



KNOWLEDGE OF POSTNATAL CARE AND FACTORS AFFECTING THE UTILIZATION OF POSTNATAL CARE SERVICES AMONG POSTPARTUM MOTHERS IN AKURE SOUTH LOCAL GOVERNMENT AREA OF ONDO STATE, NIGERIA.

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Abstract: Background

The postnatal period is defined as the first six weeks after the birth of a baby. This period is essential for the health and survival of both the mother and baby as maternal mortality usually occurs during this period due to neglected postnatal care. Globally, more than half a million women die annually from complications of pregnancy and delivery. Therefore, this study is designed to assess the knowledge of postnatal care and factors affecting the utilization of postnatal care services in Akure South Local Government of Ondo State, Nigeria.

Methods

The study design was a descriptive cross-sectional study of 400 mothers who gave birth within six weeks before the administration of questionnaires were studied in 2 randomly selected government health facilities in Akure South Local Government Area. Data was collected through face-to-face interviews; a pre-test was done after which the necessary corrections were made. Data were entered, cleaned, and analyzed using SPSS version 20.

Results

The age group distribution with the highest frequency was 26-37, which represented 73.8% of the respondents, those in the age group 15-25 and 38-49 were 16.5% and 9.8% respectively. The mean age of the mothers studied was 30.78(SD +/- 5.0 years). The majority (83%) were Christians, while Muslims constituted 17%.

Yorubas (84.8%) were the major ethnic group, others accounted for 15.2%. The majority of them (96%) are married, while a minority (4%) are single. Urban dwellers were 71.3%, whereas 28.8% reside in rural areas. Also, 58.3% of the participants and 71.8% of their partners have a post-secondary school education, while 84.8% of respondents and 90.3% of their partners are employed. Almost three-fifth (62.5%) of the respondents have a good understanding of postnatal care. Around two-thirds (64.5%) of the participants utilized postnatal care even though almost all the women gave birth at health institutions. There was statistically significant positive relationship between awareness of postnatal care services ($p= 0.001$), place of antenatal care ($p= 0.002$), place of child delivery ($p= 0.014$), educational status of respondents ($p= 0.001$), employment status of respondents ($p= 0.003$), and educational status of partners ($p= 0.001$) with attending postnatal care clinics. Hindrances are lack of awareness about postnatal care clinics, bad attitude of health workers to patients, far distance of postnatal care clinics from home, and interference with their work schedule. Enabling factors are the establishment of more postnatal care facilities, awareness of these services in the media, and the involvement of family members/ friends as well as community heads.

Conclusion

There is a need for more awareness of postnatal care clinics, more attention should be given to the health needs of postnatal mothers and there should be improved access to postnatal care for mothers living in rural areas and involvement of relatives/friends including community and religious leaders in health programs.

Keywords: postnatal care, postnatal care services utilization, knowledge, Akure South.

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1.0. Background

Postnatal care is a significant maternal health care service to forestall impairment and disabilities and also to minimise maternal mortality rate in the postnatal period [1]. The postnatal period is the time between childbirth and six weeks afterwards, and it is crucial for the mother, as well as, the infant as they are at increased risk of health problems making it the best period to improve the survival and health of the mother and child [2], [3]. Postpartum mothers experience and adapt to several variations such as psychological, physiological and social variations in this period [4], [5].

The vulnerability of the mother and baby to die is high during the postnatal period if there are complications for the mother such as infections and postpartum haemorrhage [6] and an infant born prematurely or with birth asphyxia, sepsis [7]. All of these maternal and newborn complications may be alleviated if women are given proper postpartum care as stated by Awusi and colleagues that maternal health services are related to better maternal and child health outcomes [8]. Postnatal care protects the health of both the mother and the infant, as well as, allows healthcare professionals to identify, monitor, and treat any adverse health issues that arise during the postpartum period [9].

Studies show that 50% of maternal deaths and 40% of neonatal deaths occur within the first 24 hours after birth, generally known as the "immediate postnatal period." As a result, the first 24 hours after a baby's delivery are critical for identifying issues and implementing relevant interventions [9][10][11].

In Sub-Saharan Africa, maternal mortality is a concern in maternal health. According to UNICEF, Nigerian mothers have a high level of health complications during birth contributing to 10% of global deaths for pregnant mothers [12]. The World Health Organization (WHO) also indicated that the maternal mortality rate in Nigeria is 814 per 100,000 live births [13].

According to studies, the utilisation of health facilities during delivery by pregnant women, as well as postnatal

care services, is still relatively low resulting in maternal morbidity and death causing public health complications [14], [15]. A survey carried out by National Demographic and Health Survey revealed that 61% of women aged 15–49 years who gave birth to a live baby in the five years before the survey received antenatal care from a skilled provider, however, skilled attendance at birth was not given [16].

Evidence shows that there are factors such as sociodemographic, cultural, health care system issues etc. that prevent women from receiving postnatal care. According to a study by Idris, a very low number of women sought postnatal care service within six weeks of delivery while the majority of the women did not know about the postnatal care programs. It also revealed that the majority of the women had home delivery and did not attend prenatal clinics [14].

A study revealed that postnatal care is a significant maternal healthcare service that is essential to the health and life of the mother and child as they may be affected by illness, death, and missed opportunities to develop healthy behaviours due to a lack of postnatal care [17]. Even though maternal postnatal health care utilization is important for mother and child health, little is known about these mothers' knowledge of postnatal care, factors influencing the use of postnatal care services and the current magnitude of utilisation in Akure, Nigeria. It is anticipated that the results of the study will enhance policymakers' understanding of the determinants of maternal postnatal care utilization in Akure and help them to intervene.

The major objective of the study is to assess the level of knowledge about postnatal care and to investigate the determinants of utilization of postpartum care services among postnatal mothers in Akure, located in southwest, Nigeria. This is with the view of providing additional information required for the improvement of postpartum care services in Nigeria.



2.0. Methods

2.1. Study design

This is a cross-sectional study design with a quantitative approach to assess the level of knowledge about postnatal care and to investigate the determinants of utilization of postpartum care services among postnatal mothers in Akure. This study was carried out from April 2019 to June 2019.

2.2. Study area, population and participants

The study was conducted in the University of Medical Sciences Teaching Hospital Annex and Mother and Child Hospital Akure, Akure South Local Government Area (LGA), Ondo State, South-West Nigeria. Akure is one of the 18 local government areas in Ondo State. It has an area of 331km² and a population of 353,211 as of the 2006 census. The population is made up of people of different cultural and socio-economic backgrounds.

The target population for the study were postpartum women in Akure LGA who has given birth in the last six weeks of the study. The inclusion criteria for the study are the women who gave birth within six weeks before the administration of questionnaires and the exclusion criteria were the men, and women whose last childbirth is more than six weeks from the administration of questionnaires.

2.3. Sample size and Sampling methods

The sample size was calculated using a Cochran (1977) formula [18], also adopted in a similar cross-sectional study [19]. The formula and the calculation are shown as follows;

$$\text{Sample size } (N) = \frac{z^2 pq}{e^2} \quad \text{Equation (1)}$$

Where;

Z= z score 95% Confidence Interval (1.96),

e = margin of error (0.05),

p = prevalence of the attribute (0.5031) [20],

q=(1-p) (0.4969)

$$\begin{aligned} \text{Sample size}(N) &= \frac{(1.96)^2 \times 0.5031 \times 0.4969}{0.05^2} \\ &= 384.1 \end{aligned}$$

The final sample size was 384, however, 10% of this sample size was added to the calculated sample size to

cover up for missing data and then rounded up to 400. The sampling method utilized was the purposive sampling method to collect data from the postpartum women who gave birth within six weeks.

2.4. Data Collection and Analysis

Data was collected by utilising a semi-structured face-to-face interviews questionnaire. The questionnaires were collected, sorted, checked, and entered into the computer. Data was analyzed electronically using the Statistical Package for Social Sciences (SPSS) software version 20. The SPSS was used to generate singular variables describing the knowledge of postnatal care and the utilization of postnatal care services. At the bivariate level of analysis, the chi-square was used to determine the statistical association of socio-demographic variables and socio-economic variables with the utilization of postnatal care services. Categorical variables were cross-tabulated, with a confidence interval of 95% and P values < 0.05 were considered to be statistically significant. Results were presented in frequency tables, percentages and charts.

2.5. Study Limitation and Ethical Consideration

The study was limited to only postpartum mothers in the two government hospitals (University of Medical Sciences Teaching Hospital Annex and Mother and Child Hospital Akure). Ethical approval was obtained from the Ethical Clearance Unit of Hospitals' Management Board and the Ministry of Health in Akure, Ondo State. The respondents were informed about the survey and consent was obtained from them.

3.0. Results

In conducting the study, a total of four hundred (400) questionnaires were administered. All questionnaires were recovered and noted to be well completed indicating a response rate of 100%. The result of the socio-demographic and socio-economic characteristics of the 400 postpartum women who participated in the study is shown in **Table 1**. The age distribution with the highest frequency among the respondents was those aged 26-37 years. This constituted 73.8 % of the



respondents, while those aged 15-25 years and 38-49 years represented 16.5 % and 9.8 % respectively. The mean age of the postnatal mothers studied was 30.78(SD +/- 5.0 years). With regards to the religion of respondents, Christians constituted 83%, while 17% were Muslims. Yoruba (84.8%) was the major ethnic group while others represented 15.2%.

Almost three-fifths of respondents have a tertiary education (highest), whereas 71.8% of their partners have a post-secondary school education. Those who live in urban areas (71.3%) are about three times as much as those in rural places (28.8%). A large proportion of the respondents (96%) are married, while a mere 4% are single. About 84.8% of respondents and their partners (90.3%) are employed.

Figure 1 shows the respondent's place of antenatal care. Almost 90% of the respondents had their antenatal care in government-owned health facilities, 10.8% in private hospitals, and others sought care in traditional birth attendants and mission homes.

Figure 2 shows the proportion of antenatal visits by respondents. A significant proportion (73%) of the respondents had more than two antenatal visits, while others had two or fewer visits to the hospital during their antenatal period.

Figure 3 shows the distribution of respondents by last childbirth. Over a half (59.5%) gave birth within four to six weeks before the administration of the questionnaires, and those who had child delivery in less than a week represented 12.5%.

Figure 4 shows the percentage distribution of the place of delivery of the respondents. Those who delivered in government hospitals /health centres represented 82%, while just a mere 1% had their deliveries in mission homes.

Table 2 shows the understanding of respondents about the postnatal period. Six out of ten respondents had the right understanding of what a postnatal period is.

Table 3 gives information about the duration of the postnatal period. The postnatal period is the first six weeks of childbirth, only 58% of the mothers knew this.

Table 4 shows the respondent's understanding of postnatal care. Postnatal care is the care given to mothers after childbirth, this was correctly answered by 62.5% of the respondents.

Table 5 shows the respondent's knowledge of the elements of postnatal care. Less than a third (27.3%) had a knowledge that the elements of postnatal care included all the options mentioned, 7.5% had no idea at all, and the other respondents picked one element each.

Table 6 reveals how the respondents perceive postnatal care. Most of them (92%) agreed that postnatal care is necessary and worth it, but 8% were of a contrary opinion.

Table 7 shows the awareness of respondents about receiving care after delivery of a baby. A majority (84.5%) were aware that they are meant to receive care after the delivery of a baby, while 15.5% were ignorant of this.

Table 8 gives information about the knowledge of respondents about the required frequency of postnatal care visits. About 40% of the respondents had the correct knowledge of the required number of postnatal visits which according to the World Health Organisation should be at least three.

Table 9a shows the cross-tabulation between socio-demographic characteristics of respondents and the utilization of postnatal care services. There is a statistically significant positive relationship between ethnicity ($p=0.001$) with the utilization of postnatal care services. (*Not Applicable captures the socio-demographic characteristics of respondents who were not aware of postnatal care clinics).

Table 9b shows the cross-tabulation of socio-economic characteristics with the utilization of postnatal care services. There is a statistically significant positive relationship between educational status of respondents ($p=0.001$), employment status of respondents ($p=0.003$), educational status of partners ($p=0.001$) with the utilization of postnatal care services. (*Not Applicable captures the socio-economic characteristics of



respondents who were not aware of postnatal care clinics).

Table 10 shows the cross-tabulation of obstetric characteristics of respondents with the utilization of postnatal care services. There is a statistically significant positive relationship between place of antenatal care ($p=0.002$), several antenatal visits ($p=0.022$), last childbirth ($p=0.003$), and place of delivery ($p=0.014$) with the utilization of postnatal care services.

(*Not Applicable captures the Obstetric Characteristics of respondents who were not aware of postnatal care clinics).

Table 11 provides information about the awareness of postnatal care institutions by the respondents. About a three-quarter of the respondents (75.3%) was aware of health facilities around them that provide postnatal care services, however, others were not.

Table 12 shows the utilization of postnatal care services. Respondents that accessed the postnatal care services represented 64.5%, while 11.8% of them did not.

(*Not Applicable captures the respondents who were not aware of postnatal care services around them and therefore did not access them.)

Table 13 shows the cross-tabulation of awareness of postnatal care institutions with their utilization. There is a statistically significant positive relationship ($p=0.001$). Postnatal mothers who are aware of postnatal care services are more likely to access the services.

Table 14 shows the reasons for attending postnatal care clinics. Immunisation of babies was the major reason (40%) for attending postnatal care clinics, other reasons accounted for less than ten per cent each.

Table 15 shows the reason for not attending postnatal care clinics despite being aware of them. The only reason for not attending the clinics was that there were no complaints (11.3%).

(* Not Applicable captures those participants who were aware of the postnatal clinics and visited them as well as those respondents who were never aware of the clinics.)

Table 16 shows the time of the first postnatal check. About half of the respondents had their first check within 24 hours of childbirth, while almost a third did not have a postnatal check.

Table 17 shows the percentage of respondents who resumed sexual intercourse. Respondents who have not resumed sexual intercourse since child delivery constituted 68.3, while almost a third have started having sex.

Table 18 shows the number of postnatal checks had by these mothers. Over a third of the postnatal mothers (34.3%) had no postnatal check. One-quarter had two checks and about 20% had three checks.

Table 19 shows the cross-tabulation of sex resumption by the respondents with the use of contraceptive methods. 128 of the respondents have resumed sexual intercourse, out of which 74 are on contraceptives, while 54 do not use any family planning methods.

Table 20 shows the intention of the respondents to adopt a contraceptive method. Those who would like to adopt a contraceptive method before they resume sexual intercourse represented 38.8%, while exactly a third of the respondents have no intention.

(*Not applicable here captures the participants who have already resumed sexual intercourse.)

Table 21 shows the contraceptive methods the respondents would like to adopt before they resume sexual intercourse. Over half of the respondents favoured intrauterine contraceptive devices. Thirty-nine of them would use any available method, while eight would like to adopt a method but don't know which one.

Table 22 shows the respondent's reasons for not having intentions to adopt a contraceptive method. The respondents who do not want to adopt a family planning method stated their reasons which were fear of side effects (8.5%), dislike of husband (2.0%), personal dislike (5.3%), and no reason at all (14.8%).

(*Not Applicable captures those respondents who are already on contraceptives and those who intend to adopt a method before they resume intercourse.)



Figure 5 shows the previous use of family planning methods. Just above a third of the respondents (32.8%) have used family planning methods in the past, whereas 67.35 % have not.

Table 23 shows the family planning methods used in the past by the respondents. The largest number of respondents (63) have used intrauterine contraceptive devices in the past, while the least, which is only 3, have employed natural methods.

Table 24 shows the postnatal care services rendered to the respondents. About three-fifths of the respondents were counselled on family planning methods, a significant percentage benefitted from the other contents except for breast examination (only 39.5% had their breasts examined during the postnatal visits). About three-quarters were satisfied with the services they got.

Figure 6 shows the hindrances to the utilization of postnatal care services. Over a third of the postnatal mothers stated that the non-availability of postnatal care facilities can prevent them from getting care, this is followed by the bad attitude of health workers (25.5%), a far distance from home (23.3%). A mere 0.3% of the respondents believe that postnatal care services are not worth it, while nothing can stop 6.3% of them from accessing care.

Figure 7 shows the enabling factors for the utilization of postnatal care services. 49.8% of the respondents believe that establishing more postnatal care facilities would encourage more utilization of the services, others agree that awareness of media (43.3%) and family/friends involvement (7%) would influence positively the use of the services.

4.0. Discussion

This study assessed the knowledge of postnatal care and factors affecting postnatal care services among postpartum mothers in Akure South Local Government Area in Ondo State. It was restricted to women who gave birth in the last six weeks before the administration of questionnaires.

4.1. Socio-demographic Characteristics of Respondents

The age group distribution with the highest frequency was 26-37, which represented 73.8% of the respondents, those in the age group 15-25 and 38-49 were 16.5% and 9.8% respectively. The mean age of the postnatal mothers studied was 30.78(SD +/- 5.0 years). The majority (83%) were Christians, while Muslims constituted 17% due to the Christian-dominated southwest geopolitical zone in Nigeria. Yorubas (84.8%) were the major ethnic group, others accounted for 15.2% which indicates that the Yorubas dominate the southwest geopolitical zone in Nigeria. The majority of the women (96%) are married, while a minority (4%) are single. Urban dwellers were 71.3%, whereas 28.8% reside in rural places. Also, 58.3% of the participants and 71.8% of their partners have a postsecondary school education, while 84.8% of respondents and 90.3% of their partners are employed. These findings are consistent with the findings of a study that examined the knowledge and understanding of women attending the post-natal clinic in Ayeka community, Ondo State [21].

4.2. Knowledge of Postnatal Care and Attendance of Postnatal Care Clinics

This current study was carried out on 400 participants who were within the six weeks postnatal period. About three-fifth of these mothers knew what a postnatal period is, 58.0% knew the duration of the postnatal period which is the first six weeks of child delivery, 62.5% had a good understanding of postnatal care, 27.3% of them knew all the elements of postnatal care. The respondents have a fairly good knowledge which is in contrast to a research study carried out in Maiduguri, Nigeria which has a lower percentage of 16.9% [14]. This could be attributed to programmes put in place by the Ondo State Government such as the Abiye Project, awareness, and the establishment of more healthcare facilities. This study indicated that about two-thirds (64.5%) of the participants accessed postnatal care even though almost all the women gave birth at health institutions. This figure is in line with a study conducted in Ethiopia and also with the 2011 EDHS postnatal care utilization rate of 51.5% and 82.3% of institutional delivery rate



respectively [22][23]. This calls for the need for health care providers to educate pregnant women on the importance of postnatal care. The World Health Organisation recommends that all women and babies should receive at least three postnatal care contacts with healthcare providers [24]. Those who are aware of the existence of postnatal care facilities and services are more likely to utilize them.

With regards to the quality of postnatal care provided by the health professionals, it was observed that about half (56.8%) of the women were counselled on family planning, 65.3% on adequate nutrition, 64.0% on breastfeeding, and less than 40% of the women received the remaining postnatal care services such as breast examination. This is consistent with a study conducted in Government Health Centers in Addis Ababa and another study conducted in Wolaita Zone, Ethiopia [22][25]. 66.3% of these mothers were satisfied with the services rendered by their healthcare providers to them. This finding is in contrast to a study conducted on some maternal health care in referral hospitals in Nigeria [26]

4.3. Reasons for Attending Postnatal Care Clinics

The main reason for visiting postnatal care services was for immunisation of babies (40%) as most of the mothers assume that the services are only for babies. Also, healthcare providers focus their attention on the immunisation of the baby and most often the mother is neglected. Other respondents visited for a postnatal checkup (9.0%), immunisation for self (4.0%), for more information (5.5%), breast pain (4.8%), body aches (1.0%) and vagina bleeding (0.3%). There is a general belief in the community that postnatal care is for those who are sick, this may be the reason why some mothers are not inclined to utilize postnatal care services. Just above a tenth of the respondents stated that since they had no complaints, there was no need to access postnatal care. Most of the participants (92.0%) thought that postnatal care is worth it. The majority of them (84.5%) are aware that they are to receive postnatal care after child delivery, but some of them (24.8%) do not know

where the postnatal clinics are, hence they could not access the services. The finding is consistent with a finding of a study which is another pointer to regular health education during pregnancy and after delivery [22]. Less than 40% of the respondents are aware that they should have at least three visits to postnatal care clinics.

4.4. Association between the Socio-Demographic Characteristics, Socio-economic Characteristics of respondents with Utilization of Postnatal Care Services

Place of antenatal care ($p=0.002$), place of child delivery ($p=0.014$), educational level of respondents ($p=0.001$), employment status of respondents ($p=0.003$), two antenatal care attendance ($p=0.022$), and awareness of postnatal care clinics ($p=0.001$) were found to have a significant statistical relationship with attending postnatal care clinics. An encouraging finding of this study are the effect of antenatal care visits on postnatal care clinic attendance. Most of the respondents (73%) had at least two antenatal visits. Those who had more than two antenatal care ($p=0.022$) are more likely to attend postnatal clinics. Healthcare providers should take advantage of the antenatal care visits to educate the mothers about the hazards associated with giving birth at home and not seeking postnatal care. Those who had their antenatal care in government hospitals/health centres ($p=0.002$) and also delivered in government-owned health facilities ($p=0.014$) are more likely to seek postnatal care.

It was also observed that mothers with higher education and with partners who have postsecondary school education recorded more visits to postnatal care clinics. This is because they are more likely to be informed of the benefits of postnatal care, and health risks and make better decisions by accessing the clinics. Mothers who are employed and with partners who have a good source of income are more likely to be economically dependent and thereby have the resources to utilize the postnatal services when it is needed. Likewise, mothers from higher socioeconomic households are also more likely to



be aware of the gains of receiving postnatal care through diverse media such as television, radio and newspapers in contrast to their counterparts from the low socioeconomic rank. Even though the place of residence was not statistically significant concerning the utilization of postnatal care services, mothers who reside in urban areas attended postnatal care clinics more than those in rural places, this is because of better access to public facilities which include good roads and hospitals compared to those in rural areas. There is a need to ensure that those in rural settings benefit from postnatal care. All these findings are consistent with research studies conducted in Nepal and southern Ethiopia to recognize determining factors of the frequency and content of postnatal care visits among women [3][27]

4.5. Postnatal Check

Participants who had their first postnatal check within 24 hours of child delivery represented 44.8%, 19.0% were checked between 48 hours to less than a week, while 2% had their check after a week of delivery. Unfortunately, 34.3% did not have a postnatal check after delivery even though the majority of them gave birth in health institutions. This is in line with a cross-sectional study conducted in Northern Ethiopia [28]. There is a need to ensure that all postpartum mothers receive checks after delivery

4.6. Use and Choice of Contraceptive Methods

Respondents counselled on family planning represented 56.8%. Of the 128 mothers who have resumed sexual intercourse, 74 use contraceptives. Those who are yet to resume sex represented 68.3% of the respondents but only 38.8% intend to adopt a contraceptive method before sex resumption. Their preferred methods are pills, intrauterine contraceptive devices, injectables, Implanon, condoms, and natural methods. Some of them will accept any method available.

Those who do not want to adopt any contraceptive methods stated reasons which were fear of side effects (8.5%), husband's refusal (2.0%), personal dislike (5.3%), and no reason at all (14.8%). All these hinder the

uptake of family planning methods among postpartum mothers.

There is the need to create more awareness and educate not only the mothers but also their husbands and relatives to address the myths and misconceptions about family planning. This will help to reduce missed opportunities and create high demand for the use of postpartum family planning methods. Respondents who have used contraceptives in the past accounted for 67.3% and the methods used were pills, intrauterine contraceptive devices, injectables, Implanon, condoms, and natural methods. Women in the postnatal period often do not pay enough attention to family planning which is important in promoting the health of the mother and baby, and also to prevent unplanned pregnancy. Some of these findings are similar to a study in Okiti-pupa, Ondo State, Nigeria [21].

4.7. Barriers and Enabling Factors to Utilization of Postnatal Care Services

Several barriers were identified, which are in line with findings from a study in Uganda [11]. These are a lack of awareness of the existence of postnatal care institutions, bad attitude of health workers to patients, the long distance required to travel to postnatal care clinics from home, and interference with their work schedule. If they are not able to utilize postnatal care services, then the opportunity to address their specific health needs may be missed, thereby putting the lives of mothers and babies at risk. Interestingly 6.3% of the respondents stated that nothing can hinder them from accessing postnatal care and 0.3% believe that postnatal care is not worth it. It is pertinent to note that these barriers can be interwoven, so there is a need for a multi-sectoral approach to addressing them.

The factors that can encourage these mothers to utilize postnatal care services are the establishment of more postnatal care facilities, awareness of these services in the media, as well as involvement of their family members and friends. At the community level, the involvement of religious leaders and heads of communities in health programs will also go a long way



in helping the postnatal mothers to utilize postnatal care services, especially those that may be confined to their house after delivery due to cultural or religious beliefs.

5.0. Conclusion and Recommendation

The current study found that the knowledge of these mothers about the postnatal period and postnatal care in Akure South Local Government Area is fairly good. The rate of utilization of postnatal care services by postnatal mothers is good but not satisfactory. More efforts are needed to ensure that these services are better utilized. There was a significant statistical relationship between place of antenatal care, place of delivery, level of education of respondents, number of antenatal visits, occupation of respondents, awareness of postnatal care institutions with the utilization of postnatal care services by respondents.

Based on the results, it was recommended that: there should be more awareness about postnatal care clinics so that more postnatal mothers can benefit from their services. Attention should be given to these postnatal mothers rather than focusing only on immunisation of babies. There should be an increase in the utilization of antenatal care services, delivery at health institutions, more awareness, and better access to health services through community- based health programs particularly for mothers residing in rural areas and the less educated. The community should be sensitized to the importance of mothers delivering their babies in hospitals. There should be involvement of relatives/friends including community and religious leaders in health programs which will help to increase postnatal care attendance.

Declarations:

Ethics approval and consent to participate: Ethical approval for this study was obtained from the Ethical review board of Ondo State Health Research Ethics Committee (OSHREC) with Health Committee Assigned Number: NHREC/18/08/2016 and Protocol Number: OSHREC/03/04.2019/120

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Variables	Frequency (n =400)	%
Age		
15-25	66	16.5
25-37	295	73.8
38-49	39	9.8
Religion		
Christianity	332	83.0
Islam	68	17.0
Ethnicity		
Yoruba	339	84.0
Igbo	44	11.0
Hausa	11	2.8
Others	3	0.8
Marital status		
Single	16	4.0
Married	384	96.0
Place of residence		
Urban	285	71.3
Rural	115	28.8
Educational Level of Respondents		
None	16	4.0
Primary	25	6.3
Secondary	126	31.5
Tertiary	233	58.3
Educational Level of Partners		
None	5	1.3
Primary	23	5.8
Secondary	85	21.3
Tertiary	287	71.8
Estimate of Household Monthly Income		
<20,000	70	17.5
20,000-39,000	88	22.0
39,000-59,000	96	24.0
60,000-100,000	89	22.3
>100,000	57	14.3
Employment status of Respondents		
Employed	339	84.8



Unemployed	61	15.3	Table 1:
Employment status of Partners			
Employed	361	90.3	
Unemployed	39	9.8	

Distribution of respondents by socio-demographic and socio-economic characteristics

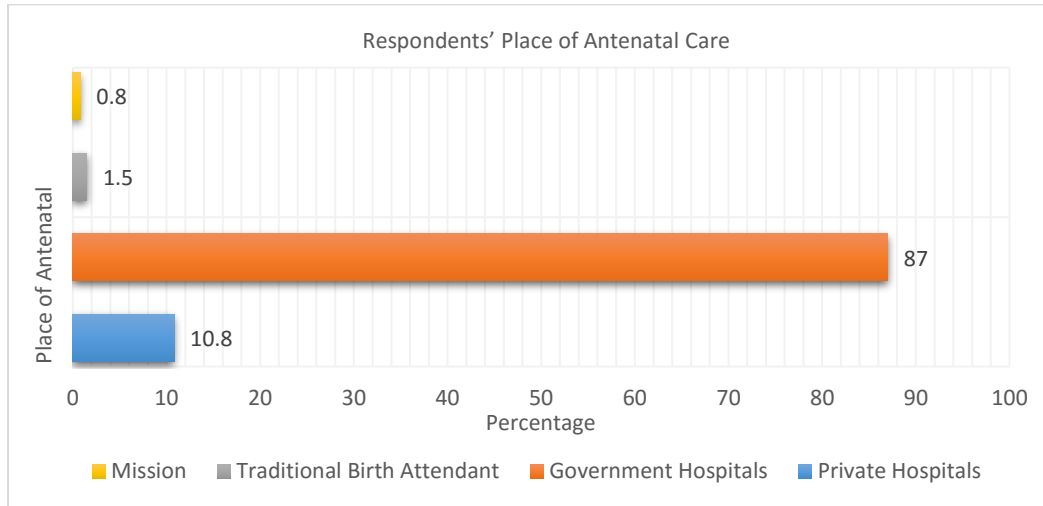


Figure 1: Respondents' Place of Antenatal Care

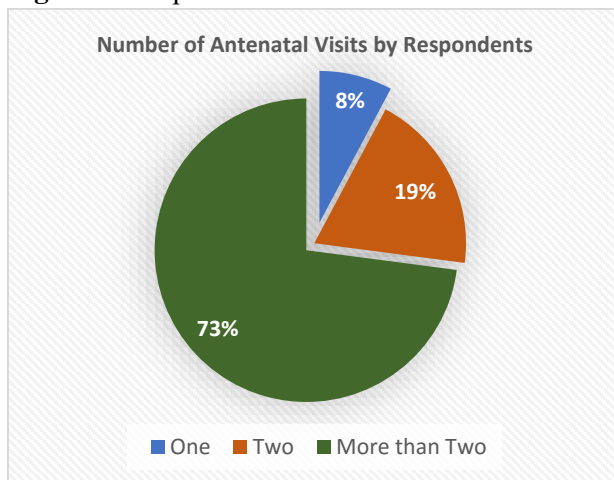


Figure 2: Number of Antenatal Visits by Respondents

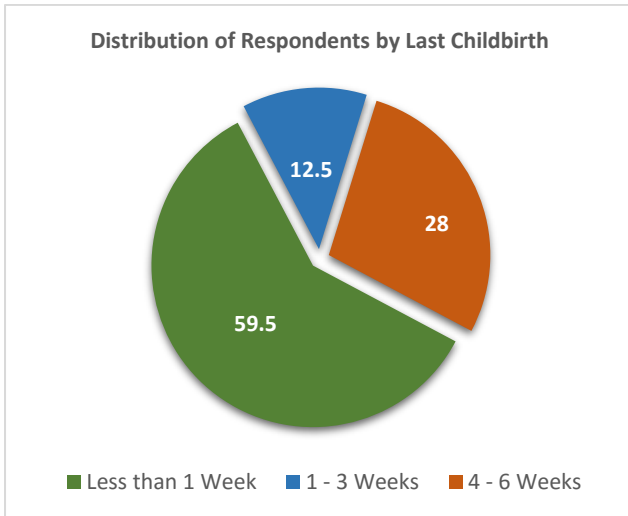


Figure 3: Distribution of Respondents by Last Childbirth

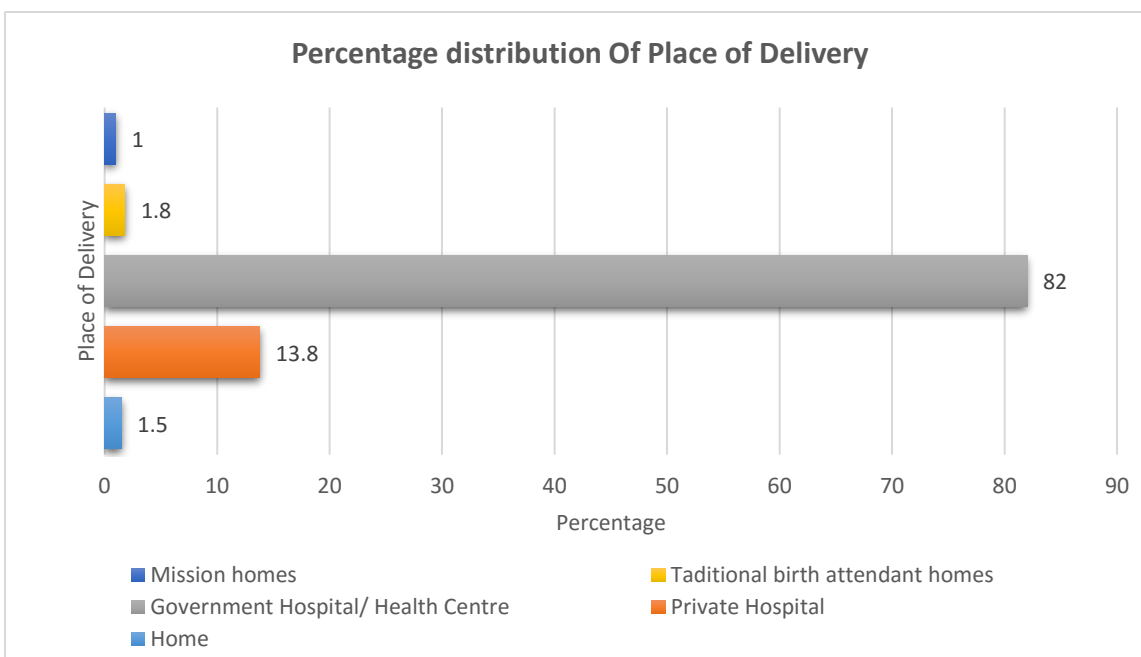


Figure 4: Percentage distribution Of Place of Delivery

Table 2: Understanding of Respondents about the Postnatal Period

Understanding the postnatal period	Frequency	Per cent
Before Pregnancy	19	4.8
During Pregnancy	57	14.3



After Childbirth	244	61.0
I don't know	80	20.0
Total	400	100

Table 3: Knowledge of Respondents about the Duration of the Postnatal Period

Knowledge of duration of the postnatal period	Frequency	Per cent
First six weeks of childbirth	232	58.0
After six weeks of childbirth	62	15.5
I don't know	106	26.5
Total	400	100.0

Table 4: Understanding of Respondents about Postnatal Care

Understanding of Postnatal Care	Frequency	Percentage
The care is given before pregnancy	19	4.8
Care during pregnancy	60	15.0
Care after childbirth	250	62.5
I don't know	71	17.8
Total	400	100.0

Table 5: Knowledge about the Elements of the Postnatal Period

Knowledge of elements of the postnatal period	Frequency	Per cent
Promotion of exclusive breastfeeding	110	27.5
Immunisation of mothers and babies	60	15.0
Monitoring and managing health conditions	54	13.5



Health education about personal hygiene	18	4.5
Counselling on family planning	6	1.5
Counselling on adequate nutrition	13	3.3
All of the options	109	27.3
I don't know	30	7.5
Total	400	100.0

Table 6: Respondents' Perception of Postnatal Care

Is Postnatal Care Important and Worth It	Frequency	Per cent
Yes	368	92.0
No	32	8.0
Total	400	100.0

Table 7:

Awareness of Receiving Care after Delivery

Awareness	Frequency	Per cent
None	62	15.5
One	338	84.5
Two	400	100.0
Three	16	4.0
Four	75	18.8
More than four	72	18.0



I don't know	35	8.8
Total	400	100.0

Table 8: Respondent's Knowledge of Required Frequency of Postnatal Care Visits

Table 9a: Cross-tabulation of Socio-demographic Characteristics of Respondents with Utilization of Postnatal Care Services



Variables	Accessed Postnatal care clinic (Yes %)	Accessed Postnatal care clinic (No %)	Accessed Postnatal care clinic (N/A)	Total	p-values	comment	*p
Age							
15-25	37	9	20	66	0.518	Not Significant	
25-37	196	32	67	295			
38-49	25	6	8	39			
Religion							
Christianity	213	38	81	332	0.766	Not Significant	
Islam	45	9	14	68			
Ethnicity							
Yoruba	234	32	73	339	0.001	Significant	
Igbo	17	12	15	44			
Hausa	4	1	6	11			
Others	3	2	1	6			
Marital status							
Single	11	0	5	16	0.301	Not Significant	
Married	247	47	90	384			
Place of residence							
Urban	187	31	67	285	0.651	Not Significant	
Rural	71	16	28	115			
Educational Level of Respondents							
None	14	2	0	16	0.001	Significant	
Primary	5	9	11	25			
Secondary	76		36	126			
Tertiary	163	14	48	233			
Educational Level of Partners							
None	1	4	0	5	0.001	Significant	
Primary	3	8	12	23			
Secondary	51	7	27	85			
Tertiary	203	28	56	287			

values < 0.05 is Significant, P values >0.05 is Not Significant



Table 9b: Cross-tabulation of Socio-demographic Characteristics of Respondents with Utilization of Postnatal Care Services (cont)

Variables	Accessed Postnatal care clinic (Yes %)	Accessed Postnatal care clinic (No %)	Accessed Postnatal care clinic (N/A)	Total	p-values	comment
Employment status of Respondents						
Employed	230	38	71	339	0.003	Significant
Unemployed	28	9	24	61		
Employment status of Partners						
Employed	237	41	83	361	0.343	Not Significant
Unemployed	21	6	12	39		

*P values < 0.05 is Significant, P values >0.05 is Not Significant



Variables	Accessed Postnatal care clinic (Yes %)	Accessed Postnatal care clinic (No %)	Accessed Postnatal care clinic (N/A)	Total	p-values	comment
Place of Antenatal care						
None	0	0	0	0	0.002	Significant
Private Hospital	26	7	10	43		
Government Hospital/Health centres	240	40	78	348		
Traditional birth/attendant homes	0	0	6	6		
Mission Homes	2	0	1	3		
Number of Antenatal Visits						
One	38	7	5	50	0.022	Significant
Two	58	20	34	112		
More than two	162	20	56	228		
Last Childbirth						
Less than a week	38	7	5	50	0.003	Significant
1-3 weeks	58	20	34	112		
4-6 weeks	162	20	56	228		
Place of delivery						
None	4	0	2	6	0.014	Significant
Private Hospital	33	9	13	55		
Government Hospital/Health Centres.	218	37	73	328		
Traditional birth/attendant homes.	0	1	6	7		
Mission Homes.	3	0	1	4		

Table 10: Cross-Tabulation of Obstetric Characteristics with Utilization of Postnatal Services

*P values < 0.05 is Significant, P values >0.05 is Not Significant

Table 11: Awareness of Postnatal Care Institutions

Awareness	Frequency	Percent
Yes	301	75.3



No	99	24.8
Total	400	100

Table 12: Utilization of Postnatal Care Services by Respondents

Utilization of postnatal care services	Frequency	Per cent
Yes	258	64.5
No	47	11.8
* Not Applicable	95	23.8
Total	400	100.0

Table 13: Cross-tabulation Of Awareness of Postnatal Care Institutions with Its Utilization

Awareness of postnatal institutions around respondents	Respondents who accessed postnatal care services			p-value	comment
	Yes	No	Total		
Yes	258	43	301	0.001	Significant
No	0	99	99		
Total	258	142	400		

*P values < 0.05 is Significant, P values >0.05 is Not Significant

Table 14: Respondents' Reasons for Visiting the Postnatal Care Clinics

Reasons for visiting postnatal care clinics	Frequency	Per cent
Postnatal checkup	36	9.0
Breast pain	19	4.8
Body ache	4	1.0



Immunisation for baby	160	40
Immunisation for self	16	4.0
For more information	22	5.5
Vagina bleeding	1	0.3

Table 15: Respondents' Reason for Not Visiting Postnatal Care Clinics despite Being Aware of Them

Reason for not attending postnatal care clinics	Frequency	Per cent
Not Applicable	355	88.8
No complaint	45	11.3
Total	400	100.0

Table 16: Time of First Postnatal Check

First postnatal check	Frequency	Per cent
None	137	34.3
within 24 hours of delivery	179	44.8
48 hours – less than a week	76	19.0
1-3 weeks	6	1.5
4-6 weeks	2	5.0
Total	400	100.0

Table 17: Percentage of Respondents Who Resumed Sexual Intercourse

Resumption of sexual intercourse after childbirth	Frequency	Per cent
Yes	128	31.8
No	272	68.3



Total	400	100.0
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Table 18: Number of Postnatal Checks Respondents Had

Number of postnatal checks	Frequency	Per cent
0	137	34.3
1	46	11.5
2	101	25.3
3	76	19.0
4	26	6.5
5	13	3.3
6	1	0.3
Total	400	100.0

Table 19: Cross-tabulation of Resumption of Sex with Respondents on Contraceptive Methods

Resumption of sexual intercourse after childbirth	Respondents on contraceptive methods		Total
	Yes	No	
Yes	74	54	128
No	0	272	272
Total	74	54	400

Table 20: Intention of Respondents to Accept a Contraceptive Method before Resumption of Sex



Intent to adopt a contraceptive method before the resumption of sexual intercourse	Frequency	Per cent
Yes	155	38.8
No	120	30.0
*Not Applicable	125	31.3
Total	400	100.0

Table 21: Contraceptive Method Respondents Would Like to Adopt Before Resumption of Sex

Preferred contraceptive method	Number of respondents
Natural methods	5
Anyone available	39
Condoms	21
Implanon	3
Intrauterine Contraceptive Device	55
Injectables	15
Pills	8
I don't know	8

Table 22: Respondents' Reason for Not Intending to adopt a Contraceptives

Reason for not wanting to use contraceptives	Frequency	Per cent
Disliked by husband	8	2.0
Fear of side effects	34	8.5
*Not applicable	278	69.5



No reason	59	14.8
Personal dislike	21	5.3
Total	400	100.0

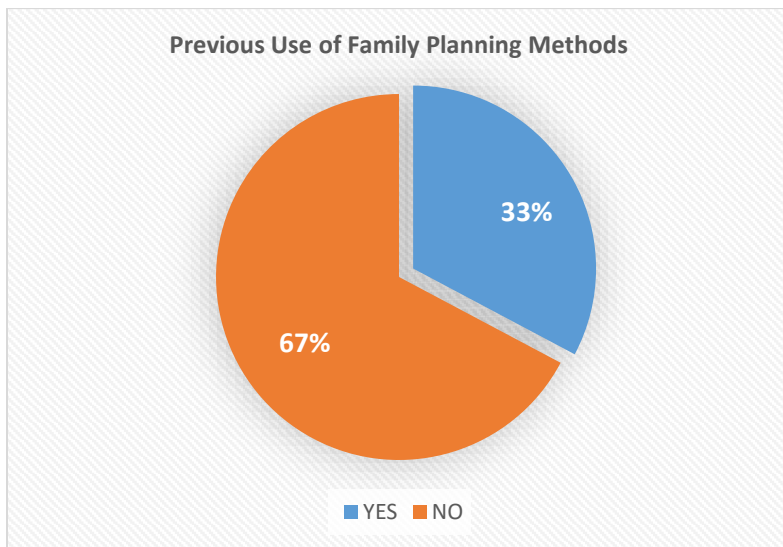


Figure 5: Previous Use of Family Planning Methods

Table 23: Family Planning Methods Previously Used by Respondents

The previous contraceptive method used	Natural methods	Condom	Implanon	Injectables	IUCD	Pill
Number of respondents	3	23	7	24	63	11

Table 24: Postnatal Care Services Rendered to Respondents

Contents of postnatal care services rendered	Yes %	No %
Counselled on breastfeeding	64.0	36.0
Breasts examined during the visit	39.5	60.5



Counselled on adequate nutrition	65.3	34.8
Respondents immunized up to date	68.3	31.8
Baby immunized up to date	89.3	10.8
Counselled on family planning	56.8	43.3
Satisfied with the services rendered	66.3	33.8

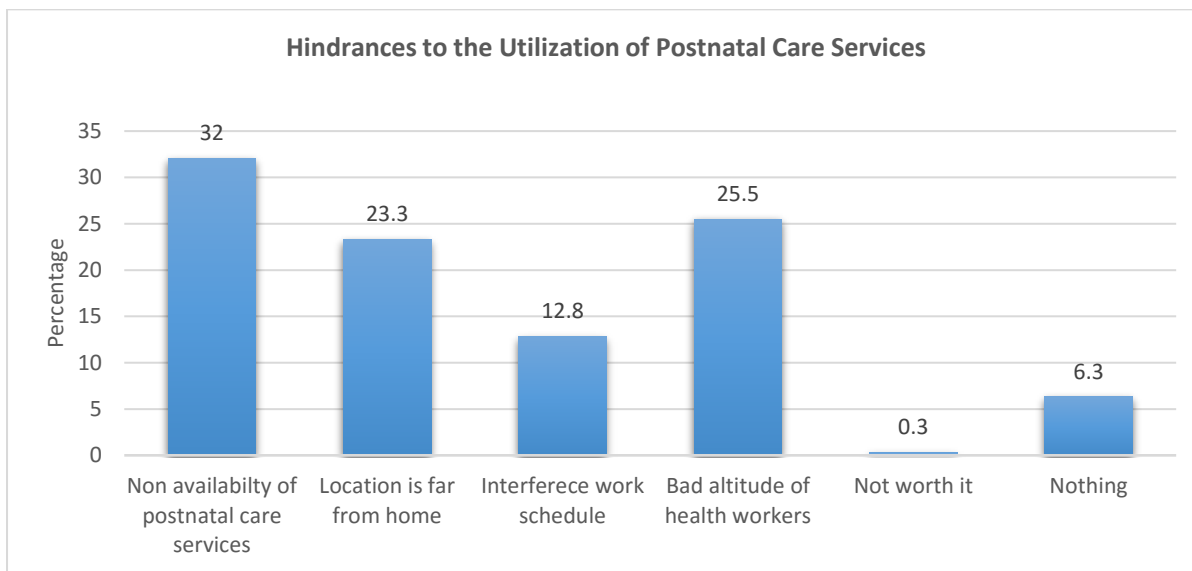


Figure 6: Hindrances to the Utilization of Postnatal Care Services

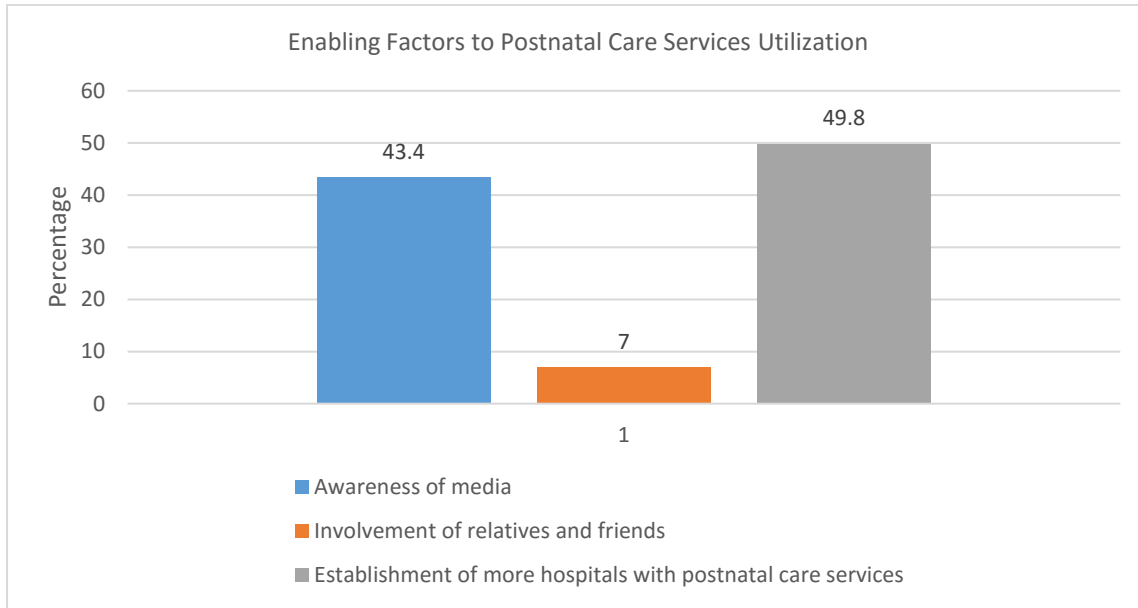
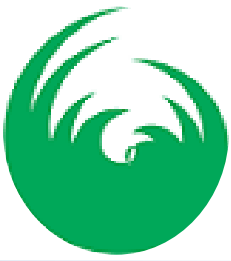


Figure 7: Enabling Factors to Postnatal Care Services Utilization