

## Factors Influencing Maternal Health Care Services Utilisation in Port Harcourt Local Government Area of Rivers State

**,Legborsi Robinson-Mbato** (RN, RM, BNSC, PGDE, M.SC., PHD. IN VIEW)  
Department of Nursing, Rivers State University, Nigeria

**Adaku Bridget Nwosu** (RN, RM, HND, BNSC, M.SC)  
Department of Human Kinetics and Safety Education  
Ignatius Ajuru University of Education, Rivers State

**Mercy Kelechi Azumah**, (RN, RM, BNSC, PGDE, M.SC.)  
Department of Nursing, Rivers State University, Nigeria

**Victoria Ole Wonodi**, (RN, RM, DNAM, BNSC, PGDE, M.SC)  
Department of Nursing, Rivers State University, Nigeria

doi: <https://doi.org/10.37745/ijqjrm.13/vol12n2119>

Published March 09, 2023

---

**Citation:** Robinson-Mbato L., Nwosu A.B., Azumah M.K. and Wonodi V.O. (2024) Factors Influencing Maternal Health Care Services Utilisation in Port Harcourt Local Government Area of Rivers State, *International Journal of Quantitative and Qualitative Research Methods*, Vol.12, No.2, pp.1-19

---

**ABSTRACT:** *This study examines the utilization of Maternal Health Care Services (MHCS) in Port Harcourt Local Government Area, Rivers State, Nigeria, focusing on factors influencing such utilization. Through a descriptive cross-sectional survey, data was collected from 400 women of childbearing age using a researcher-developed questionnaire. The majority of participants demonstrated adequate utilization of MHCS, particularly in Antenatal Care (ANC), while utilization rates for labor/delivery and Postnatal Care (PNC) were notably lower, indicating areas of inadequacy. Factors such as health facilities' operational conditions and geographical barriers significantly hindered MHCS utilization, while healthcare providers played a promoting role. Moreover, the study found a significant relationship between MHCS utilization and respondents' educational qualification, as well as health facilities' operational factors. Recommendations stemming from the findings include directed health education efforts by healthcare providers, training of Traditional Birth Attendants (TBAs) to provide quality care, and continuous professional development for healthcare providers to uphold service standards. These recommendations aim to address the inadequacies in MHCS utilization identified in the study, ultimately improving maternal and neonatal health outcomes in the region.*

**KEYWORDS:** factors, influence, maternal health care services, utilisation

---

## **INTRODUCTION**

Childbearing, which typically happens throughout a woman's reproductive years (15-49), is a significant aspect of women's lives but may also pose life-threatening risks. Prenatal, intrapartum, and postpartum healthcare are crucial for the survival and well-being of both the mother and child. An effective health intervention for promoting optimal health of women is the proper utilisation of Maternal Health Care Services (MHCS) provided before conception, during pregnancy, delivery, and postpartum.

In many wealthy nations, almost all pregnant women get Antenatal Care (ANC), Post Natal Care (PNC), and are assisted by a midwife/doctor during delivery. However, statistics indicates that fewer than two-thirds of pregnant women in poor countries receive the same level of care (Bobo, et al., 2021). The National Demographic and Health Survey (NDHS, 2018) said that Nigeria contributes to around 13% of the worldwide Maternal Death Rate, resulting in an estimated 36,000 women dying during pregnancy or childbirth annually. According to the report, 61% of women aged 15-49 who had a live birth in the five years before the survey received antenatal care from a skilled provider. However, skilled attendance at birth is only at 38%, with only 36% of births in Nigeria taking place in health facilities. Additionally, 56% of women did not receive any postnatal care. Inadequate utilisation of healthcare services results in fatalities and impairments caused by failure to identify high-risk women and untreated pre-existing conditions that might complicate pregnancy and its results.

Every pregnant woman is at risk of developing severe pregnancy-related complications, thus it is crucial for all pregnant women to have access to top-notch obstetric care throughout their pregnancies. Unfortunately, many women in developing nations lack access to essential services. Reports indicate low utilisation rates in sub-Saharan Africa, notably in Nigeria. Only 58% of women receive antenatal care, 39% have skilled professionals attending their births, 35% deliver in health facilities, and 43% receive postnatal services (WHO, UNICEF 2021). The research indicates that Maternal Health Care Services are underutilised.

Utilising maternal health care services effectively improves maternal and newborn health. It is crucial for all pregnant women to have access to high-quality obstetric care throughout their pregnancy to increase the economic health of communities and minimise maternal mortality and morbidity. Yet, many women in poor nations fail to access the suggested services (Kareem, 2021).

Internationally, 86% of women aged 15-49 attended antenatal care (ANC) at least once, and 62% had at least four ANC visits. In regions with high maternal mortality rates like South Asia and Sub-Saharan Africa, only 46% and 52% respectively, or even fewer, received antenatal care at least four times. Additionally, only one-third of births occur at home without the assistance of a skilled birth attendant (UNICEF, 2021; WHO, 2021). The NDHS (2018) report in Nigeria revealed that 61% of women aged 15-49 who had a live birth in the five years before the survey received antenatal care from a skilled provider. However, skilled attendance at birth is low at 38%, with only 36% of births occurring in health facilities. Additionally, 56% of women did not receive any postnatal care. Utilisation of health facilities for maternal health

---

Publication of the European Centre for Research Training and Development -UK  
care services is inadequate, leading to a persistent public health issue of maternal mortality, resulting in the loss of two million lives annually globally (Adedokun & Yaya 2020). This may indicate inadequate use of important services that may have helped avoid or reduce these problems.

Mothers are required to utilise maternal health care services during pregnancy, delivery, and postpartum to prevent potential tragedies for both their families and society. Despite the positive effects, a low number of women in the study area made proper use of these services. The Rivers state government has increased its efforts by establishing more health centres, hiring more nurses and physicians, and assigning resident midwives to different health facilities to enhance mother health and reduce maternal mortality and morbidity. Maternal health care service utilisation is poor, and the existing baby and maternal death rates are still unsatisfactory despite the solutions proposed not yielding the intended results (Kareem, 2021).

The hospital's records and annual reports indicate that in 2021 there were 17,764 ANC registrations, 1,928 deliveries, and 922 PNC attendances. In 2022, there were 26,020 ANC registrations, 2,150 deliveries, and 1,010 PNC attendances at the Obstetrics & Gynaecological Department of Braithwaite Memorial Specialist Port Harcourt. The health centre had 2,511 ANC registrations, 153 deliveries, and 48 PNC attendances in 2021. In 2022, there were 1,594 ANC registrations, 68 deliveries, and 30 PNC attendances at the Potts Johnson Health centre in Port Harcourt.

Maduka and Ogu (2018) suggest that women should have at least four prenatal appointments, with the first one in the first trimester, one in the second trimester, and two in the third trimester. Obstetricians typically advise monthly antenatal care appointments until the seventh month of pregnancy, and then bi-weekly to weekly visits until the end of the pregnancy, totaling about 12-13 visits during the pregnancy. Early and continuous prenatal care is very beneficial in minimising negative pregnancy outcomes. However, women in impoverished nations often do not have access to this treatment, leading to high maternal mortality rates from pregnancy problems. Mutowo et al. (2021) reported that 60% of women attended antenatal care in the second and third trimester. A study in Zimbabwe found that 19% of women made four or more antenatal care visits during pregnancy, with the first visit typically occurring in the fifth month. The majority of births in Zimbabwe take place at home, and only 10% are assisted by trained health personnel. The findings suggest that many women in the study begin antenatal care late in their pregnancies, which means high-risk pregnancies may go unnoticed. This results in missed chances to provide family planning information, healthcare advice, and child nutrition guidance to a significant portion of mothers. Consequently, this leads to negative health outcomes and higher rates of maternal morbidity and mortality among women of reproductive age.

Pregnancy and childbirth care often need little involvement by healthcare personnel and are usually healthy occurrences. Chronic illness, life-threatening problems during pregnancy, childbirth, and breastfeeding remain the primary reasons for sickness and death among women in underdeveloped nations. Approximately 287,000 maternal deaths occurred worldwide in

---

Publication of the European Centre for Research Training and Development -UK  
2010. Developing nations were responsible for 99% (284,000) of the total fatalities. Sub-Saharan Africa has the highest Maternal Mortality Ratio (MMR) among developing areas, with a rate of 640 per 100,000 live births (WHO, UNICEF, 2021). Each year, more than 150 million women worldwide get pregnant. Of them, over 60 million give birth at home without the assistance of competent healthcare professionals. Approximately 530,000 women between the ages of 15 and 49 die from problems connected to pregnancy, with over 68,000 of these deaths attributed to unsafe abortions (Kareem et al., 2021). In Nigeria, maternal health is in a bad state due to pregnancy-related problems, leading to an annual maternal death rate of 59,000 (Adewuyi et al., 2013).

4 million women who survived pregnancy-related difficulties have major short and long-term health issues leading to impairments such Pelvic Inflammatory Disease (PID), rupture uterus, and obstetric fistula (WHO, 2021, Nuamah et al., 2019). One reason for the high number of complications and deaths in developing countries is the underutilisation or unavailability of essential interventions like antenatal care and professional delivery assistance by trained health workers, leading to inadequate management of pregnancies, deliveries, and neonatal care (Okedo-Alex et al., 2019). Research indicates that a higher incidence of maternal mortality and disability may be minimised by ensuring early, broad, and timely access to high-quality maternal health care services (Onyejose et al., 2019).

Health promotion initiatives such as the Safe Motherhood Initiatives (1987) and mother-baby package have been implemented to address the negative impacts of pregnancy on women, particularly in developing countries. Advocacy efforts have also emphasised the importance of health facilities adopting an integrated approach to provide 24-hour services seven days a week. According to Olaitan et al. (2017), a comprehensive mother-baby package intervention might potentially save 75-85% of maternal deaths and impairments in poor nations. The goal of safe motherhood initiatives is to provide affordable essential health services to the majority of the population, ensuring that every woman has a safe and healthy pregnancy and delivery through quality maternity services that prioritise the health of women and children.

There is still a significant disparity in the use and coverage of safe motherhood/mother-baby package among facilities in various local government regions. Although certain health facilities have shown an improvement in the use of antenatal care (ANC) and coverage of monitored deliveries, most institutions have reported low levels of utilisation and coverage of these services. This may be due to the substandard condition of health service facilities, which are deteriorated, underfunded, inadequately equipped with outdated equipment, and have a non-operational referral system. Additionally, factors within the health systems such as service costs, accessibility, availability of services, and healthcare providers' attitudes could also contribute to this issue.

The primary approach to accomplish MDG 5 is to guarantee that 90% of all deliveries are overseen by a proficient attendant by 2015. In high-income nations, 99% of births are performed by professional attendants, whereas in low-income countries, only 59% of deliveries are managed by experienced attendants, where more than 90% of Maternal Deaths occur (Tolera et al. 2020). Rustagi et al. (2021) stated that the Nigerian health system faces challenges

Publication of the European Centre for Research Training and Development -UK  
in service quality such as unfriendly staff attitudes, insufficient skills, deteriorating infrastructure, and a chronic shortage of essential drugs, electricity, and water supply. Harrison (2009) reported that only 4.2% of public facilities meet internationally accepted standards for obstetric care. Additionally, two-thirds of Nigerian women give birth outside of health facilities and without a medically competent attendant.

Research indicates that the use of Maternal Health Care Services (MHCS) is influenced by the accessibility, standard, and cost of these services. Disparities in MHCS utilisation exist between developed and developing countries, with pregnant women in low-income developing regions such as Africa and Asia showing significant underutilisation (Tessema et al., 2021). Maduka and Ogu (2018) found that women in the Southern area of Nigeria are more inclined to use services than those in the North. She observed that various factors such as education, family wealth index, place of residence, religious beliefs, and individual perception of modern health care services' efficiency are strong predictors of the prediction of Maternal Health Care Services differentials in the region.

Gbenga-Epebinu et al. (2020) found that the underutilisation of maternal health care services is influenced by factors such as limited access to prenatal services, high medical costs, transportation challenges, distance to health facilities, healthcare providers' attitudes, drug availability, lack of education, age, duration of marriage, education level, occupation, family background, parity, and distance exceeding 5km, all significantly affecting the utilisation of maternal health services. Even under identical conditions, some women use the services more often than others. It is crucial to comprehend the several elements that influence women's use of healthcare services. This study seeks to identify and examine the factors influencing the utilisation of Maternal Health Care Services in Port Harcourt Local Government Area. The specific objectives are to:

1. Determine the extent of utilisation of maternal health care services by women of child bearing age in Port Harcourt Local Government Area of Rivers State.
2. Identify the health facilities operational factors that influence the utilisation of maternal health care services.
3. Determine the geographical factors influencing the utilisation of MHCS by women of child bearing age in Port Harcourt Local Government Area of Rivers State.
4. Ascertain health care providers' factors influencing the utilisation of MHCS

### **Research Hypotheses**

The following research hypotheses were tested in order to achieve the objective of the study:

**Ho1:** There is no significant relationship between age of respondents and the utilisation of MHCS

**Ho2:** There is no significant relationship between educational qualification of respondents and the utilisation of MHCS

**Ho3:** There is no significant relationship between health facilities operational factors and utilisation of maternal health care services by women of child bearing age.

## RESEARCH METHODS

The research design adopted in this study was a descriptive cross-sectional survey design. The study area was Port Harcourt Local Government Area in the Southern Senatorial District of Rivers State, Nigeria. The population of Port Harcourt Local Government Area is 781,655 (National Population Commission, 2009). The National programme on immunization (NPI) of the Federal Ministry of Health (2006) states that the population of women of child bearing age in every community is 22% of the entire population. 22% of the population of women of child bearing age (15-49) is thus estimated to be 171,964. Therefore, the target population for this study is estimated at 171,964 of women of child bearing age between ages (15-49) years.

The minimum sample size of 400 women of child bearing age participated for this study. The sample size of 400 was determined using Taro Yamane's formula. Probability and non-probability sampling techniques were employed in the study. A Simple random sampling technique was used to select eight (8) communities out of the twenty (24) communities that make up the local government area. Two (2) communities each from the zone (North, East, West, and South). On reaching each community, purposive sampling technique was used to select fifty (50) women each from the eight (8) communities based on the inclusion criteria until the required number of 400 participants was obtained.

The data for this study was collected using a researcher developed questionnaire generated from reviewed literature based on the objectives of the study. The questionnaire was made up of 46 items presented in section A, B, C, D, and E. Section A, consists of 1 open and 5 close ended questions on the demographic data of the respondents. Sections B, C, D, and E consist of 20, 7, 7, and 6 items respectively based on a four-point Likert rating scale of Strongly Agree (4) points, Agree (3) points, Disagree (2) points and Strongly Disagree (1) point, describing the extent of utilisation and factors influencing the utilisation of MHCS in Port Harcourt Local Government Area. Respondents were asked to tick the option that best suited them. To ensure reliability of the instrument, a pilot-test was conducted using 40 women of child bearing age between (20-49) years in Obio-Okpor Local Government Area (representing 10% of the sample size) because the women have similar characteristics with the population of the study. A split-half method was used to calculate the reliability. The data obtained from the copies of the questionnaire administered to the women were collated and the internal consistency of the instrument was done using Cronbach's Alpha Coefficient. An alpha coefficient of 0.84 was obtained. This showed that the instrument obtained was reliable.

To obtain information from the women who met the inclusion criteria four (4) research assistants (Nurses/ Midwives) were recruited from the health facilities located within the study area to assist in data collection. They were informed of the purpose of the study, selection of subjects and the interpretation of the questions. The respondents were met at their homes and

Publication of the European Centre for Research Training and Development -UK or in their Women's Association Meetings. Completed questionnaire were collected on the spot. The entire exercise lasted one month. The collected data was analyzed using both descriptive and inferential statistics, and the results were presented in tables. The descriptive statistics- frequency, percentage, mean and standard deviation were used to summarize the items of the questionnaire. Specifically, the mean and standard deviation were used for the Likert scale items (Section B-E). A cut-off point of 2.5 was used to make decision and conclusion for the 4-point scale. The cut-off was obtained by taking the mean/midpoint of the response scores. The Chi-Square Test of Association was the inferential statistics used to test three stated hypotheses. These hypotheses were tested at 5% level of significance; hence, significant association/relationship existed if p-value (p) is less than .05, ( $p < .05$ ); otherwise, no significant relationship ( $p > .05$ ).

## RESULTS

**Table 1: Demographic Characteristics of the Women** **n = 400**

		Frequency	Percent
Age (in years)	20-29	127	31.8
	30-39	164	41.0
	40-49	109	27.3
	Range		20-49
	M±SD		33.96±7.56
Religion	Christianity	350	87.5
	Islam	28	7.0
	Traditionalist	22	5.5
Marital status	Married	302	75.5
	Single	44	11.0
	Separated/divorced	19	4.8
	Widowed	35	8.8
Educational qualification	No formal	47	11.8
	Primary	62	15.5
	Secondary	170	42.5
	Tertiary	121	30.3
Occupation	Housewife	113	28.3
	Trading	154	38.5
	Farming	34	8.5
	Civil servant	99	24.8
Number of deliveries	1	73	18.3
	2-3	159	39.8
	4-5	124	31.0
	6+	44	11.0

Table 1 presents the results on socio- demographic characteristics of the respondents. Their age ranged from 20-49 years with mean and standard deviation of 33.96±7.56 and modal age group of 30-39 years (41.0%). The respondents were predominantly Christians (87.5%) and also married (75.5%). For educational qualification, majority had secondary education (42.5%)

Publication of the European Centre for Research Training and Development -UK followed by tertiary education (30.3%) while for occupation, majority were traders (38.5%), followed by housewives (28.3%) and civil servant (24.8%). For number of deliveries, 18.3% had only 1 delivery; 39.8% had 2-3 deliveries; 31.0% had 4-5 deliveries while 11.0% had at least 6 deliveries.

**Objective 1:** Determine the extent of utilisation of MHCS by women of childbearing age in Port Harcourt Local Government of Rivers State

**Table 2: Extent of utilisation of MHCS**

**n = 400**

<b>Antenatal Services</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>	<b>M±SD</b>
Registered for last/index pregnancy in a health facility	270	49	65	16	3.43±0.90
*Registered for last/index pregnancy with TBA	22	77	198	103	2.04±0.82
*Registered for last/index pregnancy in the church	15	47	125	213	1.66±0.83
Registered for antenatal care within 1-3 months of pregnancy	74	76	173	77	2.37±0.99
Registered for antenatal care within 4-6 months of pregnancy	166	104	102	28	3.02±0.98
*Registered for antenatal care within 7-9 months of pregnancy	25	51	89	235	1.66±0.92
Attended antenatal clinic 4-9 times before delivery	224	76	68	32	3.23±1.00
Listened to health talks during antenatal visits	181	133	60	26	3.17±0.91
Did tests during antenatal visits	239	72	75	14	3.34±0.90
Took iron supplement during pregnancy	186	121	76	17	3.19±0.89
Took 2 doses of malaria preventive drugs	198	107	77	18	3.21±0.91
<b>Labour/Delivery Services</b>					
Go to health facility for delivery	102	58	111	129	2.33±1.17
*Go to TBA for delivery	148	88	90	74	2.77±1.13
*Go to church (faith clinic) for delivery	9	79	139	173	1.81±0.83
*Deliver at home	48	30	132	190	1.84±1.00
Go to hospital immediately when in labour	78	69	141	112	2.28±1.07
Go to hospital when feeling of delivery is noticed	56	47	167	130	2.07±1.00
<b>Postnatal Services</b>					
Go to check-up at least 6 weeks if delivery is normal	93	60	132	115	2.33±1.12
*Do not attend postnatal clinic	205	49	66	80	2.95±1.22

\* *Non MHCS*; *MHCS > 2.5 = MHCS utilized above average*; *MHCS < 2.5 = MHCS utilized below average*

<b>Table 3: Summary on the Utilisation of MHCS</b>		<b>n = 400</b>	
Overall utilisation of		Frequency	Percent
ANC services	Adequate ( <i>utilisation score &gt; average</i> )	319	79.8
	Inadequate ( <i>utilisation score ≤ average</i> )	81	20.3
Labour/delivery services	Adequate ( <i>utilisation score &gt; average</i> )	160	40.0
	Inadequate ( <i>utilisation score ≤ average</i> )	240	60.0
PNC services	Adequate ( <i>utilisation score &gt; average</i> )	137	34.3
	Inadequate ( <i>utilisation score ≤ average</i> )	263	65.8
MHCS	Adequate ( <i>utilisation score &gt; average</i> )	313	78.3
	Inadequate ( <i>utilisation score ≤ average</i> )	87	21.8

*Overall utilisation computed by summing the right practices of MHCS (See method of Data Analysis)*

Table 2 & 3 presents the extent of the women's utilisation of MHCS services. For antenatal, the service most utilised was that of registering for antenatal in health facility ( $3.43 \pm 0.90$ ). Other services highly utilised included: registering within 4-6 months of pregnancy ( $3.02 \pm 0.98$ ), attending the clinic 4-9 times before delivery ( $3.23 \pm 1.00$ ), listening to health talks ( $3.17 \pm 0.91$ ) and undergoing tests during visits ( $3.34 \pm 0.90$ ), taking iron supplement ( $3.19 \pm 0.89$ ) and 2 doses of malaria preventive drugs during pregnancy ( $3.21 \pm 0.91$ ).

For labour, delivery in health facility ( $2.33 \pm 1.17$ ) was slightly below average, and likewise going to hospital immediately when in labour ( $2.28 \pm 1.07$ ). Going to hospital when feeling of delivery is noticed ( $2.07 \pm 1.00$ ) was even lesser. The women rather had delivery at TBA, which was utilised above average ( $2.77 \pm 1.13$ ).

For postnatal, check-up for at least 6 weeks for normal delivery was utilised slightly below average ( $2.33 \pm 1.12$ ); hence the non-utilisation of the services being above average ( $2.95 \pm 1.22$ ). In general, majority of the women utilised MHCS (78.3%) above average. Summarily, the overall utilisation of ANC services was adequate with 79.8% of the women utilising it above average. Overall utilisation of labour and PNC services was somewhat inadequate as 40.0% and 34.3% of women respectively had an above average utilisation. The overall utilisation of MHCS services was however adequate with 78.3% of the women utilising the services above average.

**Objective 2:** Identify the health facilities operational factors that influence the utilisation of MHCS

**Table 4: Health Facilities Operational Factors that Influence utilisation of MHCS n = 400**

	SA	A	D	SD	M±SD	f (%)
<b>Negative factors</b>						
Cost of services is high	317	65	12	6	3.73±0.59*	
Frequent strike by health personnel	292	82	16	10	3.64±0.68*	
Lack of equipment/supply in health facilities	111	82	153	54	2.63±1.03*	
<b>Positive factors</b>						
Availability of qualified staff to care for women during pregnancy, labour and peuperium	253	60	63	24	3.36±0.95*	
Undelayed waiting time in seeing provider	44	40	250	66	2.16±0.83	
Allow of part payment on discharge	34	24	205	137	1.89±0.86	
The building of health facility is beautiful	15	15	244	126	1.80±0.68	
<b>Overall Influence</b>						
Positive( <i>influence score &gt; average</i> )						53(13.3)
Negative ( <i>influence score ≤ average</i> )						347(86.8)

\**Considered Influencing Factors; Item is considered to influences utilisation if M > 2.5*

*Average influence score = 17.5 (overall midpoint for 7 items)*

Table 4 presents the result on health facilities operational factors that influence the women's utilisation of MHCS. Based on the negatively framed items, all the listed factors had preventive influence on their utilisation of which cost of services is high (3.73±0.59) and frequent strike of health personnel (3.64±0.68) were most prominent while lack of equipment/supply was (2-63+1.03). For the positively framed items, availability of qualified staff to take care of women during pregnancy, labour/delivery and peuperium (3.36±0.95) was the only factor that promoted their utilisation. In general, health facilities operational factors had negative influence on utilisation of MHCS as majority of the women were negatively influenced (86.8%).

**Objective 3:** Determine the geographical factors influencing the utilisation of MHCS

**Table 5: Geographical Factors that Influences utilisation of MHCS n = 400**

	SA	A	D	SD	M±SD	f (%)
<b>Negative factors</b>						
Difficult means of transportation to facility at night	187	103	101	9	3.17±0.88*	
Traffic congestion on road to facility	139	131	77	53	2.89±1.03*	
Bad road to health facility	51	132	199	18	2.54±0.77*	
<b>Positive factors</b>						
Closeness of health facility to residence	152	53	157	38	2.80±1.06*	
Low cost of transportation to facility	63	48	237	52	2.31±0.89	
<b>Overall influence</b>						
Positive( <i>influence score &gt; average</i> )						116(29.0)
Negative( <i>influence score &lt; average</i> )						284(71.0)

\**Considered Influencing Factors; Item is considered to influences utilisation if M > 2.5*

*Average influence score = 12.5 (overall midpoint for 7 items)*

Publication of the European Centre for Research Training and Development -UK

Table 5 presents the result on geographical factors influencing the women's utilisation of MHCS. Based on the negatively framed items, all the listed factors had negative influence on utilisation of which 'difficulty in getting means of transportation to facility at night' was most evident ( $3.17\pm 0.88$ ) followed by traffic congestion on road to facility ( $2.89\pm 1.03$ ). For the positively framed items, closeness of health facility to residence was the only considered factor that positively influenced the utilisation of the services. In general, geographical factors had negative influence on utilisation of MHCS as majority of the women were prevented from using the services (71.0%).

**Objective 4:** Ascertain healthcare providers factors influencing the utilisation of MHCS

**Table 6: Healthcare Providers Factors that Influences utilisation of MHCS n = 400**

	SA	A	D	SD	M $\pm$ SD	f (%)
<b>Negative factors</b>						
Providers' unfriendliness and hostility	189	106	87	18	3.17 $\pm$ 0.92*	
Providers' unavailability at night duty to take delivery	160	92	119	29	2.96 $\pm$ 0.99*	
Providers' inability to care and take deliveries well	53	54	164	129	2.08 $\pm$ 0.99	
<b>Positive factors</b>						
Providers' provision of health talks on maternity services	244	95	50	11	3.43 $\pm$ 0.81*	
Providers' ability to identify pregnant women with problem and take action	227	90	76	7	3.34 $\pm$ 0.84*	
Providers' 24 hours on duty availability	48	138	182	32	2.51 $\pm$ 0.81*	
Providers' quick attention to women on visit to facility	36	61	256	47	2.22 $\pm$ 0.77	
<b>Overall Influence</b>						
Positive ( <i>influence score &gt; average</i> )						261(65.3)
Negative ( <i>influence score &lt; average</i> )						139(34.8)

\*Considered Influencing Factors; Item is considered to influences utilisation if  $M > 2.5$

Average influence score = 17.5 (overall midpoint for 7 items)

Table 6 presents the result on healthcare providers' factors that influence the women's utilisation of MHCS. Based on the negatively framed items, providers' unfriendliness and hostility to women ( $3.17\pm 0.92$ ) and their unavailability at night duty to take delivery ( $2.96\pm 0.99$ ) were the listed factors that negatively influenced utilisation thus preventing the women from using the services. For positively framed items, providers' provision of health talks on maternity services ( $3.43\pm 0.81$ ) and 'their ability to identify pregnant women with problem and take action' ( $3.34\pm 0.84$ ) were the factors that majorly promoted their utilisation. In general, healthcare providers' factors had positive influence on utilisation of MHCS as majority of the women were positively influenced (65.3%).

**Test of Hypotheses**

**Ho1:** There is no significant relationship between age of respondents and the utilisation of MHCS

**Table 7: Relationship between Age and utilisation of MHCS** **n = 400**

		Extent of utilisation			Chi-Square	df	p-value
		Adequate (n = 313)	Inadequate (n = 87)	Total			
Age (in years)	20-29	103(81.1)	24(18.9)	127	.892	2	.640
	30-39	126(76.8)	38(23.2)	164			
	40-49	84(77.1)	25(22.9)	109			

Table 7 presents the result on relationship between age of respondents and utilisation of MHCS. There was no significant relationship between them ( $p = .640$ ). This implies that no particular age group was significantly associated with utilisation than other. Hence, the women's utilisation never depended on their age. utilisation for the different age groups was thus distributed: 20-29 years (81.1%), 30-39 years (76.8%) and 40-49 years (77.1%).

**Ho2:** There is no significant between relationship between educational qualification of respondents and the utilisation of MHCS

**Table 8: Relationship between respondents Educational Qualification and utilisation of MHCS** **n = 400**

		Extent of utilisation			Chi-Square	df	p-value
		Adequate (n = 313)	Inadequate (n = 87)	Total			
Educational qualification	No formal	28(59.6)	19(40.4)	47	16.451	3	.001
	Primary	46(74.2)	16(25.8)	62			
	Secondary	133(78.2)	37(21.8)	170			
	Tertiary	106(87.6)	15(12.4)	121			

Table 8 presents the result on relationship between the women's educational qualification and their utilisation of MHCS. There was a significant relationship ( $p = .001$ ). This implies that the women, grouped by their educational qualification had no the same utilisation extent of MHCS. Specifically, utilisation consistently increased with increase in educational qualification, and hence thus distributed: no formal (59.6%), primary (74.2%), secondary (78.2%) and tertiary (87.6%).

**Ho3:** There is no significant relationship between health facilities operational factors and utilisation of maternal health care services by women of child bearing age

**Table 9: Relationship between the Health Facilities Operational Factors and utilisation of MHCS**  
n = 400

		Extent of utilisation			Chi-Square	df	p-value
		Adequate (n = 313)	Inadequate (n = 87)	Total			
Influence of health facility operational factors	Positive	49(92.5)	4(7.5)	53	7.241	1	.007
	Negative	264(76.1)	83(23.9)	347			

Table 9 presents the result on the relationship between influences of health facilities operational factors and utilisation of MHCS. There was a significant relationship between them ( $p = .007$ ). Women that were positively influenced by health facilities operational factors (92.5%) were associated with higher utilisation than those that were negatively influenced (76.1%).

## DISCUSSION OF FINDINGS

The finding of the study revealed that majority of the women utilized Maternal Healthcare Services above average specifically ANC (79.8%), while labour/delivery and post natal services were (40%) and (34.3%) respectively not above average. That majority of the respondents who registered and attended antenatal clinic in health facility deflected to traditional birth attendant's home for delivery. This finding is in agreement with the studies of Fagbamigbe et al. (2019) who conducted a study on determinants of use of MHCS in Nigeria and found out that about three-fifth (60.3%) of the respondents used ANC, at least once during their most recent pregnancy, 43.4% of delivery were assisted by qualified medical personnel while only two-fifth (41.2%) received post care. Also, Maduka and Ogu (2018) said that the level of ANC services utilisation is relatively higher (about 77.4%) but the utilisation of professional assisted delivery and PNC was very low. Obviously, the data indicate that the government commitment to MHC has not reached the levels required to make strong impact on maternal mortality rate. The lack of used of labour/delivery and PNC could be that the time when these women falls into labour may have coincided with the striking period of health care providers or it may be at night when the means of transportation to the health facility is very difficult as well as difficulty to find an attendant in the health faculty as they are often not available for them. It could also be attributed to the unfriendliness and hostility of the health care providers, lack of equipment/supply and high cost of services at the health facility hence they decided to patronize TBA who are very ready to accommodate them.

The finding of the study reveals that health facilities operational factors prevented majority of the respondents from utilizing MHCS. Of all the positively framed items expected to promote the women's utilisation of MHCS, only availability of qualified staff that takes care of women during pregnancy, labour/delivery and peuperium ( $3.36 \pm 0.95$ ) promoted their utilisation while all the negatively frame items which include; high cost of services, frequent strike by healthcare providers and lack of equipment/supply prevented their utilisation. These have resulted to these women seeking more assistance from TBA as alternatives for health care services thus curbing maternal mortality and morbidity will remain a health concern for the Rivers state government.

Publication of the European Centre for Research Training and Development -UK

This study is also in agreement with Gbenga-Epebinu, et al. (2020) who reported that there are not enough health facilities equipped for deliveries especially at the rural level and trained health staff who could care for pregnant women or make referrals in emergency situations. This is also supported by the report of Bolarinwa, et al. (2021) in which women were asked about factors that would deter their seeking medical care and three-quarters of them reported lack of money for obtaining treatment, high cost of transportation and not having a provider to attend to them.

Furthermore, Olaitan, et al. (2017) opined that the Nigeria health system has been plagued by the problem of decaying infrastructure, and chronic shortage of essential drugs, electricity and water supply while Onyeajam et al. (2018) pointed to an overall poor healthcare system and lack of access to skilled health workers during delivery. This is therefore need for the government/stake holders to provide well equipped health facilities/ skilled manpower, subsidize the cost of services as well as provide adequate means of transportation to promote the utilisation of these services

The findings of the study further revealed that geographical factor prevented the respondents from utilizing MHCS. The respondents were mostly prevented from utilizing MHCS by the following factors: Difficulty in getting means of transportation to health facility at night ( $3.17 \pm 0.88$ ), traffic congestion on the road to health facility ( $2.54 \pm 1.06$ ) and disagreed to low cost of transportation to health facility. The only factor that promotes utilisation was closeness to health facility. This is in line with the study by Tessema et al., (2021) who said that proximity of MHCS to users and a reliable transportation system to link the communities and health facilities are critical for Maternal Health Care utilisation. This is also supported by Nuamah, et al. (2019) whose result shows that 60%, 25%, and 9.3% accessed ANC, PNC, & DC respectively and reasons given for the level of utilisation includes: bad state of the road, lack of means of transportation and lack of transportation to support referrals

The findings of the study also indicated that health care providers' factors promoted women's utilisation of MHCS. This is in line with the study of Rustagi et al. (2021) which revealed that there is a relationship between attitude of health care providers and mothers choice of where to receive ANC, DC, and PNC. A positive behavior of health care providers such as empathy, politeness and giving prompt attention to women's health needs will bring about positive outcome and negative attitude will produce negative outcome on the utilisation of MHCS. The health care providers factors that promoted their utilisation include: giving of health talks on maternity services ( $3.43 \pm 0.81$ ), identification of women with problems and taking action ( $3.34 \pm 0.81$ ), 24 hours availability of providers on duty ( $2.51 \pm 0.81$ ) and inability of providers to care and take deliveries which was negatively worded was disagreed upon by mothers thus having a promoting influence while those that prevented them from utilizing MHCS include: unfriendliness and hostility of providers ( $3.17 \pm 0.92$ ), unavailability of providers on night duty to take delivery ( $2.96 \pm 0.99$ ) and quick attention given to women whenever they come to the facility by providers which was positively worded was disagreed upon by the women implying that it prevented them.

Publication of the European Centre for Research Training and Development -UK

Although, healthcare providers factor promoted their use of MHCS, items such as unfriendly and hostile behavior of healthcare providers ( $3.17 \pm 0.92$ ) and unavailability of healthcare providers on night duty to take delivery ( $2.96 \pm 0.99$ ) should not be practiced. Healthcare providers should rather exhibit positive attitude such as empathy, maintaining cordial interaction with clients, and always be availability on duty for the women whenever they come to the health facilities. This will ensure their maximum use of all the various MHCS above average to curb maternal mortality and morbidity

The finding of the study shows that utilisation was not dependent on respondents' age as no particular age group was associated with utilisation ( $p = .743$ ) This contrasted the findings of Rustagi et al. (2021) which indicated that younger women have a higher utilisation for MHCS than the older women as they are more likely to be experiencing first- order birth which are in turn positively associated with MHCS use. An explanation to this could be that the women level of exposure as a result of urbanization and their increased level of education may have given them access to health information regarding maternal healthcare services and its associated risk which had influenced their utilisation of these services irrespective of their age.

The finding of the study also indicated a significant relationship between woman's educational qualifications and utilisation of MHCS ( $p = .007$ ). There was a consistent increase in their utilisation of MHCS with increase in their educational qualification. This is supported by Tolera, et al. (2020) who said that increased education influenced service use as it increases female decision-making power to seek proper medical care whenever they perceived it as necessary, awareness of health problems and availability of health care services and create shift in household dynamics. There is need to encourage women to pursue higher education for its social and economic benefits because the higher a woman's level of education, the more likely it is that she will marry, have more economic opportunities, engage more fully in public life and exercise her reproductive rights in utilizing MHCS when necessary.

The findings of the result further indicated a negative significant relationship between health facilities operational factors and utilisation of MHCS ( $p = .007$ ). This implies that health facilities operational factor prevented the women from utilizing the various MHCS which will consequently impact on their health negatively. This is supported by the study of Gbenga-Epebinu and Ogunrinde (2020) which revealed that bad experience with the health care system, transport problem, and financial constraints were strong predictor of MHC utilisation for ANC, D/C, and PNC. There is need therefore for the policy- makers of the health institutions to provide and promote a user friendly environment in their health facilities that will encourage them to utilize these services capable of preventing maternal and neonatal complications and death.

### **Summary of Major Findings**

1. Majority of the women utilized MHCS adequately (78.3%).
2. The services utilized were majorly antenatal services which included: registering for antenatal in health facility ( $3.43 \pm 0.90$ ), registering within 4-6 months of pregnancy ( $3.02 \pm 0.98$ ), attending the clinic 4-9 times before delivery ( $3.23 \pm 1.00$ ), listening to

---

Publication of the European Centre for Research Training and Development -UK

health talks ( $3.17\pm 0.91$ ) and undergoing tests during visits ( $3.34\pm 0.90$ ), taking iron supplement ( $3.19\pm 0.89$ ) and 2 doses of malaria preventive drugs during pregnancy ( $3.21\pm 0.91$ ).

3. Labour (40.0%) and postnatal services (34.3%) were both utilized inadequately; services such as delivery in health facility ( $2.33\pm 1.17$ ) and check-up for at least 6 weeks for normal delivery ( $2.33\pm 1.12$ ) respectively.
4. Health facilities operational factors and geographical factors prevented their utilisation of MHCS; 86.8% and 71.0% women being influenced respectively while healthcare providers' factors promoted their utilisation; 65.3% women being positively influenced.
5. Age had no significant relationship with utilisation of MHCS.
6. Educational qualification had significant relationship with utilisation of MHCS with utilisation increasing with increasing in educational qualification.
7. Influence of health facilities operational factors was significantly related to utilisation. Those who were positively influenced by health facilities operational factors had more utilisation than those negatively influenced.

## CONCLUSION

Based on the findings of this study, women of childbearing age have shown adequate utilisation of Maternal Health Care Services (MHCS), particularly in Antenatal Care (ANC) with a utilisation rate of 79.8%. However, concerning labor/delivery and Postnatal Care (PNC), the utilisation rates were notably lower at 40% and 34.3% respectively, indicating inadequacy in these areas. The majority of women opted to deliver at traditional birth attendant homes rather than health facilities. Factors such as the operational conditions of health facilities (86.8%) and geographical barriers (71.0%) significantly hindered the utilisation of MHCS. On the other hand, the factor of healthcare providers (65.3%) played a promoting role in encouraging women to utilize MHCS. Furthermore, there was a significant relationship observed between the extent of MHCS utilisation and the educational qualification of respondents, as well as the extent of utilisation and health facilities' operational factors.

## Recommendations

In view of the evident that the extend of use of MHCS in Port Harcourt Local Government Area is inadequate. The researcher therefore recommends that:

1. Healthcare providers should embark on directed and focused health education, home visiting, and home delivery to improve on and prevent the consequences of inadequate utilisation of MHCS.
2. Traditional birth attendants (TBAs) should be trained to enable them provide quality health care to the women to prevent maternal and neonatal complications and death
3. The health care providers should keep updating their knowledge through higher education and workshop/seminars to uphold the standard of practice that will keep enhancing the women utilisation of the various services.

---

Publication of the European Centre for Research Training and Development -UK

4. Government/stakeholders should provide adequate health facility, subsidize the cost of services, prevent incessant striking actions by healthcare providers, employ more skilled manpower, improve the road conditions, and provide adequate means of transportation to and in cases of referrals to the health facilities to promote their utilisation of these services.

## REFERENCES

- Adedokun, S.T. & Yaya, S. (2020). Correlates of antenatal care utilisation among women of reproductive age in sub-Saharan Africa: Evidence from multinomial analysis of demographic and health surveys (2010–2018) from 31 countries. *Arch. Public Health* 78, 134. <https://doi.org/10.1186/s13690-020-00516-w>
- Adeyuyi, E.O., Auta, A., Khanal, V., Bamidele, O.D., Akuoko, C.P., Adefemi, K., Tapshak, S.J., & Zhao, Y. (2018). Prevalence and factors associated with underutilisation of antenatal care services in Nigeria: A comparative study of rural and urban residences based on the 2013 Nigeria demographic and health survey. *PLoS ONE* 13, e0197324 <https://doi.org/10.1371/journal.pone.0197324>
- Ahinkorah, B.O., Ameyaw, E.K., Seidu, A.A., Odusina, E.K., Keetile, M., Yaya, S. (2021). Examining barriers to healthcare access and utilisation of antenatal care services: Evidence from demographic health surveys in sub-Saharan Africa. *BMC Health Serv. Res.* 21, 125. <https://doi.org/10.1186/s12913-021-06129-5>
- Bobo, F.T., Asante, A., Woldie, M., Dawson, A., & Hayen, A. (2021) Spatial patterns and inequalities in skilled birth attendance and caesarean delivery in sub-Saharan Africa. *BMJ Glob. Health* 6, e007074. <https://doi.org/10.1136/bmjgh-2021-007074>
- Bolarinwa, O.A., Sakyi, B., Ahinkorah, B.O., Ajayi, K.V., Seidu, A.A., Hagan, J.E., & Tessema, Z.T. (2021). Spatial patterns and multilevel analysis of factors associated with antenatal care visits in Nigeria: Insight from the 2018 Nigeria demographic health survey. *Healthcare* 2021, 9, 1389. <https://doi.org/10.3390/healthcare9101389>
- Fagbamigbe, A.F., Abel, C., Mashabe, B., & Adebawale, A.S. (2019) Survival analysis and prognostic factors of the timing of first antenatal care visit in Nigeria. *Adv. Integr. Med.* 6, 110–119. <https://doi.org/10.1016/j.aimed.2018.12.002>
- Gbenga-Epebinu, M.A, Okafor N.A and Olofinbiyi R.O (2020). Utilisation of Modern Contraceptives Among Couples in Ilokun Community in Ado Local Government Area, Ekiti state. *Euro Afro Studies International Journal*,1(3), 1-13. DOI:10.5281/zenodo.3735450
- Gbenga-Epebinu, M.A & Ogunrinde M.E. (2020). Qualitative Analysis of Factors Influencing Modern Contraceptives Use Among Couples in A Rural Settlement in Ekiti State, Nigeria. *Commonwealth Journal of Academic Research*, 1(3), 66 – 73. DOI: 10.5281/zenodo.3883142
- Kareem, Y.O., Morhason-Bello, I.O., OlaOlorun, F.M., & Yaya, S. (2021). Temporal relationship between Women’s empowerment and utilisation of antenatal care services: Lessons from four National Surveys in sub-Saharan Africa. *BMC Pregnancy Childbirth* 21, 198. <https://doi.org/10.1186/s12884-021-03679-8>

Publication of the European Centre for Research Training and Development -UK

- Maduka, O., & Ogu, R. (2018) Non-utilisation of antenatal care services among women of reproductive age in the Niger delta region of Nigeria: Findings from 2595 women. *Clin. Obstet. Gynecol. Reprod. Med.* 4, 1–5. <https://doi.org/10.15761/COGRM.1000220>
- Mumtaz, S., Bahk, J., Khang, Y.H. (2015) Current status and determinants of maternal healthcare utilisation in Afghanistan: Analysis from Afghanistan demographic and health survey 2015 14, e0217827 <https://doi.org/10.1371/journal.pone.0217827>
- Mutowo, J., Yazbek, M., van der Wath, A., and Maree, C. (2021). Barriers to using antenatal care services in a rural district in Zimbabwe. *Int. J. Afr. Nurs. Sci.* 15, 100319. <https://doi.org/10.1016/j.ijans.2021.100319>
- Nuamah, G.B., Agyei-Baffour, P., Mensah, K.A., Boateng, D., Quansah, D.Y, Dobin, D., & Addai-Donkor, K. (2019). Access and utilisation of maternal healthcare in a rural district in the forest belt of Ghana. *BMC Pregnancy Childbirth* 2019, 19, 6. <https://doi.org/10.1186/s12884-018-2159-5>
- Okedo-Alex, I.N., Akamike, I.C., Ezeanosike, O.B., & Uneke, C.J. (2019). Determinants of antenatal care utilisation in sub-Saharan Africa: A systematic review. *BMJ Open* 9, e031890. <https://doi.org/10.1136/bmjopen-2019-031890>
- Olaitan, T., Okafor, I.P., Onajole, A.T., & Abosedo, O.A. (2017). Ending preventable maternal and child deaths in western Nigeria: Do women utilize the life lines? *PLoS ONE* 12, e0176195.
- Onyeajam, D.J., Xirasagar, S., Khan, M.M., Hardin, J.W., & Odutolu, O. (2018). Antenatal care satisfaction in a developing country: A cross-sectional study from Nigeria. *BMC Public Health* 2018, 18, 368. <https://doi.org/10.1186/s12889-018-5285-0>
- Onyesejose, K.N., Ndep, A.O., Offiong, D.A., Omang, J.A., & Otu, F.T. (2019). Sociocultural factors influencing maternal health outcomes in Nigeria. *Sci. Res. J.* VII, 86–96.
- Rustagi, R., Basu, S., Garg, S., Singh, M.M., & Mala, Y.M. (2021). utilisation of antenatal care services and its sociodemographic correlates in urban and rural areas in Delhi, India. *Eur. J. Midwifery* 5, 40. <https://doi.org/10.18332/ejm/140459>
- Tessema, Z.T., Teshale, A.B., Tesema, G.A., & Tamirat, K.S. (2021). Determinants of completing recommended antenatal care utilisation in sub-Saharan from 2006 to 2018: Evidence from 36 countries using Demographic and Health Surveys. *BMC Pregnancy Childbirth* 21, 192. <https://doi.org/10.1186/s12884-021-03669-w>
- Tolera, H., Gebre-Egziabher, T., & Kloos, H. (2020). Using Andersen’s behavioral model of health care utilisation in a decentralized program to examine the use of antenatal care in rural western Ethiopia. *PLoS ONE* 15, e0228282
- UNICEF. (2021). *Progress for Children: A Report Card on Maternal Mortality*. Report (7), UNICEF. New York.
- World Health Organization. WHO (2021) Guideline Development Group Meeting on WHO Antenatal Care Guidelines: Update on Early Ultrasound Scan Recommendation. 2021. Available online: <https://www.who.int/news/item/07-06-2021-who-antenatal-care-guidelines-update-on-early-ultrasound-scan-recommendation>
- World Health Organization. Trends in Maternal Mortality: 1990–2015; Estimates from WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division; World Health Organization: Geneva, Switzerland, 2015.

Publication of the European Centre for Research Training and Development -UK

World Health Organization. Maternal Mortality. Fact Sheets. (2019). Available online: <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>

World Health Organization.(2018) WHO recommendations on antenatal Care for a Positive Pregnancy Experience. World Heal Organ. 2018, pp. 1–172. Available online: <https://apps.who.int/iris/bitstream/handle/10665/250796/9789241549912-eng.pdf?sequence=1>

WHO. Global Health Observatory Data Repository: Antenatal Care Coverage Data by Country(2021). World Health Organization. 2021, p. 1. Available online: <https://apps.who.int/gho/data/view.main.ANTENATALCARECOVERAGER4v>