

## Original Research Article

### Demand and Significance of Informal Postnatal Care Support System in Lagos state: A Feasibility Study

#### ABSTRACT

**Aims:** To make a research case for an innovative intervention by evaluating the demand and determinants of informal postnatal care and support.

**Study design:** This was a descriptive cross-sectional study.

**Place and Duration of Study:** The study was carried out in Itire and Yaba in Lagos State, Nigeria. Data collection lasted for two weeks.

**Methodology:** A semi-structured questionnaire was used for data collection. A total number of 249 women were chosen using estimated extrapolations from secondary data that had been collected on women of reproductive age. Respondents were recruited based on convenience and willingness to participate. Descriptive statistics and correlation coefficient test were carried out.

**Results:** 54% of respondents were from Itire while 46% were from Yaba; 90% were between 25 – 44 years. 78% of the women had vaginal delivery, and 26% underwent a caesarian section; about 13% reported delivery complications. More than half (52%) of respondents' families gave postnatal support, 37% received postnatal support from in-laws and 8% from multiple sources. During the postnatal period, 65% of the respondents reported doing exclusive breastfeeding, while 35% reported giving milk and other feeds. Only 9% of women used chlorhexidine gel for newborn cord care. 76% used methylated spirit and 15% used herbal mix heated on kerosene lanterns or various kinds of toothpaste and other substances. Only 19% of the women had commenced family planning. Though the majority (94%) found the postnatal support received helpful; 65% were open to professional help. Willingness to use professional postnatal support was significant among respondents who had delivery complications ( $p=0.02$ ) and those who were from the Yaba axis ( $p=0.03$ ).

**Conclusion:** The findings clearly showed an information gap when compared to standard recommended postnatal practices as well as a demand for professional guidance hence the need to equip this informal support with adequate postnatal information

**Keywords:** *Determinants, Demand, Informed, Postnatal, Support system, Feasibility*

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## 1. INTRODUCTION

The postnatal period refers to the period after the delivery of a child. It is a critical period for both the mother and child involving the puerperal period which refers to the hour after the delivery till 42 days after; during which the uterus and the mother's body is expected to have adjusted to the pre-partum state [1]. According to the WHO guidelines on postnatal best practice developed in 2006 and updated in 2013 [2], the postnatal visit represents an opportunity for providers to facilitate healthy breastfeeding practices, screen for postpartum depression, monitor the newborn's growth and overall health status, treat childbirth-related complications, counsel women about their family planning options and refer the mother and baby for further assessment if the need arises.

The updated 2013 guideline now recommends at least three postnatal visits following the 24 hours after delivery in the following sequence; on day three (48–72 hours), between days 7–14 after birth, and six weeks after birth. This guideline also recommends home visits for mother and newborn in the first week after birth [2]. Postnatal care particularly prevents most maternal and child morbidity and mortality. Care given in the postpartum period assists health care providers to detect post-delivery problems and to give treatments timely. Shortage of care during this period could result in ill health, disabilities and deaths [3]. The majority of maternal deaths occur in developing regions. It accounts for approximately 99% of the global maternal deaths in 2015, with Sub-Saharan Africa alone accounting for 66% followed by southern Asia with 22% [4].

Sub-Saharan Africa alone accounts for approximately two-thirds of the estimated maternal deaths in 2017 and contributes largely to estimated global infant deaths [5]. Deaths can occur at any time of the critical periods of antenatal, intra-partum and postnatal. In sub-Saharan Africa, only about 48% of women give birth with the assistance of a skilled birth attendant and even fewer women and newborns (less than half) receive postnatal care visits within 2 days of childbirth [8]. An analysis of demographic and health survey data from 23 sub-Saharan African countries found that only 13% of women who delivered at home received post-natal care within 2 days of birth. This could be due to lack of knowledge about postnatal care, lack of professional postnatal care services or under-utilization of postnatal care services [5]. This leaves a question to be answered—where do the 87% get their postnatal care.

Nigeria with over 250 ethnic communities [6] shaped by varying norms and practices have a common culture of celebrating the newborn which attracts the gathering of family and friends. Observation and anecdotal reports show that many homes rely on an informal support system (family and friends) and tend to influence the care of mother and child after discharge from the hospital. In many cases, postnatal care is taken over by these informal support systems who deliver care based on their exposure, attitude to health, information available among others. These challenges demonstrate a possible gap in the postnatal care received by mothers and their newborns as compared to the recommended practice as stated by W.H.O with possible serious consequences in the mother and child during this crucial yet poorly handled period of care [2].

In achieving the Sustainable Development Goal 3 (SDG3), two of the targets aim to reduce maternal mortality ratio and to end preventable deaths of newborns and children under the age of five years by 2030 [5]. As Nigeria intends to achieve this goal alongside other countries who have the recommended focus of antenatal, intra-partum and postnatal care, attention should therefore be put on adequately documenting the events of the postnatal period and determinants of the care received to evaluate if there is a postnatal care gap for maternal and child survival as well as to discover cost-effective mechanisms that help integrate this equally critical period of care into the already established antenatal and intra-partum care.

This study, therefore, aimed at documenting the current determinants of postnatal care services and the demand for an informed postnatal care support system in Nigeria as a start-off point for the development of a sustainable and scalable intervention that will complete the journey of pregnancy, delivery and newborn care.

**Comment [MH4]:** Who makes the home visit? Not clear.

**Comment [MH5]:** What proportion of maternal deaths at post-partum period? – can motivate the study background better.

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## 2. METHODOLOGY

### 2.1. Study Population

Itire community is a mostly slum neighborhood in Surulere overseen by a traditional king, the Onitire of Itire and under the Itire/Ikate Local Council Development Area (LCDA). Yaba is a town in Lagos Mainland Local Government area of Lagos State known for its vibrant commercial, academic and professional activities. These locations were chosen to compare and contrast the health-seeking behaviours of women living in a town with better access to healthcare and women living in a slum who may have constraints to seeking healthcare services.

**Table 1: Distinguishable characteristics of the sample population.**

CHARACTERISTICS	YABA	ITIRE
1. <b>Income Level</b>	<i>Middle Income</i>	<i>Low income and Poor</i>
2. <b>Living Area</b>	<i>Mostly commercial</i>	<i>Residential and Commercial</i>
3. <b>Community Type</b>	<i>Town</i>	<i>Slum</i>

### 2.2. Sample Size

A total of 249 women were chosen using estimated extrapolations from secondary data that had been collected on women of reproductive age within the communities selected [7].

#### 2.2.1. Inclusion Criteria

Only women who had live births within the last 2 years were considered eligible participants for the study.

### 2.3. Data Collection

A semi-structured, interviewer and self-administered questionnaire was used to collect information among women who delivered a child within the past two years. Women who were unable to read and understand the questionnaires on their own, based on their level of education were assisted using the interviewer-based approach while those who could read and understand on their own did not need the interviewer based approach.

## 3. RESULTS AND DISCUSSION

### 3.1 Results

#### 3.1.1 Age distribution of mothers

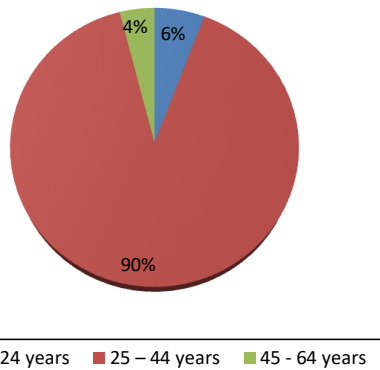
Some of the mothers declined to mention their ages (n= 224). The largest age group was among the young adult women between the ages of 25 – 44 years (90%) which also represent the age group within the childbearing age range. The age group with the least number of respondents; age group 45 - 64 years (4%). (Fig. 1).

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**Comment [MH11]:** It would be better state exclusion criteria.

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**Fig. 1. Age distribution of respondents**

### 3.1.2. Background characteristics

The number of mothers who reside in Itire was higher than those in Yaba. About 35% of respondents were within the Professional category of the International Standard Classification of Occupations, 8<sup>th</sup> version (ISCO-08); which includes corporate workers, teachers, school administrators among others, while the artisans and craftsmen/women were the second-largest category (33%). Two-thirds of all respondents had completed some sort of post-secondary school education including tertiary and postgraduate colleges. Only 4% of respondents had not gone beyond a primary school education (Table 2).

**Comment [MH14]:** This is related to data collection and sample selection.

**Table 2. Frequency distribution of mothers by some demographic characteristics**

Demographic Characteristics	Frequency (n)	Percentage (%)
<b>Area of residence</b>		
Yaba	110	56
Itire	139	44
<b>Ethnic group</b>		
Yoruba	174	70
Igbo	39	16
Others	35	14
<b>Occupational Categories</b>		
Professionals	86	35
Crafts and related trade workers	82	33
Technicians and associate professionals	19	8
Clerical Support Service	15	6
Elementary Occupations	15	6
Managers	12	5
Service and Sales Workers	12	5
Unemployed	5	2
Skilled agricultural workers	2	1
<b>Level of education</b>		
Primary	9	4

Secondary	75	30
Tertiary	164	66

### 3.1.3. Clinical factors

Almost all respondents reported that they had utilized some antenatal care services during their last pregnancy. Approximately a quarter of respondents had only one child while a third of respondents had two children. Half of all respondents reported that they visited private health facilities for their antenatal care, while others were divided between public health facilities (42%) and traditional birth attendants/religious houses (8%). About half of the respondents (51%) utilized the private health facility at delivery while 10% used TBAs, religious houses, at home, or in transit. Most of this gap was significantly contributed by the public hospital system. The more common delivery complications were failure to progress, foetal distress, and postpartum bleeding. There was no significant relationship between the presence of antenatal complications and the occurrence of complications during delivery (Table 3).

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**Table 3. Percentage distribution of respondents by clinical factors.**

Clinical Factors	%
<b>Parity</b>	
1	24.5
2	33.0
3	28.0
≥ 4	14.5
<b>Antenatal care utilization</b>	
Yes	99.6
No	0.4
<b>Complications during antenatal care</b>	
Yes	12.0
No	88.0
<b>Health facility visited for antenatal</b>	
Private-owned facility	42.2
Government owned facility	50.2
TBAs* and Religious houses	7.6
<b>Delivery centre</b>	
Private-owned facility	39.5
Government owned facility	50.8
TBAs* and Religious houses	9.7
<b>Mode of delivery</b>	
Caesarian section	25.7
Vaginal delivery	74.3
<b>Delivery complications</b>	
Yes	13.1
No	86.9

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\*TBAs = Traditional Birth Attendants

### 3.1.4 Postnatal Care

Nine out of ten respondents reported having had some sort of postnatal care (Fig. 2). The informal networks reported having delivered postnatal care services included: Respondent family (52%), Husband and In-Laws (37%), Multiple sources (8%), Other sources – Hired helps, neighbors, and religious designate (3%) (Table 4).

Close to two-thirds of respondents reported that the informal support they got for postnatal care lasted more than a month. Other respondents reported duration of less than a week (4%), a week (8%) and 2 – 4 weeks (27%) as depicted in Fig. 3.

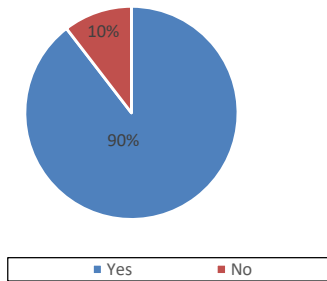


Fig. 2. Postnatal care utilization

Table 4. Postnatal care providers.

Postnatal care provider	Percentages (%)
Respondent's family	52.0
Husband and In-laws	37.0
Multiple sources	8.0
Other sources (hired helps, Neighbors and religious Designate)	3.0

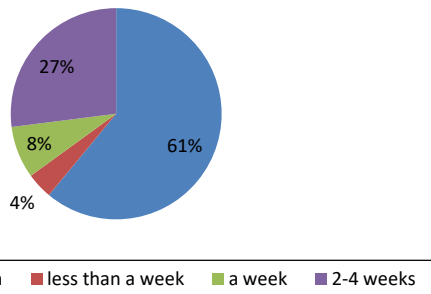


Fig. 3. Postnatal care duration

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Comment [A20]: What is informal network?

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### 3.1.4.1. Determinants of postnatal care utilization

Respondents who were identified as *Yoruba* seem to utilize the help of support for postnatal care services than ethnic groups. There is a significant relationship between ethnicity and utilization of post-natal care ( $p = 0.002$ ) (Table 5)

**Comment [A25]:** What statistical test/test were used to identify determinants?

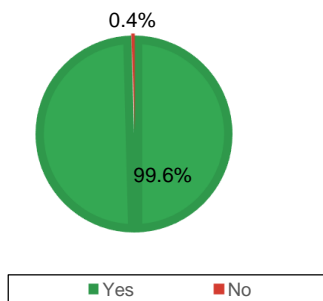
**Table 5. Factors associated with postnatal care utilization**

Factors	PNC Utilization			<i>p-value</i>
	No	Yes	Total	
<b>Number of children</b>				
One	0	49	49	
Two	8	58	66	
Three	12	44	56	
>= Four	5	24	29	
<i>Total</i>	25	175	200	
<b>Ethnic group</b>				0.002
Yoruba	12	162	174	
Igbo	8	31	39	
Others	6	29	35	
<i>Total</i>	26	222	248	
<b>Area of residence</b>				
Itire	20	119	139	
Yaba	6	104	110	
<i>Total</i>	26	223	249	

### 3.1.4.2. Outcomes of Current Postnatal Care Services Received

#### Immunization

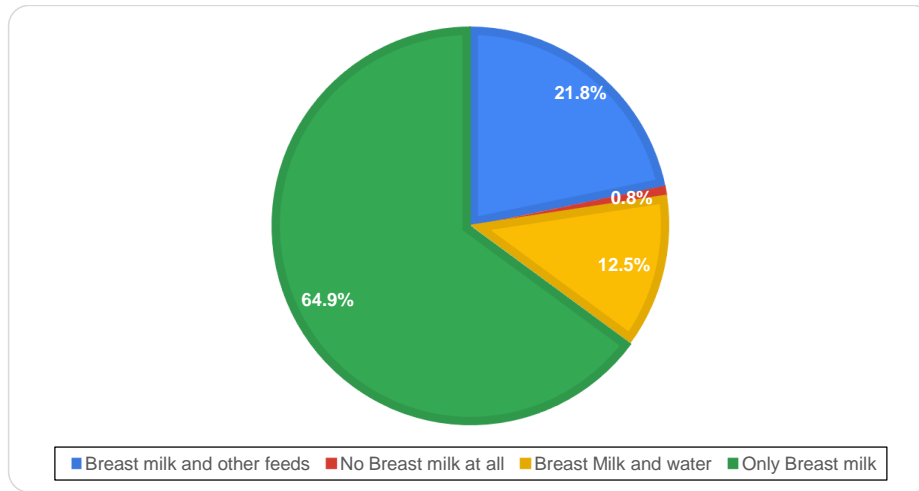
Almost all respondents commenced some sort of immunization for their newborn babies(Fig. 4).



**Fig. 4. Percentage distribution of mothers who got their babies immunized**

### 3.1.4.3 Breast Milk Exclusivity

Close to two-thirds of respondents (65%) reported being exclusive with breast milk for their newborn babies for up to six (6) months. There was a significant relationship ( $p = 0.04$ ) between those who had some postnatal care services and those who reported breast milk exclusivity. The longer duration of postnatal care (>1 month) further influenced breastmilk exclusivity for the 6 months. (Fig. 5)



**Fig. 5. Percentage distribution of mothers who imbibed breast milk exclusivity**

### 3.1.4.4 Cord Care

Methylated spirit was the most common cord cleaning agent used by over three-quarter of the mothers. There was no relationship between utilization of postnatal care services and the selection of cord care methods as given in Table 6.

**Comment [A26]:** Same as above. What statistical test was used?

**Table 6. Correlation between PNC utilization and cord care**

Cord care	PNC Utilization		Total
	Yes	No	
Chlorhexidine gel	22	0	22
Herbal mix heated on a lantern	15	0	15
Methylated spirit	164	23	187
Otherse.g.Olive Oil,Toothpaste,Water,Mentholatum.	20	2	22
<b>Total</b>	<b>221</b>	<b>25</b>	<b>246</b>

### 3.1.4.5 Family Planning

Only 19% of respondents reported having used any family planning method during and after the postnatal period. Postnatal services received did not influence the choice to use or not use family planning (Fig.6).

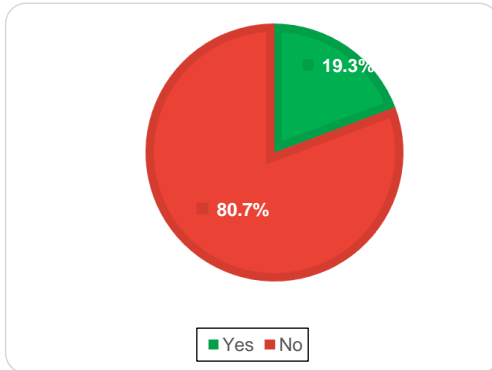


Fig. 6. Family planning utilization

### 3.1.4.6 Perceptions of Postnatal Care Received

Almost all respondents considered the postnatal care they received as being somewhat helpful to very helpful. Only 6% did not find the postnatal care services they received helpful in any way (Fig. 7).

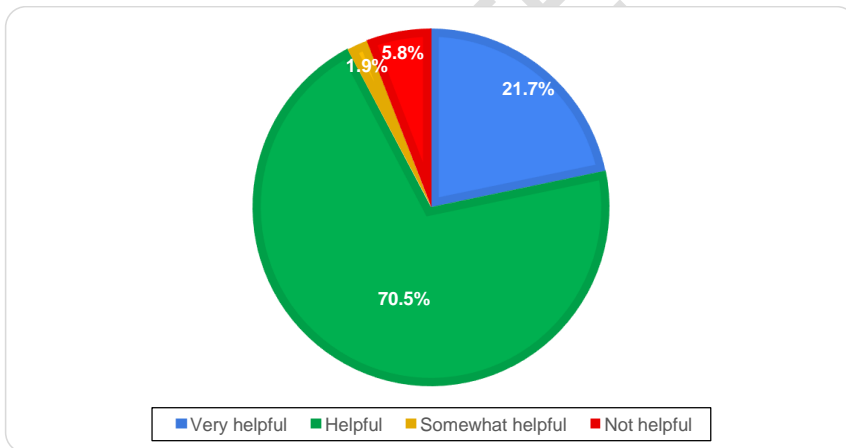


Fig. 7. Perception of mothers towards Postnatal care

### 3.1.4.7 Demand for Qualified Postnatal Care Personnel

Close to two-thirds (65%) of respondents reported that they would utilize qualified postnatal care personnel for subsequent pregnancies

Comment [A27]: How was the relationship measured?

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Key factors influencing this included the educational level of the respondent: There was a statistical significance between respondents who had finished secondary school and utilization postnatal care from qualified personnel ( $p = 0.001$ ). There was no statistical significance between respondents who had had their antenatal care in public hospitals and the need to utilize qualified postnatal care personnel in their subsequent pregnancies ( $p = 0.002$ ), but respondents who delivered in private hospitals had a statistical significance to utilize qualified personnel ( $p = 0.003$ ). Respondents who reported complications during the antenatal period showed a statistical significance to utilize qualified postnatal care personnel during subsequent pregnancies ( $p = 0.02$ ). Respondents from Yaba area were also showed a statistical significance to utilize postnatal care from qualified personnel in subsequent pregnancies ( $p = 0.04$ )

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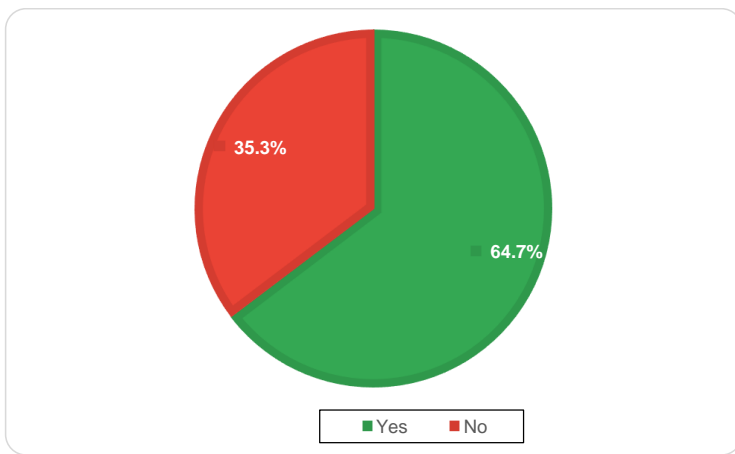


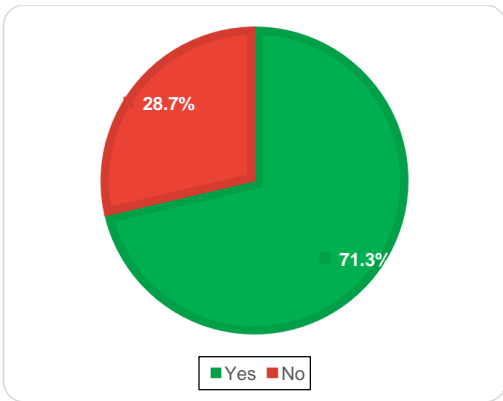
Fig. 8. Percentage distribution of demand for qualified postnatal care personnel

#### 3.1.4.8 Willingness to Pay

Over 70% of respondents indicated that they are willing to pay something for postnatal care delivered by qualified personnel (Fig.9). Respondents who had completed secondary school education or less were less willing to pay than those who had higher education ( $p = 0.006$ ). Respondents who had complications during delivery were also more willing to pay for qualified personnel ( $p = 0.003$ )

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Comment [A31]: What is qualified personnel?



**Fig. 9. Percentage distribution of mothers willing to pay for informal postnatal care services.**

UNDER PEER REVIEW

### 3.2 Discussion

The respondents comprised mostly women of reproductive age. The most common occupational category among the women surveyed was 'professional'. This included women in corporate worlds, teachers and administrators. An explanation for this could be that both study areas are known for commercial activities which create an enabling environment for women with such professions. Due to the nature of immunization delivery (starting at birth), it is impossible to say if postnatal care influenced these immunizations. Further studies would do well to focus on vaccine completion for age. The majority of the women were from Southern Nigeria, with more Yoruba tribe (Southwest) than the Igbo tribe (Southeast). This is explained by the location of the study as Yaba and Itire, Lagos is located in Southwest Nigeria. The women of Togolese origin were also identified in the study. It is worthy of note that the Itire community is home to several Togolese women who have been residents for trade purposes. Most women in the study had completed a post-secondary certification, indicating a high literacy rate among respondents.

**Comment [A32]:** Did the authors expected respondents below or above reproductive age/

Antenatal visits were recorded in almost all women surveyed (98%), making this observation similar to those recorded for other low-middle income countries where an average of 79% was documented to have had a skilled provider visit at least once during their pregnancy [8]. A multilevel analysis of data from 36 sub-Saharan countries also reported antenatal care visits during pregnancy as 89.26% [9] similar to what was observed in this study. This is however in contrast to what is observed in Nigeria where ANC utilization is 61%. This may be because this study was carried out in a relative urban environment [10].

This study recorded that respondents showed more confidence in the antenatal care and information given by private health facility as compared to traditional birth attendants and religious homes. It is discussed that both private health facilities and traditional homes grant easier access to healthcare as compared to the public health facility where many processes are encountered that increase waiting time. It is recorded that more women chose private health facilities for their delivery centre and this could be accounted for by the swift response and reduced waiting time in private hospitals.

The mode of delivery was mostly vaginal with a Caesarean section rate of 22% which is similar to other study which documented a rate of 21.4 % in their 5-year review [11]. Prevalence of caesarean sections in Nigeria has been documented to vary from region to region where factors such as study site as institutions affect the numbers as it is said that tertiary institutions tend to have referred patients leading to higher rates of caesarean sections. The rate of caesarean section was recorded to be about 18.8% in the South East following a five-year review [12] and 40.1% in the South-West regions according to a 2014 study done in Lagos [13].

**Comment [A33]:** These are not according to the objectives of the study.

Delivery complications such as fetal distress, failure to progress and postpartum bleeding were commonly observed amongst the 13% of women who had delivery complications in this study. This observation correlates with an estimated rate of 15% for pregnant women who have delivery complications in developing countries<sup>16</sup>. An incidence study of obstetrics complication in South Africa noted that a total of 16% of pregnant women experienced any type of obstetric and fetal complications during labour and delivery, also similar to what was reported in another study [14].

**Comment [A34]:** Same as above

Comparing services reported to have been received by the respondents to the W.H.O updated guideline on postnatal care and services; 52% of the women got their postnatal services from informal networks (family, in-laws) as opposed to care from trained health personnel such as matrons and community health workers as recommended by W.H.O [2]. The exact services respondents mentioned were; counseling and guide on cord care, breastfeeding, bathing of the child, immunization regimen, growth monitoring, wound care and family planning.

In this study, only 9% of the women used chlorhexidine gel as recommended by WHO, 76% used methylated spirits, while 15% used herbal mixtures on lanterns, toothpaste and others. 65% of the women reported having given the recommended 6 months exclusive breastfeeding; others 35% gave milk with other feeds. Only 19% of the women had commenced family planning at the time of the study. These statistics correlate with earlier reports of low family planning use among women in Nigeria [15].

Though the majority of the women (94%) felt that the postnatal help they got from the support was useful, about 65% of them agreed that they could use professional help to guide if available. It may be inferred that their opinion about the usefulness of the support gotten was merely from the perception of not having a total grasp of the standard postnatal care services which has been reduced to house chore-like caring of the mother and child. This study showed a significant correlation ( $p=0.022$ ) among women who had delivery complications and openness to professional help. The study also showed a significance between residence (Yaba) and openness to professional support. This may be because many of the respondents in Yaba were met in their offices and can be considered to be career people who would need to be back to work after delivery.

#### 4. CONCLUSION

The postnatal period is equally as important the antenatal and intrapartum period. However, the need for a skilled birth attendant during the postnatal period is not seen as necessary by many women. There is a need to enlighten mothers on the importance of having better health seeking behaviors regarding their postnatal care while integrating their norms and customs in line with the correct health guidelines.

#### CONSENT

Informed consent was obtained from respondents. Only those willing to take part had questionnaires administered to them.

**Comment [A35]:** The authors did not mention ethical permission of this study.

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