Effect of Perceived Factors on the Utilisation of Postnatal Care Services by Nursing and Postpartum Mothers in Gwer-East Local Government Area of Benue State, Nigeria.

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ABSTRACT

Introduction: This study assessed the effect of perceived factors on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State. Five objectives were set in the study. Five research questions and five hypotheses were postulated to guide the study.

Methodology: The study employed a descriptive survey research design. The population of the study comprised all the nursing mothers attending routine immunisation or other healthcare services with their children in Gwer-East Local Government Area. Total Population Sampling technique was used in the study to sample 198 nursing mothers for the study. The instrument used for data collection was a structured questionnaire designed by the researcher and titled Utilisation of Postnatal Care Services Questionnaire (UPCSQ). Data for this research was obtained through the administration of the questionnaire on respondents. Hand delivery method was used for both the distribution and collection of the questionnaires. The researcher used binary logistic regression to analyse the data at 0.05 level of significance.

Results: age [15 – 25 yrs (aOR:8.0, 95%CI: 4.2 – 44.2, p<0.05); 26 – 35 yrs (aOR:6.7, 95%CI: 4.5 – 16.9, p<0.05); 36 – 45 yrs (aOR:2.8, 95%CI: 0.8 – 10.2, p<0.05)]; place of residence [Rural (aOR:0.36, 95%CI: 0.01 – 0.12, p<0.05)]; employment status [unemployed (aOR:0.192, 95%CI: 0.079 –.465, p<0.05); Employed (aOR: 1.117, 95%CI: 0.525 – 2.378, p>0.05); Contract Worker (aOR: 1.203, 95%CI: 0.481 – 3.012, p>0.05)]; level of education [No Formal (aOR:0.001, 95%CI: 0.00 – , p>0.05); Primary (aOR:0.85, 95%CI: 019 – .379, p<0.05); Secondary (aOR:0.220, 95%CI: 0. 084 – .576, p<0.05)]; level of income [Low (aOR:0.032, 95%CI: 0.010 – 0.105, p<0.05); Middle (aOR:0.66, 95%CI: 0.029 – 1.151, p<0.05)] have a significant effect on utilisation of postnatal care services by postpartum mothers.

Recommendations: Government effort to strengthen postnatal care utilisation should focus on universal coverage by addressing financial barriers to vulnerable groups, quality improvement to increase women's satisfaction and carry the less privilege along and integration programmes to maximize the contact between women and health care services during and after delivery and to enhance economic development.

Index Terms: Utilisation, Postnatal Care Services, Nursing Mothers, Postpartum Mothers, Perception.

INTRODUCTION

Contemporary human behaviours for the promotion of maximum health acknowledges the role of multiple determinants of health care services utilisation, which could be social, cultural, economic, psychological and environmental, and the interconnectedness of these. For nursing mothers, the first hours, days, and weeks after giving birth are a dangerous time for both the mothers and their newborns because majority of the complications and deaths happen during this time. World Health Organization (WHO) (2013) recommended

that delivery of postpartum care services should be started immediately after giving birth to ensure women's physical and mental health through advising on danger signs and symptoms, and taking appropriate measures for potentially life-threatening conditions.

Globally, a large proportion of nursing mothers die each year due to childbirth-related complications, and majority of these deaths occur during the postpartum period, particularly in the first week after delivery (Sserwanja, Musaba & Mutisya, 2021; Sserwanja, Nuwabaine & Kamara, 2022). The majority (94%) of all maternal deaths occur in low- and lower middle-income countries due to lack of using existing services on timely manner (WHO, 2019, 2020). Utilisation of a postnatal care services by nursing mothers at the right time could result in reduced maternal and neonatal morbidity and mortality. Sub-Saharan Africa alone accounted for roughly two-thirds (196,000) of maternal deaths, while Southern Asia accounted for nearly one-fifth (58,000) (UN, 2021). Most of these complications and deaths happen due to easily avertable causes like blood loss, hypertension, sepsis, HIV, pre-existing medical disorders, and other indirect causes.

The world Health Organization (WHO) (2010) defined postnatal care as care given to the mother and her newborn baby immediately after the birth of the placenta and for the first 42 days of life. Postnatal care (PNC) is the care given to the mother and her newborn baby immediately after birth and for the first six weeks of life. This period marks the establishment of a new phase of family life for women and their partners and the beginning of the lifelong health record for newborn babies (or neonates — a term often used by doctors, nurses and midwives). Although for most women and babies, the postnatal period is uncomplicated, effective postnatal care (PNC) is also about recognising any deviation from expected recovery after birth, and evaluating and intervening appropriately in a timely fashion. Postnatal care services are a fundamental component of the continuum of maternal, newborn and child care, and key to achieving the Sustainable Development Goals (SDGs) on reproductive, maternal and child health, including targets to reduce maternal mortality rates and end preventable deaths of newborns (WHO, 2022).

World Health Organization (WHO) (2013) recommended that delivery of postpartum care services should be started immediately after birth to ensure women's physical and mental health through advising on danger signs and symptoms, and taking appropriate measures for potentially life-threatening conditions. The first hours, days, and weeks after giving birth are a dangerous time for both the mothers and their newborns because majority of the complications and deaths happen during this time (Dona, Tulicha, Arsicha, & Dabaro, 2022).

Postnatal care aims to ensure the health and wellbeing of both mother and baby after birth. The role of the healthcare provider during the postnatal period is to provide care and support at a level determined in partnership with the mother (PBB HC, 2012). Postnatal care addresses the care that is to be given to both the mother and the baby; although the term 'postpartum' is more specific in reference to the mother, the terms are used interchangeably. Postnatal care aims to stipulate the care needed by both the mother and the baby in postpartum period. Those caring for women postpartum should be sensitive to the initiation of family bonding, a special process that should not be disturbed unless maternal or neonatal complications arise (Amy et al., 2007).

Postpartum care for the mother has conventionally focused on routine observation and examination of vaginal blood loss, uterine involution, blood pressure and body temperature. Guidance for health-care professionals on other postpartum practices has been limited (Demott et al, 2016). Similarly, postnatal care for the baby has conventionally focused on cord care, hygiene and weight monitoring and feeding and/or immunizations, without systematic, comprehensive assessment and care of newborns. Basic care for all newborns includes promoting and supporting early and exclusive breastfeeding, keeping the baby warm, increasing hand washing and providing hygienic umbilical cord and skin care, identifying conditions requiring additional care and counselling on when to take a newborn to a health facility (UNICEF/WHO, 2010).

Although this has led to a progressive decline in maternal and child mortality rates in some regions of the world and increased availability of many PNC service providers, the presence of health facilities alone is not enough to guarantee their use as other factors – socioeconomic, sociocultural, demographic and psychographic – could influence perception, access and thus, utilization.

Uptake of postpartum and postnatal care is an important factor in maternal health management, but this is often ignored while providing maternal health to women. As a result, facilities for providing postpartum care do not get the desired acceptance of the community, and are therefore rendered unsuccessful. In a pluralistic medical milieu, the decision to seek postpartum care, where to do this and the form of care perceived as appropriate are all influenced by a multiplicity of factors relating to the person, the facility and the socio-cultural environment.

Multiple anatomic and physiologic changes occur during the postnatal period because the potential exists for significant complications, such as infection or haemorrhage, during this period. Maternal and infant morbidity and mortality still continues to be occurring during the postnatal period and yet the causes of fatalities during the postnatal period are usually avoidable or preventable, most of which could be dealt with by effective provision and use of the appropriate interventions in postnatal care provision.

Despite the fact that it has very substantial and positive impact on reduction of maternal and newborn morbidity and mortality, the postnatal period is neglected throughout Africa, as many women and their infants are not encouraged to seek care until six weeks after delivery, at which time they may or may not receive adequate attention. The family planning needs of women during the first year postpartum are not well addressed in Nigeria, with 68 percent of women having an unmet need by 12 months. Nursing and postpartum women need information and services, provided at appropriate times, to address this unmet need, including those mothers who are HIV-positive. Providing a continuity of care from antenatal services, including PMTCT, delivery, and postpartum care, can ensure that women's health and fertility intentions are more likely to be effectively met. Health providers in Benue State have traditionally focused on providing postpartum care for the first time at the sixth week; only two percent of postpartum women received a postnatal care visit within one week of delivery while 87.6 percent of postpartum women never received postnatal care in Benue State (Nigeria Multiple Indicator Cluster Survey, 2017). There is clearly a need for providing information about the postnatal period not only during pregnancy, but also information and services at several points in time in the extended period postpartum.

Despite the wealth of available literature looking at effect of perceived factors on the utilisation of postnatal care in Nigeria, to the best knowledge of the researcher, no single study has looked at all these avenues together in a comparative analysis that includes important variables such as sociodemographic, socioeconomic sociocultural factors that may potentially predict postnatal care utilisation among nursing and postpartum mothers. The importance of individual perceptions about the perceived benefits of utilisation these services as well as barriers to utilisation together with subjective norms, and attitude towards postpartum care cannot be overlooked.

The socio-cultural and economic factors underlying peoples' decision to seek postnatal care are undoubtedly critical in maternal health management, and it is within this purview that this study is timely and needed in Gwer-East Local Government Area. While studies outside of Benue State and Nigeria have established different socio-cultural and economic correlates of postnatal care services utilisation, these cannot be assumed to apply within the context as the culture and socio-economic characteristics of Benue people are different and as such calls for an examination of this phenomenon in the area. This study is an attempt to achieve this. The study therefore is set to investigate the effect of;

1. age of mother at delivery on the utilisation of postnatal care services by nursing and postpartum

mothers in Gwer-East Local Government Area of Benue State.
2. place of residence on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State.
3. employment status on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State.
4. level of education on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State.
5. level of income on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State.

Research Hypotheses

1. Age of mother at delivery will not have any significant effect on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State.
2. Place of residence will not have any significant effect on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State.
3. Employment status will not have any significant effect on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State.
4. Level of education will not have any significant effect on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State.
5. Level of income will not have any significant effect on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State.

LITERATURE REVIEW

Postpartum (Postnatal) Period

The postpartum (or postnatal) period begins after childbirth and is typically considered to end within six weeks (Lopez-Gonzalez, 2023). The World Health Organization (WHO) (2013) describes the postnatal period as the most critical and yet the most neglected phase in the lives of mothers and babies; most maternal and newborn deaths occur during this period. A woman giving birth may leave as soon as she is medically stable, which can be as early as a few hours postpartum, though the average for a vaginal birth is one to two days. The average caesarean section postnatal stay is three to four days. During this time, the mother is monitored for bleeding, bowel and bladder function, and baby care. The infant's health is also monitored (Vernon, 2017). Early postnatal hospital discharge is typically defined as discharge of the mother and newborn from the hospital within 48 hours of birth.

The postpartum period can be divided into three distinct stages; the initial or acute phase, 8–19 hours after childbirth; subacute postpartum period, which lasts two to six weeks, and the delayed postpartum period, which can last up to six months (Romano, Cacciatore, Giordano, & La Rosa, 2020). In the subacute postpartum period, 87% to 94% of women report at least one health problem (Glazener, Abdalla, Stroud, Naji, Templeton & Russell, 2015; Thompson, Roberts, Currie, Ellwood, 2022). Long-term health problems (persisting after the delayed postpartum period) are reported by 31% of women (Borders, 2016).

Acute Phase: The first 6 to 12 hours after childbirth is the initial or acute phase of the postpartum period (Romano, Cacciatore, Giordano & La Rosa, 2020). During this time the mother is typically monitored by nurses or midwives as complications can arise. The greatest health risk in the acute phase is postpartum bleeding. Following delivery the area where the placenta was attached to the uterine wall bleeds, and the uterus must contract to prevent blood loss. After contraction takes place the fundus (top) of the uterus can be palpated as a firm mass at the level of the navel. It is important that the uterus remains firm and the nurse or midwife will make frequent assessments of both the fundus and the amount of bleeding. Uterine massage is

commonly used to help the uterus contract (Mayo Clinic, 2015).

Following delivery if the mother had an episiotomy or tearing at the opening of the vagina, it is stitched. In the past, an episiotomy was routine (Romano et al., 2020). However, more recent research shows that routine episiotomy, when a normal delivery without complications or instrumentation is anticipated, does not offer benefits in terms of reducing perineal or vaginal trauma. Selective use of episiotomy results in less perineal trauma (Jiang, Qian, Carroli, & Garner, 2017). A healthcare professional can recommend comfort measures to help to ease perineal pain (Mayo Clinic, 2015).

Subacute Postpartum Phase: The subacute postpartum starts after the acute postpartum period concludes and can last for two to six weeks (Romano et al., 2020). In the first few days following childbirth, the risk of a deep vein thrombosis (DVT) is relatively high as hypercoagulability increases during pregnancy and is maximal in the postpartum period (Fiengo, Bucci, Patrizi, Giannotti, & Redler, 2013), particularly for women with C-section with reduced mobility. Anti-coagulants or physical methods such as compression may be used in the hospital, particularly if the woman has risk factors, such as obesity, prolonged immobility, recent C-section, or first-degree relative with a history of thrombotic episode. For women with a history of thrombotic event in pregnancy or prior to pregnancy, anticoagulation is generally recommended (American College of Obstetricians Gynecologists' Committee on Practice Bulletins – Obstetrics, 2018).

During the subacute postpartum period, psychological disorders may emerge. Among these are postpartum depression, posttraumatic stress disorder, and in rare cases, postpartum psychosis (Dobson & Sales, 2020). Postpartum mental illness can affect both mothers and fathers, and is not uncommon (Canadian Mental Health Association, 2014). Early detection and adequate treatment is required. Approximately 70–80% of postpartum women will experience the "baby blues" for a few days. Between 10 and 20 percent may experience clinical depression, with a higher risk among those women with a history of postpartum depression, clinical depression, anxiety, or other mood disorders. Prevalence of PTSD following normal childbirth (excluding stillbirth or major complications) is estimated to be between 2.8% and 5.6% at six weeks postpartum (Olde, van der Hart, Kleber, & van Son, 2016).

Various organizations across the world recommend routine postpartum evaluation in the postpartum period. The American College of Obstetricians and Gynaecologists (ACOG) recognizes the postpartum period (the "fourth trimester") as critical for women and infants. Instead of the traditional single four- to six-week postpartum visit, ACOG, as of 2018, recommends that postpartum care be an ongoing process. They recommend that all women have contact (either in person or by phone) with their obstetric provider within the first three weeks postpartum to address acute issues, with subsequent care as needed. A more comprehensive postpartum visit should be done at four to twelve weeks postpartum to address the mother's mood and emotional well-being, physical recovery after birth, infant feeding, pregnancy spacing and contraception, chronic disease management, and preventive health care and health maintenance. Women with hypertensive disorders should have a blood pressure check within three to ten days postpartum. Steele, Adam, Saldanha et al., (2023) suggests monitoring the blood pressure at home of women in the postpartum period appears to help with overall blood pressure measures and supports overall patient satisfaction. More than one half of postpartum strokes occur within ten days of discharge after delivery. Women with chronic medical (e.g., hypertensive disorders, diabetes, kidney disease, thyroid disease) and psychiatric conditions should continue to follow with their obstetric or primary care provider for ongoing disease management. Women with pregnancies complicated by hypertension, gestational diabetes, or preterm birth should undergo counselling and evaluation for cardiometabolic disease, as lifetime risk of cardiovascular disease is higher in these women (ACOG, 2018). Similarly, the World Health Organization recommends postpartum evaluation of the mother and infant at three days, one to two weeks, and six weeks postpartum (WHO, 2014).

Delayed Postpartum Phase: The delayed postpartum period starts after the subacute postpartum period and lasts up to six months (Romano et al., 2020). During this time, muscles and connective tissue returns to a

pre-pregnancy state. Recovery from childbirth complications in this period, such as urinary and faecal incontinence, painful intercourse, and pelvic prolapse, are typically very slow and in some cases may not resolve (Romano et al., 2020). Symptoms of PTSD often subside in this period, dropping from 2.8% and 5.6% at six weeks postpartum to 1.5% at six months postpartum (Olde et al., 2016). During this period, infant sleep during the night gradually increases and maternal sleep generally improves (McGuire, 2013). Approximately three months after giving birth (typically between two and five months), oestrogen levels drop and large amounts of hair loss is common, particularly in the temple area (postpartum alopecia). Hair typically grows back normally and treatment is not indicated (Schiff, 2013; Eastham, 2021).

Many factors figure into the likelihood of postnatal problems including the size of the infant; the method of delivery, such as C-section, or of forceps; perineum trauma from either an episiotomy or natural tearing; and the physical condition of the birth mother. Conditions that may result from childbirth include uterine prolapse, cystocele, rectocele, faecal incontinence, and urinary incontinence (Romano, Cacciatore, Giordano, & La Rosa, 2020). Other conditions that may also arise in this period include postpartum thyroiditis. Long-term health problems (persisting after the delayed postpartum period) are reported by 31% of women (Borders, 2016).

Postnatal Care

The postnatal period can be defined as the first 6-8 weeks after birth. Postnatal care should be a continuation of the care the woman has received through her pregnancy, labour and birth and take into account the woman's individual needs and preferences. It should aim to create a supportive environment in which families will be guided by professionals in how to care for their baby and themselves and be able to recognise and act upon any deviation from the normal (NICE, 2015).

Postnatal care or Focused Postnatal Care (FPNC) is globally accepted as a key to improved maternal health and reduced mortality. Studies have shown that one maternal death occur per minute globally (WHO 2017). Further, developing regions accounted for 99% (533,000) of these maternal deaths, with sub-Saharan Africa and Southern Asia accounting for 86% of the deaths (UN 2018). These studies have also noted that about 75% of maternal deaths occur in the first week after delivery with developing countries; Kenya included accounting for 60% of these deaths (WHO, 2016). The majority of women in developing countries receive almost no postpartum. For example, in very poor countries and regions, such as those in Asia and sub-Saharan Africa only 5% of women receive postnatal care (Safe Motherhood 2022).

The postpartum period is one of the most vulnerable times in a woman's reproductive life cycle. In developing countries, over 60% maternal deaths occur during this time. Approximately 3040% of maternal deaths in Africa are due to haemorrhage, mostly in the postpartum period. The figure below shows percentage of maternal deaths in Africa.

RESEARCH METHODOLOGY

Study Design: The research design for this study was a descriptive survey design. Descriptive survey design deals with the collection of data for the purpose of describing, interpreting, evaluating and analyzing existing conditions and prevailing situations (Akem, 2008).

Study Location: The study was undertaken in Gwer-East Local Government Area of Benue State, located Southwest of Tivland, at latitude 8^{o} N and longitude 9^{o} E of the greenish meridian. Gwer-East was created in 1976 by the then regime of General Murtala Mohammed.

Study Duration: April 2023 to June 2023.

Subjects & selection method: The participants of the study comprised all the nursing mothers attending routine immunisation or other healthcare services with their children, who were 15 – 49 years, who gave birth in the last 12 months prior to this survey at the General Hospital Aliede and St. Michaels Hospital Aliede. Those who were permanently residing in the study area at the time of the research and were interested to take part in this study were included. Total Population Sampling technique was used in the study. Total population sampling is a type of purposive sampling where the whole population of interest is studied. Total population sampling is done when the target group is small and set apart by an unusual and well-defined characteristic. A total of 198 nursing mothers attended routine immunisation with their children during the time of the study.

Instrumentation: The instrument used for data collection was a structured questionnaire designed by the researcher and titled Utilisation of Postnatal Care Services Questionnaire (UPCSQ). The instrument was divided into two sections, A, and B. Section A solicited the demographic information of the respondents like age, place of residence, level of income, educational status and employment status. Section B accessed the utilisation of postnatal care services by the respondents. Section B was set on a two point scale rated as Yes = 2 and No = 1. The instrument was validated by two lecturers in the department of Human Kinetics and Health Education, Benue State University Makurdi for their opinions and possible corrections.

Procedure methodology: Data for this research was obtained through the administration of the questionnaire on respondents. The researcher obtained a letter of introduction from her project supervisor, introducing her to the participants. The researcher then selected a research assistant from each health facility and gave them orientation on the conduct of the study. Hand delivery method was used for both the distribution and collection of the questionnaires. The research assistant assisted in collecting the data from the participants. The researcher moved from one facility to another collecting data for the study. The researcher was present at the study area daily, to seek permission of the respondents in participating in the study. The data were collected over a period of 3 months (April to June). The respondents were required to fill the questionnaire and return the completed copies to the researcher or her assistant who in turn passed them to the researcher.

Statistical analysis: The data collected through the use of questionnaire were analysed using simple percentages and frequencies in order to analyse the demographic information of the respondents and to answer the research questions. Binary Logistic Regression was carried out to investigate the association between the independent variables and utilisation of postnatal care services in the study population at 0.05 level of significance. The Statistical Package for Social Sciences (SPSS) version 26.0 was used in coding and analysing the data to avoid any human errors imminent in a manual analysis.

RESULT

Table 1: Demographic Characteristics of the Respondents

Level of Income	**Frequency**	**Percentage**
15 – 25 years	12	6.1
26 – 35 years	74	37.4
36 – 45 years	85	42.9
46 years and above	27	13.6
Total	**198**	**100.0**
Level of Income		
Rural	59	29.8

Urban	139	70.2
Total	**198**	**100.0**
Level of Income		
Unemployed	58	29.3
Employee	62	31.3
Contract Worker	30	15.2
Self Employed	48	24.2
Total	**198**	**100.0**
Level of Income		
No Formal	28	14.2
Primary	48	24.2
Secondary	62	31.3
Tertiary	60	30.3
Total	**198**	**100.0**
Level of Income		
Low	32	16.2
Middle	105	53.0
High	61	30.8
Total	**198**	**100.0**

Table 1 presents the demographic characteristics of the respondents. Data available show that 12 (6.1%) respondents were young mothers between the ages of 15 – 25 years, 74 (37.4%) respondents were between the ages of 26 – 35 years, 85 (42.9%) respondents were between the ages of 36 – 45 years while 27 (13.6%) respondents were 46 years and above. This data indicate that the majority of the mothers who participated in this research were young mothers between the ages of 26 – 45 years.

Data available indicate that 59 (29.8%) respondents were resident in the rural areas while 139 (70.2%) respondents were resident in the urban areas. A total of 58 (29.3%) respondents were unemployed, 62 (31.3%) respondents were gainfully employed, 30 (152%) respondents were contract workers while 48 (24.2%) respondents were self-employed.

Data presented show that 28 (24.1%) respondents had no formal education, 48 (24.2%) respondents attended primary school, 62 (31.3%) respondents had SSCE as their highest education, 60 (30.3%) respondents had tertiary education. About 32 (16.2%) respondents were from low income quartile, 105 (53.0%) respondents were from middle income quartile while 61 (30.8%) respondents were from high income quartile.

Table 2: Descriptive Analysis of the Variables

Age	**Utilised**		**Not Utilised**		**Total**	
	F	**%**	**F**	**%**	**F**	**%**
15 – 25 years	11	91.7	1	8.3	12	100
26 – 35 years	50	67.6	24	32.4	74	100
36 – 45 years	22	25.9	63	74.1	85	100
46 years and above	3	11.1	24	88.9	27	100
Total	**86**	**49.07**	**112**	**50.93**	**198**	**100**
Location of Residence	**Utilised**		**Not Utilised**		**Total**	

	F	%	F	%	F	%
Rural	3	5.1	56	94.9	59	100
Urban	83	59.7	56	40.3	139	100
Total	**86**	**49.07**	**112**	**50.93**	**198**	**100**
Employment Status	**Utilised**		**Not Utilised**		**Total**	
	F	**%**	**F**	**%**	**F**	**%**
Unemployed	10	17.2	48	82.8	58	100
Employee	34	54.8	28	45.2	62	100
Contract worker	17	56.7	13	43.3	30	100
Self employed	25	52.1	23	47.9	48	100
Total	**86**	**49.07**	**112**	**50.93**	**198**	**100**
Employment Status	**Utilised**		**Not Utilised**		**Total**	
	F	**%**	**F**	**%**	**F**	**%**
No Formal	0	0.0	28	100.0	28	100
Primary	7	14.6	41	85.4	48	100
Secondary	20	32.3	42	67.7	62	100
Tertiary	59	98.3	1	1.7	60	100
Total	**86**	**49.07**	**112**	**50.93**	**198**	**100**
Employment Status	**Utilised**		**Not Utilised**		**Total**	
	F	**%**	**F**	**%**	**F**	**%**
Low	5	15.6	27	84.4	32	100
Middle	29	27.6	76	72.4	105	100
High	52	85.2	9	14.8	61	100
Total	**86**	**49.07**	**112**	**50.93**	**198**	**100**

Table 2 presents the descriptive analysis of the variables. Data available indicate that young mother 15 – 25 years utilised postnatal care services more than the other age groups (91.7%), followed by mother who were 26 – 35 years (67.6%), mothers who were 36 – 45 years (25.9%) and the least utilisation was among older mothers 46 years and above (11.1%). This shows that young mothers utilised postnatal care services more than older mothers. Based on location, results show that urban mothers (59.7%) utilised postnatal care services more than rural mothers (5.1%).

Data available show that 10 (17.2%) unemployed mothers utilised postnatal care services, 34 (54.8%) gainfully employed mothers utilised postnatal care services, 17 (56.7%) contract workers utilised postnatal care services while 25 (52.1%) self-employed mothers utilised postnatal care services in Gwer-East Local Government Area of Benue State. This results show that contract workers utilised postnatal care services more than other mothers.

The data in the table show that mothers with tertiary level of education had the highest utilisation (98.3%) of postnatal care services, followed by mothers with secondary level of education (32.3%), and mothers with primary level of education (14.6%). This shows that utilisation increases with increasing level of education. Based on level of income, mothers from high income quartile utilised postnatal services more than others (85.2%), followed by mothers from middle income quartile (27.6%) while mothers from low income quartile had the least utilisation (15.6%) of postnatal care services in Gwer-East Local Government Area of Benue State.

Table 3: Summary of Binary Logistic Regression Analysis on Effect of Age on Utilisation of Postnatal Care Services

Age	S.E.	Wald	df	aOR(95% CI)	P
15 – 25 years	1.211	13.675	1	8.0(4.2 – 44.2)	.000
26 – 35 years	.661	18.127	1	6.7(4.5 – 16.9)	.000
36 – 45 years	.661	2.419	1	2.8(.8 – 10.2)	.020
46 years and above	Ref	Ref	Ref	Ref	ref
Constant	.612	13.675	3	0.1	.001

Age has a significant effect on utilisation of postnatal care services by postpartum mothers in Gwer-East Local Government Area of Benue State [15 – 25 yrs (aOR:8.0, 95%CI: 4.2 – 44.2, p<0.05); 26 – 35 yrs (aOR:6.7, 95%CI: 4.5 – 16.9, p<0.05); 36 – 45 yrs (aOR:2.8, 95%CI: 0.8 – 10.2, p<0.05)]. The result indicate that mothers within the ages of 15 – 25 are 8.0 times more likely to utilise postnatal care services than mothers who are 46 years and above. Mothers within the ages of 26 – 35 years are 6.7 times more likely to utilise postnatal care services than mothers who are 46 years and above. Also mothers within the ages of 36 – 45 are 2.8 times more likely to utilise postnatal care services than mothers who are 46 years and above. Since the p-value of 0.01 is less than the 0.05 level of significance, this means that the null hypothesis which states that age of mother at delivery will not have any significant effect on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State has been rejected.

Table 4: Summary of Binary Logistic Regression Analysis on Effect of Place of Residence on Utilisation of Postnatal Care Services

Location	S.E.	Wald	df	aOR(95% CI)	P
Rural	.617	28.827	1	.36(.01 – .12)	.000
Urban	Ref	Ref	Ref	Ref	ref
Constant	.173	5.177	1	1.482	.023

Place of residence has a significant effect on utilisation of postnatal care services by postpartum mothers in Gwer-East Local Government Area of Benue State [Rural (aOR:0.36, 95%CI: 0.01 – 0.12, p<0.05)]. The result indicate that rural mothers are 3.6 times less likely to utilise postnatal care services than urban mothers. This means that rural mothers are less likely to utilise postnatal care services than urban mothers. Since the p-value of 0.023 is less than the 0.05 level of significance, this means that the null hypothesis which states that place of residence will not have any significant effect on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State has been rejected.

Table 5: Summary of Binary Logistic Regression Analysis on Effect of Employment Status on Utilisation of Postnatal Care Services

Age	S.E.	Wald	df	aOR(95% CI)	P
Unemployed	.452	13.358	1	.192(.079 –.465)	.000
Employed	.385	.083	1	1.117(.525 – 2.378)	.774
Contract Worker	.468	.156	1	1.203(.481 – 3.012)	.693
Self Employed	Ref	Ref	Ref	Ref	ref
Constant	.289	.083	3	1.087	.773

Employment status has no significant effect on utilisation of postnatal care services by postpartum mothers in Gwer-East Local Government Area of Benue State [unemployed (aOR:0.192, 95%CI: 0.079 –.465, p<0.05); Employed (aOR: 1.117, 95%CI: 0.525 – 2.378, p>0.05); Contract Worker (aOR: 1.203, 95%CI: 0.481 – 3.012, p>0.05)]. The result indicate that unemployed mothers are 1.92 times less likely to utilise postnatal care services than self-employed mothers. Gainfully employed mothers are 1.117 times more likely to utilise postnatal care services than self-employed mothers. Also mothers who are contract workers are 1.203 times more likely to utilise postnatal care services than self-employed mothers. This results indicate that only unemployed mothers significantly utilised less postnatal services than self-employed mothers. Since the p-value of 0.773 is greater than the 0.05 level of significance, this means that the null hypothesis which states that employment status will not have any significant effect on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State has been upheld.

Table 14: Summary of Binary Logistic Regression Analysis on Effect of Level of Education on Utilisation of Postnatal Care Services

Level of Education	**S.E.**	**Wald**	**df**	**aOR(95% CI)**	**P**
No Formal	1 4.361	.000	1	.001(.000 –)	.999
Primary	.762	10.451	1	.850(.019 – .379)	.001
Secondary	.491	9.504	1	.220(.084 – .576)	.002
Tertiary	Ref	Ref	Ref	Ref	ref
Constant	.169	1.590	3	1.238	.021

Level of education has a significant effect on utilisation of postnatal care services by postpartum mothers in Gwer-East Local Government Area of Benue State [No Formal (aOR:0.00, 95%CI: 0.00 – , p>0.05); Primary (aOR:0.085, 95%CI: 019 – .379, p<0.05); Secondary (aOR:0.220, 95%CI: 0. 084 – .576, p<0.05)]. The result indicate that mothers with no formal education are 100 times less likely to utilise postnatal care services than mothers with tertiary education. Mothers with primary level of education are 8.5 times less likely to utilise postnatal care services than mothers with tertiary education. Also mothers with secondary level of education are 2.20 times less likely to utilise postnatal care services than mothers with tertiary education. This means that mothers with tertiary level of education are more likely to utilise postnatal care services more than mother with lower levels of education. Since the p-value of 0.021 is less than the 0.05 level of significance, this means that the null hypothesis which states that level of education will not have any significant effect on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State has been rejected.

Table 15: Summary of Binary Logistic Regression Analysis on Effect of Level of Income on Utilisation of Postnatal Care Services

Level of Income	**S.E.**	**Wald**	**df**	**aOR(95% CI)**	**P**
Low	.606	32.219	1	.032(.010 – .105)	.000
Middle	.422	41.490	1	.66(.029 – .151)	.000
High	Ref	Ref	Ref	Ref	ref
Constant	.361	23.604	2	1.238	.000

Level of income has a significant effect on utilisation of postnatal care services by postpartum mothers in

Gwer-East Local Government Area of Benue State [Low (aOR:0.032, 95%CI: 0.010 – 0.105, p<0.05); Middle (aOR:0.066, 95%CI: 0.029 – 0.151, p<0.05)]. The result indicate that mothers from low income quartile are 32 times less likely to utilise postnatal care services than mothers from high income quartile. Mothers from middle income quartile are 6.6 times less likely to utilise postnatal care services than mothers from high income quartile. This means that mothers from high income quartile are more likely to utilise postnatal care service than mothers from the other income quartiles. Since the p-value of 0.00 is less than the 0.05 level of significance, this means that the null hypothesis which states that level of income will not have any significant effect on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State has been rejected.

DISCUSSION OF FINDINGS

The first objective of the study was to assess the effect of age of mother at delivery on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State. Results available indicate that age has a significant effect on utilisation of postnatal care services by postpartum mothers. The study observed that utilisation of postnatal care services decreases as age increases. This disparity in the utilisation of postnatal care services by age could be due to the fact that younger women lack experience and knowledge regarding maternal issues and are prone to seek help at the slightest sign of abnormality in them or their babies. Older mothers on the other hand, may have accumulated experiences from previous parity and may be able to deal with some issues ignoring utilisation of postnatal care services. Young women usually have limited knowledge on postnatal care, while the older women may have more knowledge on postnatal care and yet they ignore the services. Younger women may have more modern attitudes towards health care than older women. Younger women are also more likely to utilize modern health facilities than older women as they are likely to have greater exposure and knowledge to modem health care and also access to education. This finding is in congruence with Wangari (2021) who carried out a study titled factors affecting utilization of postnatal care services at Central Provincial General Hospital, Nyeri, Kenya. The study found out that age, marital status and the number of children were associated with the utilization of postnatal care services. Knowledge on postnatal care influenced utilization of postnatal care positively. This finding also supports Were (2013) who investigated the factors affecting utilisation of postnatal care services among mothers in Ishaka, Kampala. Results of the study revealed that PNC attendance was generally low among all the age groups. The highest number of attendees was found among mothers 20-29 years. The results also showed a downward trend in the utilisation of PNC services, with the increase in age.

The second objective of the study was to assess the effect of place of residence on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State. Results available indicate that place of residence has a significant effect on utilisation of postnatal care services by postpartum mothers. The result indicate that rural mothers are less likely to utilise postnatal care services than urban mothers. The lower coverage for delivery and postnatal care in the rural areas is attributable to the unpredictability in the onset of danger signs after delivery and the difficulty of travel in rural areas, particularly for long distances, during delivery, and even within a few days after delivery. The marked imbalance in the distribution of health facilities, between rural versus urban centres for hospitals and higher health centres which have the mandate to provide newborn and postnatal services could also serve to increase the disparity in utilisation observed in the present study. This finding is in line with Wudineh, Nigusie, Gesese, Tesu and Beyene (2018) who investigated postnatal care service utilization and associated factors among women who gave birth in Debretabour Town, North West Ethiopia. The findings of the study revealed that the prevalence of postnatal care service utilization in this study was 57.5%. The study further revealed among other factors that residing in urban area (AOR = 3.08, 95%CI: 1.24–7.68) were positively associated with PNC service utilization.

The third objective of the study was to assess the effect of employment status on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State. Results available indicate that employment status has no significant effect on utilisation of postnatal care services by postpartum mothers. This finding indicate that only unemployed mothers significantly utilised less postnatalcare services than other mothers. The difference in utilisation of postnatal care services between contract workers and other mothers was not significant except for unemployed mothers. It is suggested that the relationship between unemployment and health habits may be explained by causation, where unemployment precipitates poor health habits, perhaps through the combination of effects arising from loss of income, increased unhealthy lifestyle, loss of self-esteem, and psychological distress, and in some settings, reduced access to care. Unemployed persons were more likely to delay contact with healthcare services due to cost and were less likely to have access to healthcare than their employed counterparts. The non-utilisation of postnatal care services by unemployed mothers might be related to the fact that as unemployment persists, economic resources dwindle and less money directly or indirectly worsens the prerequisites for good health. This finding is in congruence with Adigun and Adigun (2019) who carried out an analysis of utilization of postnatal care services among mothers in Nigeria. From the result obtained, it was revealed that employment status, nature of settlement, religious belief, and place of delivery of women goes a long way in influencing their postnatal health care attendance.

The fourth objective of the study was to assess the effect of level of education on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State. Results available indicate that level of education has a significant effect on utilisation of postnatal care services by postpartum mothers. The study found that mothers with tertiary level of education are more likely to utilise postnatal care services than mothers with lower levels of education. This shows that utilisation increases with increasing level of education. This finding is not surprising in that education is expected to increase the level of awareness, knowledge socioeconomic opportunities of households. This could put them in a better place to recognise danger signs after delivery in both the mother and the baby and to appreciate the importance of postnatal care services more than uneducated people. Educated people are expected to have better employment opportunities and earn more than uneducated people. This could make them able to utilise postnatal care services more than their uneducated counterparts. This finding agrees with Were (2013) who investigated the factors affecting utilisation of postnatal care services among mothers in Ishaka, Kampala. Results showed that the utilisation of PNC increased with the higher level of education. It may be explained that more educated people have more knowledge about the benefits of PNC and are more likely to attend as compared to uneducated people. This study is also in line with Wudineh, Nigusie, Gesese, Tesu and Beyene (2018) who investigated postnatal care service utilization and associated factors among women who gave birth in Debretabour Town, North West Ethiopia. The findings of the study revealed that the prevalence of postnatal care service utilization in this study was 57.5%. Maternal educational status of secondary school and above (AOR = 3.29, 95%CI: 1.94–5.57) was positively associated with utilisation of postnatal care services. Also, Dona, Tulicha, Arsicha and Dabaro (2022) investigated the factors influencing utilization of early postnatal care services among postpartum women in Yirgalem town, Sidama Regional State, Ethiopia. Their study revealed that attending ANC, place of delivery, educational status of the mother, and getting advice from healthcare providers on EPNC services were found to be statistically significant predictors of EPNC utilization. Those whose educational level was college and above were 2.6 times more likely to use EPNC service when compared with their counter parts (an illiterate mothers) (AOR = 2.6; 95% CI = 1.7–7.4). However, the study disagrees with Adigun and Adigun (2019) who carried out an analysis of utilization of postnatal care services among mothers in Nigeria. Their study found that educational levels of women do not influence their postnatal health care attendance.

The last objective of the study was to assess the effect of level of income on the utilisation of postnatal care services by nursing and postpartum mothers in Gwer-East Local Government Area of Benue State. Results

available indicate that level of income has a significant effect on utilisation of postnatal care services by postpartum mothers. The study found that mothers from high income quartile are more likely to utilise postnatal care service than mothers from the other income quartiles. Mothers from low income quartiles seem to have poor attitude towards utilization of PNC because even if they recognise the danger signs after delivery, they may lack the financial capabilities for utilisation of PNC services. They seem to be systematically and consistently disadvantaged in the society in terms of access to and use of maternal and reproductive health services such as PNC. This finding is in congruence with Otieno (2015) who carried out a study to determine factors influencing utilization of postnatal care services among postpartum mothers: a case study of Got Matar Health Centre, Bondo Sub-County, Kenya. The study revealed that so many factors influences PNC services utilization among them place of delivery, knowledge of the mother on PNC, age of the mother at delivery, level of education of the mother, occupation of the mother, and the cultural practices surrounding her. The study also supports Wudineh, Nigusie, Gesese, Tesu and Beyene (2018) investigated postnatal care service utilization and associated factors among women who gave birth in Debretabour Town, North West Ethiopia. Their findings revealed among other things that family monthly income of above 1500 ETB (AOR = 2.85, 95%CI: 1.21–6.68) was positively associated with PNC service utilization.

CONCLUSION

The prevalence of postnatal care utilisation found in the study (49.07%) is higher than the one reported by the Nigeria Demographic and Health Survey in 2018 (42.5%) for Benue State. This is an indication that there is an improvement in the utilisation of postnatal care services among nursing mothers in Benue State, though there is still a long way to go. Utilisation of these services is affected by age, place of residence, employment status, level of education, and level of income. Improving the educational status of the women, strengthening healthcare providers' counselling, focusing on universal coverage by addressing financial barriers to vulnerable groups, quality improvement especially in rural areas will increase the likelihood of using EPNC services.

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