The findings from this study revealed that an insignificant influence (β = 0.555; t=1.886; p=0.096) was established between pre-exiting diseases and poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals. This might be as a result of early treatment of any observed diseases by health care providers. The result is not supported by Gelson and Mark, (2010) who said pre-existing disease conditions may significantly influence outcomes of pregnancy, irrespective of whether the women is on treatment for such conditions or not. Medical conditions that exist prior to pregnancy are likely to be worsened in pregnancy state if not discovered early

V. Summary, Conclusion And Recommendations
This chapter presents the summary, conclusion and recommendations of the study. In addition, it recommends arrears for further studies.

5.1 Summary
Pregnancy and child birth are two of the life's most intense experiences with great joyful expectations. While some women achieve favourable outcomes for both maternal and infant such as live mother without morbidity and life birth of normal infant at full term, others have poor outcomes of pregnancy.

The objective of this study was to evaluate the factors that can influence poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, Lagos State

Literature was reviewed both conceptual, empirical and theory to back-up the study. Ethical clearance was obtained from BUREC to conduct the study and also letters of permission to carry out the study were obtained from LUTH and LASUTH ethical committee respectively. Informed consent was gained through application to the director of records as well as verbal interaction with the medical officers.

Delivery registers of delivered mothers were used to collect data, retrospective study design was adopted, total enumeration was used and the total number reviewed were 11,343. records of pregnant women who delivered from January 2015 to December 2019.

The following findings were recorded

From the records it was revealed preterm birth has the highest percentage of occurrence (35.5%) while ruptured uterus recorded the least with (0.7%) between 2015 and 2019 that in 2019 in the two teaching hospitals

i. A significant influence of maternal demographic characteristic (parity β = 0.0751; t=3.797 p=0.007) on poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals.
ii. Also a significant influence of booking status (bookedβ =0.682;t=2.844;p=0.025) on poor outcomes of pregnancy for the five years under review was established in this findings.
iii. An insignificant influence(β = 0.555; t= 1.886; p=0.096) was discovered between pre-existing diseases and poor outcomes of the pregnancy between 2015 and 2019 in the two teaching hospitals

5.2: Conclusion
The study employed a retrospective study design, 11,343 records of delivered pregnant women in the two teaching hospitals were reviewed Findings revealed that parity and booked status were significant while pre-existing diseases had no significant influence on the poor outcomes of pregnancy between 2015 and 2019 in the two teaching hospitals, Lagos State.

5.3: Recommendations
The following recommendation were made;
Pregnant women should be encouraged to book early in order to prevent complications

Adequate management of pre-existing disease condition such as hypertension should be employed to reduce risk for undesirable outcomes of pregnancy among women of child-bearing age.

Proper documentation of patient's records and vital statistics to curb missing data.

In view of the influence of parity, proper care and counselling should be given to pregnant women especially the primigravidae.

5.4: Implication for Nursing

• The information gathered will help nurses to see the need to intensify advocacy for booking by pregnant women

• It will give pregnant women with pre-existing disease assurance of having good outcomes of with early detection and proper management.

• Reducing adverse outcomes of pregnancy requires comprehensive effort by the government as there is complex relationship among factors that can influence such outcomes.

5.5: Suggested for Further Studies

• Further studies should be extended to other states and institutions on this same study

• Other factors such as socio-cultural factors, food taboo/nutrition could be considered for further studies

• The influence of healthcare facility factors on outcomes of pregnancy could be the focus for the next study.

• Evaluating studies should be carried out on the relationship between each pre-existing disease and each outcome of pregnancy across the state in Nigeria.

5.6: Limitation of the Study

• The study was limited to only the two teaching hospital in Lagos State which most times are referral centres.

• The study lacked control for some variables which were missing despite that such could be important in the present study.

• The study period was restricted to five years (2015-2019)

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