Comparative analysis of the utilization of reproductive healthcare services among women of childbearing age in rural and urban areas ~~of Rivers West senatorial district~~

ABSTRACT

The aim of this study was to compare the utilization of reproductive healthcare services among women of childbearing age in rural and urban areas of Rivers West Senatorial District. A comparative research design was adopted with a population consisting of 354,556 women of reproductive age in Rivers West Senatorial District. A sample size of 440 was selected using a multi-staged sampling procedure. The instrument for data collection was a structured questionnaire with a reliability coefficient of 0.88. Data collected was analyzed with the aid of the Statistical Product for Service Solution (SPSS) version 23.0 using mean and t-test. The result showed that reproductive healthcare services such as prenatal care services were utilized more in the urban areas than rural ($\overline{X}$ = 3.45±0.93 vs 3.35±1.08), postnatal care ($\overline{X}$ = 3.53±0.85 vs 3.41±0.97); STI prevention/management services ($\overline{X}$ = 2.45±1.29 vs 2.40±1.31), while others services such as family planning and abortion care were utilized more in rural areas than urban ($\overline{X}$ = 2.07±1.17 vs 2.05±1.07) and ($\overline{X}$ = 2.15±1.24 vs 1.75±1.14) respectively. The tested hypotheses revealed that statistically significant difference was found between rural and urban areas in the utilization of postnatal care (z-cal = 5.32, df = 435, $p<0.05$), family planning (z-cal = 36.87, df = 435, $p<0.05$), abortion care (z-cal = 4.44, df = 435, $p<0.05$), and STI prevention/management services (z-cal = 6.43, df = 435, $p<0.05$). It was concluded that, reproductive healthcare services were utilized more at the urban areas. It was recommended among others that the government should make prenatal care services more interesting at both urban and rural areas, by building and including aesthetic design.

INTRODUCTION

Utilization of reproductive healthcare services among women is one useful strategy to alleviate the rate of maternal morbidity and mortality. Lapinni and Ayinmodu (2016) asserted that, a woman dies somewhere in the world from complications related to reproductive health at every minute of the day, and about 515,000 women die annually from the same cause. Tripney et al. (2013) noted that, complications from abortion account for 13% of maternal mortality worldwide. The two regions with highest maternal mortality rates are sub-Saharan Africa and Oceania. The MMR in developing regions was 19 times higher than in developed regions. Sub-Saharan Africa has the highest regional MMR (546) per 100,000 live births (Alkema et al., 2016). This could be explained with the assertion of Adefalu et al. (2019) that, women's reproductive health services have been largely neglected in the past, leaving them vulnerable to reproductive health problems like Sexual Transmitted Infection (STI), unintended pregnancy, unsafe abortion and other harmful practices. In the United States, sexual and reproductive health problems including HIV and other sexually transmitted infections (STIs) are major causes of maternal mortality and morbidity (Maternal Health Task Force, 2019). In the same vein, Stanhope and Lancaster (2012) pointed out that South Asia and sub- Saharan Africa are the two regions with the worst maternal death in the world. In Nigeria, maternal deaths accounts for 19% of global maternal mortality rate (WHO, 2018). Also, Adefalu and Ayodele (2019) reported that, as high as 87.8% of women in Nigeria had low level of utilization while 63.4% had never visited a health facility in their locality for any reproductive health service.

Reproductive health services are meant to meet the reproductive healthcare needs of women. According to Kennedy et al. (2010), reproductive health services is defined as the constellation of methods, techniques and services that contribute to reproductive health and well-being by preventing and solving sexual health problems. Such services included family planning (family planning counselling), pre-natal care, delivery care and post-natal care, prevention and appropriate treatment of infertility, prevention of abortion and the management of the consequences of abortion and post abortion care, prevention/treatment of sexually transmitted infection, prevention and appropriate management of infertility, and prevention/management of sexual dysfunction (Department of Health, 2012, National Open University, 2021). In this study,

such services will be focused majorly on pre-natal care, post-natal care, abortion care, prevention/management of sexually transmitted infections, and family planning.

Family planning is essential now than ever given the high rate of population explosion. The World Health Organization (2016) defined family planning as the practice of controlling the number of children one has and the intervals between their births, particularly by means of contraception such as birth control pills, rhythm method, withdrawal, intra-uterine device, diaphragm, cervical cap, implants and tubal ligation. Oyediran et al. (2013) reported that, 69.0% of pregnancies are unwanted due to poor use of family planning. Many sexually active women of child bearing age do not use any family planning method, leading to high rate of unplanned pregnancies even among the legally married ones. However, pregnancy, whether wanted or unwanted requires good antenatal care for an expected delivery outcome.

Antenatal care is a vital reproductive healthcare service that ensures the wellbeing of both the mother and foetus. The World Health Organization (2014) stated that, antenatal care (ANC) is the care provided by skilled health-care professionals to pregnant women and adolescent girls to ensure the best health conditions for both mother and baby during pregnancy, and its components include risk identification, prevention, management of pregnancy-related or concurrent diseases, health education and health promotion. Antenatal care creates avenue to provide pregnant women with information, treat existing social and medical conditions and screen for risk factors. However, it is not enough to receive ANC, since majority of the fatal complications occur during or shortly after delivery (Centers for Disease Control & Prevention, 2016). Similarly, the WHO (2016) reported that, poor usage of skilled attendance and maternal primary health care services results in high levels of maternal mortality in developing countries including Nigeria. It is therefore important that pregnant women have skilled pre-natal and postnatal care.

The care given to the woman and her baby after delivery is known as postnatal care which is also one of the reproductive healthcare services. The world Health Organization (WHO, 2016) defined postnatal care (PNC) as a care given to the mother and her newborn baby immediately after the birth of the placenta and for the first 42 days of life. The care given to the woman at such period is very essential following the report of the World Bank (2012) that, majority of maternal and neonatal deaths occurs during childbirth and postnatal period. It is worthy of note

that, utilization of health care services at the postnatal period can forestall maternal and child morbidity. According to Alkema et al. (2016), care given in the postpartum period assists health care providers to detect post- delivery problems and to give treatments timely. Conversely, Wudineh et al. (2018) showed that, among postnatal women, 57.5% utilized postnatal care services among which nearly half (44.9%) of them received immunization, 22.6% of them were tested and counselled for HIV and 106(18%) of them was counselled on breast feeding. On the other hand, some may not carry the pregnancy to term but resort to abortion which is deleterious to health.

Abortion can present women with dirt consequences particularly when done unsafely. Abortion is defined as a procedure for terminating an unintended pregnancy (World Health Organization, 2020); it is unsafe when carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both. Turner et al. (2011) noted that, although, the abortion law and policy in Nigeria prohibits legal access to legal abortion services, about 1.25 million commit induced abortion yearly by unskilled providers and many have serious complications.This indicates the need for reproductive healthcare services such as the post abortion care, targeted at the prevention and management of consequences of abortions. But, it is worth nothing that there might be discrepancies in the utilization of such care in the rural and urban areas due to the reproductive healthcare preference in such areas. Abortion and post abortion care that is not adequately utilized could result to infections affecting both the reproduction and sexual organs of the woman. Please, give reference and summarize findings

Sexually transmitted infections must be prevented to avert its consequences on the reproductive health of women. According to the Center for Disease Control and Prevention (2020), STIs are infections mainly transmitted from one person to another through sexual contact. Such infections could have negative effect on women's reproduction if not prevented. The World Health Organization (2019) revealed that the devastating effects of STIs are stillbirth, neonatal death, low-birth-weight and prematurity, Sepsis, Pneumonia, Neonatal Conjunctivitis, and Congenital Deformities: Over 988, 000 pregnant women were infected with Syphilis resulting in approximately 200, 000 adverse birth outcomes including stillbirth; HPV infection caused 528, 000 cases of cervical cancer and 266, 000 cervical cancer deaths each year: STIs such as Gonorrhoea and Chlamydia were significant causes of Pelvic Inflammatory Disease (PID) and

infertility in women. Magadi (2011) stated that, the peculiarity in the woman's structure makes her 10-20 times more likely to get infected compared to her male counterparts. Similarly, Oluwole et al. (2020) stated that, the susceptibility of females to STIs is bothered by the woman's reproductive structure. This makes it of utmost importance that, women of reproductive age utilize services aimed at making preventing them from contracting STIs. Such services include counselling on the use of Prevention Exposure Prophylaxis (PreEP); avoiding sharing needles and other sharp objects; making sure that blood or organ for transfusion has been tested for hiv and other STIs like Hepatitis B virus; and HIV Counselling and Testing (HCT) (Avert (2018).

Varying ways for the prevention of STIs and HIV exist. The Bridge Clinic (2019)outlined a few of them as absteinance; delay in sexual debut; if sexually active, know your sexual history and that of your partner; get tested every three months; keep one sexual partner at a time because the more partners one has, the higher the risk of contracting an STI or/and HIV; always be safe, practice safer sex; use of latex condoms to reduce the chance of getting infected; getting immunized against certain infections, such as Hepatitis B or HPV. However, Morris and Rushwan (2015) stated that women's reproductive health has been overlooked historically despite the high risks that countries face for its neglect and services inaccessibility. Moreover, both geographical and financial accessibility to such services by the women in low and medium income countries can influence the utilization (Azmat et al., 2015). Denno et al. (2015) stated that, despite the global promotion of availability of reproductive health services, most rural areas still lack these services.

In Rivers West senatorial district, certain factors distinguish the rural and urban areas with some of the rural areas being inaccessible by land except by water transportation. Given the high rate of insecurity in the country, many reproductive healthcare providers may be afraid of residing in such areas even when they are posted there, this hampers the viability of the RHS provided in such areas. Aside that, observation has shown that most women at the rural areas prefer visiting traditional birth attendants for their reproductive healthcare issues. Thus, this study carried out a comparative analysis of the determinants and utilization of reproductive healthcare services among women of childbearing age in rural and urban areas of Rivers West senatorial district.

Statement of the Problem

The rate of maternal morbidity and mortality continues to rise with most of such illness and deaths occurring either during pregnancy, childbirth or shortly after delivery due to complications such as: haemorrhage (bleeding), hypertension, infection, unsafe abortion, prolonged/obstructed labour and pregnancy related disorders, which are all preventable by appropriate reproductive healthcare.(Too long sentence) The effects of such deaths or illness are enormous on the mother, infant, family and society at large both on the economical, physical and mental health. For instance, infants whose mothers die after delivery may have a slimmer chance of survival than those whose mothers are alive. Though efforts have been made by the government and non-governmental organizations to ensure better maternal healthcare through campaigns and by making some of such services free but, observation has shown that most of such efforts are focused in the urban areas. Specifically, in Rivers West senatorial district where some of the communities are in remote areas and not accessible by land, coupled with poor infrastructural development, including healthcare facilities, some of which are debilitated; utilization of reproductive healthcare services by women may not remain the same with that of the urban areas where resources abound.(Too long sentence) Aside that, studies comparing the utilization of healthcare services among rural and urban dwellers are scarce. Therefore, this study was focused on a comparative analysis of the utilization of reproductive healthcare services among women of childbearing age in rural and urban areas of Rivers West senatorial district, Rivers State.

Methodology

A comparative research design was adopted with a population consisting of 354,556 women of reproductive age in Rivers West Senatorial District. A sample size of 440 was determined using Taro Yemen formula, $N / 1+N(e)^2$ where, N = population, and e = error level (0.05)reference of formula if used in any study already. The samplewas selected using a multi-staged sampling procedure involving four stages.At stage one, the stratified sampling technique was used to group the senatorial district into two strata (riverine and upland) based on the terrain and cultural similarities, riverine (AKULGA, ASALGA, Bonny and Degema) and upland (Abua-Odual, Ahoada East, Ahoada West, and Ogba-Egbema-Ndoni LGA). At stage two, a simple random sampling method was used to select two LGA from each stratum.At stage three, a proportionate

sampling technique was used to select the number of participants to sample in each LGA, and the final stage involved the use of simple random sampling technique to select the participants. The instrument for data collection was a structured questionnaire with a reliability coefficient of 0.88. Was it a self-structured or borrowed questionnaire? Please provide cronbach alpha value (for pilot study) or reference of borrower author. Data collected was analyzed with the aid of the Statistical Product for Service Solution (SPSS) version 23.0 using mean, standard deviationand t-test.

Results- The results of the study are shown below:

Table 1: Extent of utilization of prenatal care as a reproductive healthcare service among women of childbearing age in rural and urban areas

SN	Prenatal care	Rural (N = 195)		Urban (N = 245)	
		$\bar{X}$	S.D	$\bar{X}$	S.D.
1	Early antenatal booking, at the first trimester	3.26	1.14	3.53	.88
2	Visiting of antenatal clinic for check up	3.45	1.01	3.43	.90
3	Attended antenatal for at least four times before delivery	3.30	1.15	3.44	.95
4	Adherence to routine drugs	3.40	1.06	3.42	.96
5	Adherence to antenatal visiting days or antenatal schedule	3.35	1.06	3.42	.98
	Grand mean	**3.35**	**1.08**	**3.45**	**.93**

Criterion mean = 2.50

Table 1 revealed the extent of utilization of prenatal care as a reproductive healthcare service among women of childbearing age in rural and urban areas. The result showed that prenatal care services were utilized more in the urban areas ($\bar{X}$ = 3.45±0.93) than in the rural areas ($\bar{X}$ = 3.35±1.08). Thus the extent of utilization of prenatal care as a reproductive healthcare service was more among women of childbearing age in urban areas than in rural areas.

Table 2: Extent of utilization of postnatal care as a reproductive healthcare service among women of childbearing age in rural and urban areas

SN	Prenatal care	Rural (N = 195)		Urban (N = 245)	
		$\bar{X}$	S.D	$\bar{X}$	S.D.
1	Cord care for the baby was given in the health facility	3.31	1.14	3.54	.93
2	Child immunization services after delivery	3.39	.97	3.56	.81
3	Received counselling on disease prevention for new born babies	3.45	.94	3.57	.78
4	Received counselling on breast feeding from health facility	3.58	.80	3.63	.73
5	Received postnatal checkups for self and the newborn baby	3.32	1.03	3.36	1.01
	Grand mean	**3.41**	**.97**	**3.53**	**.85**

Table 2 revealed the extent of utilization of postnatal care as a reproductive healthcare service among women of childbearing age in rural and urban areas. The result showed that postnatal care services were utilized more in the urban areas ($\bar{X}$ = 3.53±0.85) than in the rural areas ($\bar{X}$ = 3.41±0.97). Thus the extent of utilization of postnatal care as a reproductive healthcare service was more among women of childbearing age in urban areas than in rural areas.

Table 3: Extent of utilization of family planningamong women in rural and urban areas

SN	Family planning	Rural (N = 195)		Urban (N = 245)	
		$\bar{X}$	S.D	$\bar{X}$	S.D.
1	Condom	2.42	1.27	2.68	1.23
2	Rhythm method	2.20	1.27	1.57	.97
3	Withdrawal	1.98	1.25	1.72	1.09
4	Intra-uterine devices	1.80	1.06	1.45	.82
5	Diaphragm	1.86	1.06	1.31	.74
6	Cervical cap	1.60	.92	1.32	.77
7	Implants	1.73	1.13	2.22	1.34
8	Tubal ligation	1.81	1.14	1.50	.99
9	Spermicides	2.06	1.23	1.54	1.04
10	Injectable	2.34	1.28	2.38	1.21
11	Birth control pills	1.77	1.06	2.22	1.15
12	Circle beads	1.86	1.19	2.31	1.23
13	Use of family planning method for child spacing	2.54	1.20	2.81	1.11
14	Used family planning for timing of conception	2.73	1.24	2.94	1.18
15	Used family planning to limit number of children	2.44	1.26	2.82	1.26
	Grand mean	**2.07**	**1.17**	**2.05**	**1.07**

Table 3 revealed the extent of utilization of family planning as a reproductive healthcare service among women of childbearing age in rural and urban areas. The result showed that utilization of family planning services was low in both rural and urban areas but, more in the rural areas ($\bar{X}$ = 2.07±1.17) than in the urban areas ($\bar{X}$ = 2.05±1.07). Thus the extent of utilization of family planning as a reproductive healthcare service was more among women of childbearing age in rural areas than in urban areas.

Table 4: Extent of utilization of abortion careas a reproductive healthcare service among women of childbearing age in rural and urban areas

SN	Abortion care	Rural (N = 195)		Urban (N = 245)	
		$\bar{X}$	S.D	$\bar{X}$	S.D.
1	Utilized health services to prevent abortion	2.41	1.33	1.90	1.22
2	Visited health facility to utilize abortion services	2.13	1.20	1.63	1.02
3	Utilized health services to manage health problems from abortions	2.16	1.27	1.71	1.16
4	Received counselling on safe abortion	2.12	1.22	1.80	1.18
5	Received check-up after abortion	1.96	1.19	1.73	1.14
	Grand mean	**2.15**	**1.24**	**1.75**	**1.14**

Table 4 presents the extent of utilization of abortion care as a reproductive healthcare service among women of childbearing age in rural and urban areas. The result showed that the extent of utilization of abortion care was low in both rural and urban areas but, more in the rural areas ($\bar{X}$ = 2.15±1.24) than in the urban areas ($\bar{X}$ = 1.75±1.14). Thus the extent of utilization of abortion care as a reproductive healthcare service was more among women of childbearing age in rural areas than in urban areas.

Table 5: Extent of utilization of abortion careas a reproductive healthcare service among women of childbearing age in rural and urban areas

SN	Abortion care	Rural (N = 195)		Urban (N = 245)	
		$\bar{X}$	S.D	$\bar{X}$	S.D.
1	Received counselling services on STI prevention	2.37	1.30	2.71	1.34
2	Vaccination against STI such as cervical cancer	2.43	1.27	2.19	1.15
3	Proper use of condoms to prevent STI	2.44	1.26	2.62	1.35
4	Testing for STI before resuming contact	2.50	1.34	2.39	1.34
5	Screening for STI	2.30	1.34	2.16	1.16
6	Used health facility for the treatment of STI	2.39	1.35	2.65	1.40
	Grand mean	**2.40**	**1.31**	**2.45**	**1.29**

Criterion mean = 2.50

Table 5 revealed the extent of utilization of abortion care as a reproductive healthcare service among women of childbearing age in rural and urban areas. The result showed that abortion care services were utilized more in the urban areas ($\bar{X}$ = 2.45±1.29) than in the rural areas ($\bar{X}$ = 2.40±1.31). Thus the extent of utilization of abortion care as a reproductive healthcare service was more among women of childbearing age in urban areas than in rural areas.

Table 6: T-test result showing the significant difference in utilization of prenatal care as a reproductive healthcare service among women of childbearing age in rural and urban areas

Group	N	$\bar{X}$	SD	df	T-cal	p-value	Decision
Rural	195	3.35	.90	435	2.93	0.08*	H_o Not Rejected
Urban	242	3.45	.78				

*Not Significant; p>0.05.

Table 6 revealed the significant difference in utilization of prenatal care as a reproductive healthcare service among women of childbearing age in rural and urban areas. The result of the study showed that there was no significant difference at (T-cal = 2.93, df = 435, p>0.05). Therefore, the null hypothesis which stated that there was no significant difference in utilization of prenatal care as a reproductive healthcare service among women of childbearing age in rural and urban areas of Rivers West Senatorial District was not rejected.

Table 7: T-test result showing the significant difference in utilization of postnatal care as a reproductive healthcare service among women of childbearing age in rural and urban areas

Group	N	$\bar{X}$	SD	Df	T-cal	p-value	Decision
Rural	195	3.41	.77	435	5.32	0.02*	H_o Rejected
Urban	242	3.53	.68				

*Significant; $p<0.05$.

Table 7 revealed the significant difference in utilization of postnatal care as a reproductive healthcare service among women of childbearing age in rural and urban areas. The result of the study showed that there was a significant difference at (T-cal = 5.32, df = 435, $p<0.05$). Therefore, the null hypothesis which stated that there was no significant difference in utilization of postnatal care as a reproductive healthcare service among women of childbearing age in rural and urban areas of Rivers West Senatorial District was rejected.

Table 8: T-test result showing the significant difference in utilization of family planning as a reproductive healthcare service among women of childbearing age in rural and urban areas

Group	N	$\bar{X}$	SD	Df	T-cal	p-value	Decision
Rural	195	2.08	.66	435	36.87	0.00*	H_o Rejected
Urban	242	2.05	.48				

*Significant; $p<0.05$.

Table 8 revealed the significant difference in utilization of family planning as a reproductive healthcare service among women of childbearing age in rural and urban areas. The result of the study showed that there was a significant difference at (T-cal = 36.87, df = 435, $p<0.05$). Therefore, the null hypothesis which stated that there was no significant difference in utilization of family planning as a reproductive healthcare service among women of childbearing age in rural and urban areas of Rivers West Senatorial District was rejected.

Table 9: T-test result showing the significant difference in utilization of abortion and post abortion careas a reproductive healthcare service among women of childbearing age in rural and urban areas

Group	N	$\bar{X}$	SD	Df	T-cal	p-value	Decision
Rural	195	2.15	.99	435	4.44	0.03*	H_o Rejected
Urban	242	1.75	.87				

*Significant; p<0.05.

Table 9 revealed the significant difference in utilization of abortion care as a reproductive healthcare service among women of childbearing age in rural and urban areas. The result of the study showed that there was a significant difference at (T-cal = 4.44, df = 435, p<0.05). Therefore, the null hypothesis which stated that there was no significant difference in utilization of abortion care as a reproductive healthcare service among women of childbearing age in rural and urban areas of Rivers West Senatorial District was rejected.

Table 10: T-test result showing the significant difference in utilization of services aimed at the prevention/management of sexually transmitted infectionsamong women of childbearing age in rural and urban areas

Group	N	$\bar{X}$	SD	Df	T-cal	p-value	Decision
Rural	195	2.41	1.16	435	6.43	0.01*	H_o Retained
Urban	242	2.45	1.09				

*Significant; p<0.05.

Table 10 revealed the significant difference in utilization of prevention/management of sexually transmitted infections among women of childbearing age in rural and urban areas. The result of the study showed that there was a significant difference at (T-cal = 6.43, df = 435, p<0.05). Therefore, the null hypothesis which stated that there was no significant difference in utilization of prevention/management of sexually transmitted infections among women of childbearing age in rural and urban areas of Rivers West Senatorial District was rejected.

Discussion of Findings

The result showed that prenatal care services were utilized more in the urban areas ($\bar{X}$ = 3.45±0.93) than in the rural areas ($\bar{X}$ = 3.35±1.08). This finding is not surprising because there are more maternal health care facilities in the urban areas than the rural areas though, deducing from the mean, both areas have high extent of utilization of prenatal care services. This implies that, if more maternal healthcare services are made available and accessible in the rural areas, the utilization of services in the area will be heightened. The finding of this study corroborates that of Odoet al. (2018) whose study in Enugu state, Nigeria revealed high extent of utilization of prenatal care services though the study did not show the difference in utilization in urban and

rural areas. The finding of this study is also gives credence to that of Emelumadu et al. (2014) whose study in Anambra also revealed high extent of utilization of prenatal care services among women of reproductive age. The homogeneity of the study respondents could be implicated for the similarities found as the both studies were carried out among women of reproductive age. The finding of this study differs from that of Odetola (2015) whose study explored the health care utilization among rural women of child-bearing age in Nigeria and reported a low extent of utilization of prenatal services in the rural areas, unlike the present study which showed high extent of utilization even among the rural residents. This variation could be attributed to the difference in the sample size as the previous study used a smaller sample size of 160 whereas the present study used a sample size of 440 which is almost triple of the former.

The result showed that postnatal care services were utilized more in the urban areas ~~($\bar{X}$ = 3.53±0.85)~~than in the rural areas ~~($\bar{X}$ = 3.41±0.97),~~use percentage instead of which the difference was statistically significant ~~(z-cal = 5.32, df = 435,~~ $p<0.05$). Only p- value is enoughThe finding of this study is expected because the urban areas have more resources and healthcare infrastructures than the rural areas. Also, deducing from the mean, both areas have high extent of utilization of postnatal care services. This implies that, if more maternal healthcare services are made available and accessible in the rural areas, the utilization of services in the area will be heightened. The finding of this study is in line with that of Li et al. (2018) whose research work in Chinese showed that healthcare utilization including postnatal care was more among those in the urban than in the rural areas. The finding of this study is in concordance with that of Shrestha and Shrestha (2019) who carried out a study on utilization of maternal health care services among mothers in Dharan and showed that utilization of maternal health care services is high in rural areas. The homogeneity of the study population could be explained for the similarities found. The finding of this study is not in tandem with that of Agyei-Baffour et al. (2019) conducted a study on the utilization of maternal healthcare in a rural district in the forest belt of Ghana which showed low utilization of maternal healthcare services in rural. The divergence in the study location could explain for the difference found between the two studies.

The result showed that utilization of family planning services was low in both rural and urban areas but, more in the rural areas ~~($\bar{X}$ = 2.07±1.17)~~than in the urban areas ~~($\bar{X}$ = 2.05±1.07).~~Percentage looks better for comparison This finding is discouraging considering the

increasing population rate in Nigeria with scarce resources to meet the daily needs of the populace. This may be attributable to the fact that Africans love large family size, the fear of side effects and misconception about family planning. The implication of this finding is that, unmet need for family planning will increase and more unplanned pregnancies leading to having more street children. This is not healthy for any nation as more of such children will resort to several social vices which threatens peace and security in the society. The finding of this study also corroborates that of Agyei-Baffour et al. (2019) conducted a study on the utilization of maternal healthcare in a rural district in the forest belt of Ghana which showed low utilization of maternal healthcare services in rural including family planning. The homogeneity of the study population could be explained for the similarities found. The finding of this study is at variance with that of Peter-Kio and Inainkon (2014) which showed a high utilization of contraceptives among women. The finding of this study is not in concordance with that of Shrestha and Shrestha (2019) who carried out a study on utilization of maternal health care services among mothers in Dharan and showed that utilization of maternal health care services is high in rural areas. The finding of this study is not in line with that of Li et al. (2018) whose research work in Chinese showed that healthcare utilization was more among those in the urban than in the rural areas. The fact that the both studies where carried out in different location could explain for the difference found.

The result showed that the extent of utilization of abortion care was low in both rural and urban areas but, more in the rural areas ($\overline{X}$ = 2.15±1.24) than in the urban areas ($\overline{X}$ = 1.75±1.14). This finding may be a tip of the iceberg and a cause for concern. Although, the low extent may be due to the fact that abortion is a criminal offence, even though Nigeria is a signatory to the Maputo document where abortion is stated to take place when the continuous presence of the pregnancy poses a threat to the mother, foetus or both mother and foetus. Since abortion is a criminal offence, many might have resorted to self-care and had engaged the services of quacks. This finding requires urgent attention because low extent of utilization of abortion care means that more are resorting to self-care which is detrimental to health, as it could lead to high mortality. Also, low use of family planning as shown in previous finding, indicates that those having unmet need for family who may not want to keep the pregnancy may resort to abortion. Yet, low use of abortion care is pronounced which could also imply that more women of reproductive age may be suffering the consequences of clandestine abortion including organ damage and increased morbidity. The finding of this study also corroborates that of Agyei-Baffour et al. (2019)

conducted a study on the utilization of maternal healthcare in a rural district in the forest belt of Ghana which showed low utilization of maternal healthcare services in rural. The homogeneity of the study population could be explained for the similarities found. However, the finding of this study is not in line with that of Shrestha and Shrestha (2019) who carried out a study on utilization of maternal health care services among mothers in Dharan and showed that utilization of maternal health care services is high in rural areas. The finding of this study is at variance with that of Li et al. (2018) whose research work in Chinese showed that healthcare utilization was more among those in the urban than in the rural areas. The fact that the both studies where carried out in different location could explain for the difference found.

The result showed that STI prevention/management services were utilized more in the urban areas ($\overline{X}$ = 2.45±1.29) than in the rural areas ($\overline{X}$ = 2.40±1.31); though the tested hypothesis showed a statistically significant difference (z-cal = 6.43, df = 435, $p<0.05$). It can be deduced from the findings that the utilization of STI prevention/management services was low both in rural and urban areas. The implication here is that, more women will be susceptible to STIs or even contract it, consequently increasing the health and economic burden of STIs among women. The result of this study gives credence to that of Adedoku et al. (2017) whose study on the healthcare service utilization in Nigeria showed that the extent of utilization of reproductive healthcare services including STI prevention/management services was low both at the rural and urban areas. The homogeneity of the study population could be explained for the similarities found. The finding of this study is at variance with that of Shrestha and Shrestha (2019) who carried out a study on utilization of maternal health care services among mothers in Dharan and showed that utilization of maternal health care services including is high in rural areas. The fact that the both studies where carried out in different location could explain for the difference found.

Conclusion

Based on the findings of the study, it was concluded that, reproductive healthcare services were utilized more at the urban areas, specifically services such as prenatal care, postnatal care, family planning, abortion care and STI prevention/management services. You may add subcategories of all these parameters which are exhibiting highest or lowest percentage.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The government should make prenatal care services more interesting at both urban and rural areas, by building and including aesthetic design, this will help to boost the utilization of such services.
2. The stakeholders in the health sector should also make postnatal care services more interesting at both urban and rural areas, by building and including aesthetic design, this will help to boost the utilization of such services
3. The ministry of health should focus on both rural and urban areas in any effort to encourage family planning among women by sending more personnel to visit each household with family planning commodities just the way they do for immunization.
4. Non-governmental organizations interested in maternal healthcare should launch a campaign on abortion care to make known to the populace the abortion care services available for women, this may encourage them to visit the health facilities for its utilization.
5. Healthcare workers should not relent to emphasize STI prevention/management during both antenatal and postnatal visits of women and such services available for them at the facility, this might go a long way to awaken their consciousness to prevent STI.
6. Women of reproductive age should also make conscious effort to take advantage of the services made available for them by the government by ensuring that they visit the facilities to receive any health service they need

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