

Non-utilization of Postnatal Care Services and Related Factors among Women in Osun State, Nigeria

Aanuoluwapo Omobolanle Olajubu (PhD)^{1*}

¹ Lecturer, Department of Nursing Science, Faculty of Basic Medical Sciences, Obafemi Awolowo University, Ile Ife, Osun State, Nigeria

ARTICLE INFO	ABSTRACT
<p><i>Article type:</i> Original article</p>	<p>Background & aim: Utilization of postnatal care (PNC) services has not been optimal in many low- and medium-income countries despite the importance and benefits associated with it. Hence, this study was conducted to determine the prevalence of PNC non-utilization and its related factors among women in Osun State, Nigeria.</p>
<p><i>Article History:</i> Received: 05-Oct-2020 Accepted: 29-Aug-2021</p>	<p>Methods: This study adopted a descriptive cross-sectional design involving 380 women attending antenatal clinic at the primary health centers, using a multistage sampling technique. A structured questionnaire was used to obtain data which was analyzed using descriptive and inferential statistics. The IBM SPSS statistics version 20 was used.</p>
<p><i>Key words:</i> Postnatal Care Services Non-utilization Determinants Nigeria</p>	<p>Results: About three-quarter (75.8%) of the respondents did not attend PNC services and 62.4% did not know the importance of attending PNC services. From multivariate analysis, six variables emerged as predictors of PNC non-utilization i.e. women with no health issues (OR: 7.57, 95% CI: 3.02–18.98), being in the age group 31 years and above (OR: 2.35, 95% CI: 1.21–4.58), no formal PNC clinic appointment (OR: 2.09, 95% CI: 1.13–3.87), lower income (OR: 1.97, 95% CI: 1.10–3.56), lower parity (OR: 1.96, 95% CI: 1.04–3.71) and lack of knowledge of importance of PNC (OR:1.94, 95% CI: 1.06 – 3.56).</p> <p>Conclusion: There is a high level of non-utilization of PNC services among respondents. To increase the uptake of PNC services in Nigeria and improve mother and child health outcomes, public health programs should focus on educating women and significant others on the importance of PNC for mother and newborn.</p>

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Introduction

Maternal and neonatal mortality remains a major challenge of healthcare systems worldwide, especially in developing countries. Approximately 295,000 women died globally in 2017 during and after pregnancy and delivery, which is 35% lower compared to the estimate of 451,000 deaths in year 2000 (1). However, 66% of these deaths (196,000) occurred in Sub-Saharan Africa and Nigeria recorded the highest number (35%; 67,000) of the estimated global maternal deaths in 2017 (1).

Majority of the maternal mortality occurs during the postnatal period (2–4) and studies have shown that utilization of maternal healthcare services including postnatal care

(PNC) can reduce maternal mortality (4–6). Despite the importance and benefits associated with postnatal care, the degree of utilization of these services is still generally low, although this varies across the regions of the world (7). The non-utilization of PNC leads to increased adverse events such as neonatal complications, neonatal sepsis, poor weight gain, poor neonatal health outcomes, poor breastfeeding practices, post-partum hemorrhage, puerperal sepsis, unresolved psychological complications, poor maternal health outcomes, etc. All these adverse outcomes are potential contributors to increased neonatal and maternal mortality.

* Corresponding author: Omobolanle Olajubu A, Lecturer, Department of Nursing Science, Faculty of Basic Medical Sciences, Obafemi Awolowo University, Ile Ife, Osun State, Nigeria. Email: bolajubu@gmail.com

The rate of postnatal care utilization has not been optimal most especially in the low and medium income countries (4,8). According to Nigerian health survey data analyzed in 2016 by Somefun and Ibisomi (7), 63% of the women did not utilize postnatal care within 42 days after delivery and only 4% utilized the appropriate care according to the WHO guidelines. Studies in various parts of the country have also documented low level of utilization of postnatal care services. Takai et al. (9) reported a utilization rate of 16.9% in Maiduguri, Northeastern Nigeria while a 22% utilization rate was found by Olajubu et al., (10) in Ekiti State, Southwestern Nigeria.

Across different countries in Africa, including Nigeria, studies have highlighted some factors contributing to non-utilization of PNC. These include: lack of awareness about the service (4,11), place and mode of delivery (11), mothers' exposure or access to media (12), healthcare access, wealth quantile (13), parity, marital status (9), poor antenatal care utilization, women's educational status, geographical region of residence (7), age, employment status and level of knowledge about PNC (10).

However, there is still paucity of data on PNC services as compared to other maternal healthcare services in Nigeria. The specific determinants of PNC non-utilization also vary from one region of the country to another and there is dearth of information particularly in Osun State. Hence, this study determined the prevalence of non-utilization of postnatal care services and its associated factors in Osun State, Nigeria.

Materials and Methods

The study is a descriptive cross-sectional survey carried out to assess the factors associated with non-utilization of PNC services. Women attending antenatal clinic (ANC) at the primary healthcare centers (PHCs) in Osun State, Southwest Nigeria were sampled for this study. Osun State is one of the 36 States of the country and it is divided into 30 Local Government Areas (LGA) for administrative purposes.

The sample size was calculated using a standard formula (14) for single proportion ($n = Z^2P(1-P)/d^2$) where Z at 1.96, is the standard normal deviate at 95% confidence level and

80% power, $P = 0.63$, using a previous 63% non-utilization rate (7) and d is the margin of error set at 0.05. This yielded a sample size of 394 after adjusting for a potential 10% non-response rate. The study participants were drawn with the use of a multistage sampling technique. Six out of the 30 LGAs in the State were randomly selected for the survey and all the seventeen PHCs in the six LGAs which provides comprehensive maternal and child healthcare services on a 24-hour basis were included in the study.

A proportionate number of women who registered for antenatal care (ANC) were recruited consecutively from each of the selected PHCs. To be eligible, a woman must have had at least one previous live birth, able to communicate either in English or Yoruba (local) language and gave informed consent.

The outcome variable was non-utilization of PNC services. A structured questionnaire was used for data collection. The two-part questionnaire comprised of 25 questions. The first part had 10 questions which obtained respondents' socio-demographic data including the partners' educational and occupational status. The second section contained questions regarding obstetric history, attendance of PNC after the last delivery (yes/no) and a list of 10 possible factors that potentially influenced their decision regarding utilization of the PNC services (each of which had a 'yes' or 'no' response). One of the listed factors was 'lack of knowledge about the importance of PNC attendance', those who answered 'yes' were categorized as lacking the knowledge of the importance of PNC. Women with parity of 1 or 2 were categorized as having 'lower parity'.

The questionnaire was translated into Yoruba using the back-translation method. Content validity was established by face validity and expert review in the field of maternal and child health and community health nursing to assess the suitability and clarity of content and relevance to the study. It was pre-tested in a PHC in one of the non-participating LGAs using 30 women. The reliability test yielded a Cronbach alpha co-efficient of 0.81. Two research assistants were trained who collected data over a period of four weeks.

The IBM SPSS Statistics version 20 (IBM Corp., Armonk, NY, USA) was used for data entry

and analysis. Fourteen questionnaires were incompletely filled, hence they were excluded from the analysis which gives a response rate of 96%. Descriptive statistics were used in summarizing the socio-demographic data and postnatal care attendance of the respondents. The data were normally distributed. The association between non-utilization of PNC and the various categorical factors was assessed using the Pearson Chi square. In order to determine the independent predictors of non-utilization of PNC, all the factors that reached a p-value of ≤ 0.25 (15) were entered into a multivariate binary logistic regression model

and the results were presented as odds ratio (OR) and 95% confidence intervals (CI).

Ethical approval (IPHOAU/12/580) for the study was obtained. Participants were duly informed about the purpose of the study and they gave informed consent to participate in the study. Participants' right to withdraw from the study without any penalty was also emphasized.

Results

A total of 380 completely filled questionnaire were analyzed.

Table 1. Association between non-utilization of PNC and demographic factors

Demographic factors	PNC Non-utilization N (%)	PNC utilization N (%)	Chi square (χ^2)	P value
Age group				
18 – 30	197 (74.1)	69 (25.9)	1.45	0.23
31 & above	91 (79.8)	23 (20.2)		
Marital Status				
Not married	10 (83.3)	2 (16.7)	0.38	0.74*
Married	278 (75.5)	90 (24.5)		
Education				
None/Primary	42 (72.4)	16 (27.6)	0.42	0.51
Secondary/Tertiary	246 (76.4)	76 (23.6)		
Occupational status				
Not employed	21 (72.4)	8 (27.6)	0.19	0.66
Employed	267 (76.1)	84 (23.9)		
Partner's educational status				
None / Primary	23 (67.6)	11 (32.4)	1.35	0.24
Second / Tertiary	265 (76.6)	81 (23.4)		
Partner's occupational status				
Not employed	50 (80.6)	12 (19.4)	0.95	0.33
Employed	238 (74.8)	80 (25.2)		
Income (Naira)				
$\leq 18,000$	213 (78.3)	59 (21.7)	3.31	0.07
$>18,000$	75 (69.4)	33 (30.6)		
Parity				
1-2	222 (77.6)	64 (22.4)	2.12	0.15
3 above	66 (70.2)	28 (29.8)		
ANC attendance				
No	26 (81.2)	6 (18.8)	0.57	0.45
Yes	262 (75.3)	86 (24.7)		

* Fischer's exact

The age of respondents ranged between 18 and 45 years, with a mean of 28 ± 4.9 years. Majority ($n = 266$; 70%) were aged 30 years and below while 30% were above 30 years, the detail of the socio-demographic characteristics of respondents are as presented in Table 1.

Prevalence of non-utilization and associated factors

With regards to the rate of non-utilization of PNC, about three-quarter (288, 75.8%) of the respondents did not attend PNC services after their last delivery while only 92 (24.2%) utilized PNC services. The association between non-

utilization of PNC and socio-demographic factors were presented on Table 1.

Table 2. Association between PNC non-utilization and other related factors (N=380)

	Frequency N (%)	PNC Non-utilization N (%)	PNC utilization N (%)	Chi square(χ^2)	P value
Knows importance of PNC					
Yes	143 (37.6)	93 (65.0)	50 (35.0)	14.45	<0.001
No	237 (62.4)	195 (82.3)	42 (17.7)		
Information during ANC					
Yes	272 (71.6)	199 (73.2)	73 (26.8)	3.60	0.06
No	108 (28.4)	89 (82.4)	19 (17.6)		
Given appointment					
Yes	166 (43.7)	108 (65.1)	58 (34.9)	18.49	<0.001
No	214 (56.3)	180 (84.1)	34 (15.9)		
Mother had health issues					
Yes	35 (9.2)	11 (31.4)	24 (68.6)	41.35	<0.001
No	345 (90.8)	277 (80.3)	68 (19.7)		
Baby was sick					
Yes	26 (6.8)	12 (46.2)	14 (53.8)	13.36	<0.001
No	354 (93.2)	276 (78.0)	78 (22.0)		
Wanted Family Planning					
Yes	170 (44.7)	133 (78.2)	37 (21.8)	1.00	0.32
No	210 (55.3)	155 (73.8)	55 (26.2)		
Partner's support for PNC?					
Yes	170 (44.7)	114 (67.1)	56 (32.9)	12.78	<0.001
No	210 (55.3)	174 (82.9)	36 (17.1)		

Table 3. Multivariate Logistic regression model showing predictors of non-utilization of PNC (N=380)

	Beta	SE	P value	OR	95% CI
Age					
18-30 (reference)				1	
31 and above	0.854	0.340	0.012*	2.348	1.205 – 4.575
Income					
> 18,000 (reference)				1	
≤ 18,000	0.680	0.301	0.024*	1.974	1.095 – 3.562
Partner's education					
≤ Primary (reference)				1	
Secondary and above	0.380	0.452	0.401	1.462	0.603 – 3.544
Parity					
≥ 3 (reference)				1	
1 – 2	0.673	0.326	0.039*	1.960	1.035 – 3.711
Knowledge of importance					
Yes (reference)				1	
No	0.663	0.309	0.032	1.941	1.059 – 3.558
Information during ANC					
Yes (reference)				1	
No	0.462	0.356	0.194	1.587	0.790 – 3.187
Was given appointment					
Yes (reference)				1	
No	0.735	0.315	0.020*	2.086	1.126 – 3.867
Mother had health issues					
Yes (reference)				1	
No	2.025	0.469	0.000*	7.574	3.023 – 18.976
Baby was ill					
Yes (reference)				1	
No	0.392	0.530	0.460	1.480	0.524 – 4.182
Partner's support for PNC					
Yes (reference)				1	
No	0.267	0.309	0.387	1.306	0.713 – 2.393

*Significant at $p < 0.05$; SE – Standard Error; OR – Odds Ratio; CI – Confidence Interval

All the factors with $P \leq 0.25$ (i.e. age group, income, partner's educational status, income and parity) were included in subsequent multivariate analysis for determination of independent predictors of non-utilization.

The women were asked to identify some factors they perceived as influencing their decision to either attend PNC clinic or not. As many as 237 (62.4%) said they did not know importance of attending PNC clinic while 214 (56.3%) claimed they were not given a formal PNC clinic appointment. Other factors mentioned by respondents are as stated in Table 2.

The statistical associations between the rate of non-utilization and the other related factors were also presented on Table 2. Majority (82.3%) of those who reported lack of knowledge of importance of attending PNC services did not utilize the service. In the same vein, there was 84.1% prevalence of non-utilization among those who were not given a formal PNC appointment and majority (80.3%) of those who felt they had no health issues did not also attend PNC clinic.

Predictors of PNC non-utilization

In order to identify the independent predictors of non-utilization among the respondents, all the variables that had P value ≤ 0.25 at bivariate level of analysis were entered into a binary logistic regression model. Six of the variables emerged as predictors of PNC non-utilization (Table 3). These include; age above 30 years (OR: 2.35, 95% CI: 1.21 – 4.58), income less than 18,000 naira (\$47) (OR: 1.97, 95% CI: 1.10 – 3.56), lower parity (OR: 1.96, 95% CI: 1.04 – 3.71), lack of knowledge of importance of PNC (OR: 1.94, 95% CI: 1.06 – 3.56), lack of formal appointment for PNC (OR: 2.09, 95% CI: 1.13 – 3.87) and not having any health concerns (OR: 7.57, 95% CI: 3.02 – 18.98) significantly predict non utilization of PNC (Table 3).

Discussion

This study determined the prevalence of PNC non-utilization, its associated factors and predictors among a sample of women attending primary health centers in Osun State.

The results showed a high level of non-utilization of PNC which corroborates the pattern of poor utilization described in previous studies within the country (7,9,10) and in others

parts of Africa (4,5,8,16). This pattern of non-utilization was however lower than what was reported in northern region of Africa (17).

One potential reason for such a high level of PNC non-utilization in this current study may be linked to the fact that close to two-third of the respondents said they did not know the importance of attending the PNC clinic. Majority of those who reported lack of knowledge did not attend the PNC clinic. This factor was one of the important predictors of PNC non-utilization and it agrees with an earlier report by Olajubu et al. (10). Age was another key determinant of non-utilization among the respondents which was in line with previous studies (7,9,10). Those who were older than 30 years had higher odds of not utilizing PNC compared to the younger women. This may be indicative of the fact that the older women may feel they have sufficient experience to take care of themselves and their babies such that they have little or no need for PNC services.

Income also emerged as a predictor of non-utilization and it was not unexpected that women with lower income were more likely to report non-utilization of PNC services, this corroborates a number of previous reports (7,18). As noted by Khanal et al. (18) women with lower socio-economic status were more likely to have difficulty having access to needed healthcare services.

It is also not surprising that those who were not given a formal PNC clinic appointment had greater odds of not utilizing the services. This is an important factor that health care workers need to pay attention to, as it suggests the crucial need to ensure that women are given formal appointments before they are discharged home after delivery. However, the fact that some women give birth outside formal healthcare facilities is a limiting factor in this regard.

With respect to parity, a higher likelihood of non-utilization was demonstrated among those with lower parity, although, one would have expected that the converse would be the case. This may be a reflection of the pervasively low level of appreciation of the importance of PNC among all the respondents. This may however be an important focus of further investigation.

A woman who develops any health challenge during the post-partum period is more likely to seek medical attention. This may explain why

respondents in this study who said they had no post-partum health issues were more likely to report non-attendance at the PNC clinic compared to those who had health issues. This corroborates the findings by Kinuthia (19) who reported that women who felt they had no problem did not see the need to attend PNC services. It however differs from the finding of another previous study in which the women's health status did not predict the utilization of PNC (10).

This study was conducted in only one state in the country, therefore findings should be interpreted with caution. A community-based study might have yielded a more comprehensive information about the diversity of factors responsible for non-utilization of PNC, the opinion of women who do not utilize health facilities for any maternity care services, might be divergent from those who attend health care facilities. Also, the data were collected through self-report which may be subject to bias, moreover recall bias cannot be ruled out.

Findings from the study revealed a high level of non-utilization of PNC among the respondents, many of those who did not utilize the care service reported lack of knowledge on the importance of attending PNC clinics. Hence, there is need for nurses and midwives to increase awareness and education on the importance of PNC for both mother and the child. This should not only be directed at women but also at community leaders, religious leaders and significant others such as partners, mother-in-laws and friends who are known to influence decision making process.

Also, the study found that those who were not given a formal PNC clinic appointment had greater odds of not utilizing the services. Therefore, nurses and midwives should ensure that formal appointments are given to women for PNC. This study further showed that women with lower income were more likely to report non-utilization of PNC services. There is need for public health policies that will ensure affordability of maternal and child health care services.

Conclusion

This study specifies a high level of non-utilization of PNC services among respondents, the findings also signify the factors related to non-utilization of postnatal care services such as age greater than 30 years, lack of knowledge of

importance of PNC, lack of formal appointment for PNC and not having any health concerns. These findings indicate that proper educational intervention is required for healthcare workers and women (including their significant others) on the gravity of PNC. Also, other interventional measures based on the identified predictors may help in reducing the level of PNC non-utilization.

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Conflicts of interest

Authors declared no conflicts of interest.

References

1. World Health Organization. Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division; 2019.
2. Mon AS, Phyu MK, Thinkhamrop W, Thinkhamrop B. Utilization of full postnatal care services among rural myanmar women and its determinants: A cross-sectional study [version 1; peer review: 3 approved]. F1000Research [Internet]. 2018 [cited 2020 Sep 21];7. Available from: /pmc/articles/PMC6085599/?report=abstract
3. World Health Organization. WHO recommendations on postnatal care of the mother and newborn [Internet]. World Health Organization; 2014. Available from: <http://apps.who.int/iris/handle/10665/97603>
4. Wudineh KG, Nigusie AA, Gesese SS, Tesu AA, Beyene FY. Postnatal care service utilization and associated factors among women who gave birth in Debretabour town, North West Ethiopia: A community-based cross-sectional study 11 Medical and Health Sciences 1114 Paediatrics and Reproductive Medicine. BMC Pregnancy Childbirth. 2018; 18(1): 1-9. Available from: /pmc/articles/PMC6307219/?report=abstract
5. Kim ET, Singh K, Speizer IS, Angeles G, Weiss W. Availability of health facilities and utilization of maternal and newborn postnatal care in rural Malawi. BMC Pregnancy Childbirth. 2019; 19(1): 508. Available from: <https://doi.org/10.1186/s12884-019-2534-x>
6. Zhao P, Han X, You L, Zhao Y, Yang L, Liu Y. Maternal health services utilization and maternal mortality in China: A longitudinal study from 2009 to 2016. BMC Pregnancy Childbirth. 2020; 20(1): 220. Available from: <https://bmcpregn>

- ancychildbirth.biomedcentral.com/articles/10.1186/s12884-020-02900-4
7. Somefun OD, Ibisomi L. Determinants of postnatal care non-utilization among women in Nigeria. *BMC Research Notes*. 2016; 9(1): 21. Available from: <http://www.biomedcentral.com/1756-0500/9/21>
 8. Abebo TA, Tesfaye DJ. Postnatal care utilization and associated factors among women of reproductive age Group in Halaba Kulito Town, Southern Ethiopia. *Archives of public health*. 2018; 76(1):9.
 9. Takai IU, Dlakwa HD, Bukar M, Audu BM, Kwayabura AS. Factors responsible for under-utilization of postnatal care services in Maiduguri, north-eastern Nigeria. *Sahel Medical Journal*. 2015; 18(3):109.
 10. Olajubu AO, Olowokere AE, Ogundipe MJ, Olajubu TO. Predictors of Postnatal Care Services Utilization Among Women in Nigeria: A Facility-Based Study. *J Nurs Scholarsh*. 2019 Jul 28 [cited 2019; 51(4): 408–416. Available from: <https://onlinelibrary.wiley.com/doi/abs/10.1111/jnu.12473>
 11. Limenih MA, Endale ZM, Dachew BA. Postnatal Care Service Utilization and Associated Factors among Women Who Gave Birth in the Last 12 Months prior to the Study in Debre Markos Town, Northwestern Ethiopia: A Community-Based Cross-Sectional Study. *International Journal of Reproductive Medicine*. 2016; 2016: 1-7.
 12. Bwalya BB, Mulenga MC, Mulenga JN. Factors associated with postnatal care for newborns in Zambia: analysis of the 2013-14 Zambia demographic and health survey. *BMC Pregnancy Childbirth*. 2017; 17(1): 418. Available from: <https://link.springer.com/content/pdf/10.1186/s12884-017-1612-1.pdf>
 13. Nuamah GB, Agyei-Baffour P, Mensah KA, Boateng D, Quansah DY, Dobin D, et al. Access and utilization of maternal healthcare in a rural district in the forest belt of Ghana. *BMC pregnancy childbirth*. 2019; 19(6): 1-11. Available from: <https://doi.org/10.1186/s12884-018-2159-5>
 14. Cochran WG. *Sampling techniques*. 3rd ed. New York: John Wiley & Sons; 2007.
 15. Bursac Z, Gauss CH, Williams DK, Hosmer DW. Purposeful selection of variables in logistic regression. *Source Code for Biology and Medicine*. 2008; 3: 17. Available from: [/pmc/articles/PMC2633005/?report=abstract](http://pmc/articles/PMC2633005/?report=abstract)
 16. Tsawe M, Moto A, Netshivhera T, Ralesego L, Nyathi C, Susuman AS. Factors influencing the use of maternal healthcare services and childhood immunization in Swaziland. *International Journal for Equity*. 2015; 14(1): 32.
 17. Sanogo NA, Yaya S. Wealth Status, Health Insurance, and Maternal Health Care Utilization in Africa: Evidence from Gabon. *BioMed research international*. 2020; 2020: 4036830.
 18. Khanal V, Adhikari M, Karkee R, Gavidia T. Factors associated with the utilisation of postnatal care services among the mothers of Nepal: analysis of Nepal Demographic and Health Survey 2011. *BMC Womens Health*. 2014; 14(1):1.
 19. Kinuthia PM. Factors affecting utilization of Postnatal care services in kenya. *South American Journal of Public Health*. 2014; 2(3): 499–527. Available from: <http://www.ei-jasr.com/index.php/SAJOPH/article/viewFile/152/144>