An Analysis of Utilization of Postnatal Care Services Among Mothers in Nigeria

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Abstract:

This study examined the factors influencing postnatal health care attendance among Women in Ekiti State, Nigeria. The data used for the study was gathered by making use of structured questionnaire. Five hypotheses were formulated, chi-square and multiple linear regressions were used to analyze the data. From the result obtained, it was revealed that employment status, nature of settlement, religious belief, and place of delivery of women goes a long way in influencing their postnatal health care attendance. While educational levels of women do not influence their postnatal health care attendance. Based on the findings, it was recommended that effort to strengthen postnatal care should focus on universal coverage by addressing financial, religion, nature of settlement, place of delivery, education and cultural barriers to vulnerable groups, quality improvement to increase women’s satisfaction and carry the less privilege along and integration programmes to maximize the contact between women and health care services during and after delivery and enhance economic development.

Keywords; Post natal, maternal and morbidity

Introduction:

Around the world, it is recognized that postnatal care is crucial in maintaining and promoting the health of the women and the newborn baby, while providing an opportunity for health professionals to identify, monitor and damage health conditions that may develop in the mother and newborn during the postnatal period. In addition, postnatal care provides health professionals with the opportunity to promote exclusive breastfeeding, personal hygiene, appropriate feeding practices and family planning counseling and services. Moreover, postnatal care allows for the provision of postnatal vitamin A and Iron supplementation to the mother and immunization of newborns to provide them with optimal start to life. One of the factors that can enhance promotion of health for mothers and babies after their discharge from hospital, or at home is the
utilization of postnatal care services. Postnatal care services are provided by hospitals, private and public health centre’s, clinics and private practitioners (medical doctors and registered nurses and midwives) and offer a range of services for mothers and babies. The management of postnatal care begins in the delivery room after delivery and extends throughout the postnatal period and should be directed to achieve the following objectives; Ensuring that postnatal care is related to the needs of the individual mother and baby, promotion of an environment that is conducive for interaction between health care providers and the mothers without fear and stress, Identifying potential problems in physical and or emotional well-bearing for mother and baby as early as possible and ensuring prompt and appropriate help and treatment, ensuring good communication between all the people providing care for the mother and baby and enabling parents to become confident in the necessary skills of caring for infant by providing opportunities for learning and discussion. There is a major gap in the continuum of care due to low coverage of post natal care (PNC).

There is limited available research to identify the optimum timing and delivery approaches, and in any case, these may be situation-specific. The challenges may be considered in terms of demand and supply of services, one, increasing demand for postnatal care and two improving the supply of PNC. Postnatal care is aimed at promoting good maternal and foetal health and to identify risk factors for adverse pregnancy outcomes in an attempt to promptly manage and solve them, failure of pregnant women to attend postnatal care will result to maternal mortality and foetal death. Low attendance of postnatal care services has the chances of increasing the mordibility of women and children, thereby affecting the economic development of the country. In the absence of postnatal visits of puerperium mothers, the researcher assumes that those mothers who do not receive the necessary care, might be at risk of conditions such as Puerperal sepsis, anemia, problems in lactation management as well as umbilical cord infection, among others that could result in the ill health of the mother and the baby. Little is known about what happened to those mothers and their babies who do not attend the postnatal care clinics and about their need. This study will equip midwives and other health practitioners and also government to look at the policies and procedures to enhance the utilization of postnatal services. The study also want to explore the factors influencing the utilization of postnatal care services by women, also, to examine the existing levels of utilization of postnatal care services, factors affecting the utilization of postnatal care services and drawing recommendations on the basis of the analysis of some data on utilization of postnatal care services and finally to know if there exist any significance relationship between the factors associated with the utilization of postnatal care services among mothers

Literature Review:

According to Anderson and Newman (2005), utilization of health services can be regarded as a type of individual behaviour. In line with this, several frameworks for analyzing health services utilization were found in the literature. These include Rosen stock’s health belief model, Young’s choice-making model and Anderson’s health behavior model (Rebhan) of all these models, only the latter analyses differences in health services utilization from a socio demographic perspective. This tallies with the objectives of this study, hence, the study was conducted based on Anderson’s model. In the study conducted by Yinager and Aregawi (2014), they stated the factors affecting utilization of postnatal care services in Jabinena District, Amhara region, Ethiopia. Each year, 287,000 women die from complications related to pregnancy and childbirth and about 99 percent of these deaths occur in developing countries. The first hours, days and weeks after childbirth are a dangerous time for both the mother and newborn infant. Postnatal care prevents the great majority of maternal and child morbidity and mortality. Almost all these newborn death occur in developing countries with South Asia and Sub-Saharan Africa recording the highest rate.
Ejaz and Khalil (2013), highlighted the postpartum care utilization among Primigravida in Pakistan. Postpartum care refers to support provided to both mother and her child during six weeks after termination of delivery. About two third of all maternal mortalities occur in developing countries in the course of postpartum period (Ronsman and Graham, 2006). About 40 percent of mothers face complications in the postpartum period and probably 15 percent of them experience severe health problem,(Danguilan, 1997). Again, insufficient accessibility and non-utilization of maternal health care services are the main causes of maternal morbidity in the developing countries (Amin et.al. 1989). The Utilization of health services is associated with the cost of the services, accessibility and the quality of the services (Rower and Garcia, 2003).

According to Khanal and Gavidia (2014), their study in Nepal showed that immediately after birth, bleeding and infection pose the greatest risk to mothers’ life, while preterm birth, asphyxia and severe infections pose the greatest risk to new born. The study reported that occupation, ethnicity, household economic status and education of spouse were significantly associated with the utilization of postnatal care.

Factors Influencing the Use of Postnatal Healthcare Services:

Various studies in the literature indicate an association between factors such as income, education, ethnicity, religion, culture, age, parity and decision-making power to utilization of postnatal care services. Majority of the studies reviewed were quantitative studied seeking to identify statistical associations between these factors and postnatal use (Abbas and Walker; 1986, Elo, 1992, Adai, 2000, Celik and Hotchkiss, 2000, Chakraborty et.al. 2003, Mekonnen and Mekonnen, 2003, Idris et.al., 2006, Onah, Ikeako and Iloabachie, 2006, Babalola, 2009, Awusi, Anyanwu and Okeleke, 2009). A highlight of factors influencing utilization of postnatal care services identified are; Education of Women, Employment and Wealth Status of Women, Women’s place of residence, Religion of women, Women’s place of delivery and Parity. Others are mothers’ age, husband’s influence.

Despite the fact that the necessary endeavors were made to minimize or avoid the possible shortcomings of the study, the result should be interpreted in the light of the following unavoidable limitations. This study utilized cross sectional study design which made the findings impossible to establish causal relationship between the outcome and exposure variables. Moreover, the source of the data for this study was based on the self-report of respondents, and provided no validation of obtained information with any objective sources such as health facility cards. However, it is logical to assume that biases are less likely as respondents were well informed about the importance of giving accurate responses and also assured the confidentiality of their responses. Finally, recall bias was more likely since women were asked for events which have already happened within the past few years prior to this study despite the consideration of recent births.

Research Methodology:

Chi-Square Test ($\chi^2$) and Multiple Linear Regression was done using the statistical Package for Social Sciences (SPSS) for the Chi-Square Test. This includes determining the relationships between the independent variables (categorical variable) and the dependent variable using cross tabulation. Also, Multiple linear regression was performed to predicts the value of a dependent variable, ($Y$), given a set of explanatory variables ($X_1$, $X_2$, ..., $XP$). Using Statistical Analysis System (SAS).

Data Analysis and Interpretation:

This of the section deals with testing of statistical hypotheses and establishment of relationship between dependent and independent variables. The chi-square test which involves cross tabulation is used to examine factors affecting postnatal care attendance such as; nature of settlement women and postnatal care attendance, religion belief of women and postnatal care attendance, educational status of women and postnatal care attendance and place of delivery of women and postnatal care attendance.
and multiple linear regression was also used to predicts the dependent and independent variables.

**Table 1 Cross Tabulation showing the relationship between Nature of Settlement and Postnatal care Attendance of Respondents**

| Nature Of Settlement | Postnatal Care Attendance |
|----------------------|---------------------------|
|                      | 53 | 19 | 22 | 18 | 24 |
|                      | 31 | 47 | 25 | 44 | 50 |
|                      | 12 | 8  | 37 | 12 | 23 |
|                      | 4  | 26 | 16 | 26 | 3  |
| Total                | 100| 100| 100| 100| 100|

**Table 2 Cross Tabulation showing the relationship between Employment Status and Postnatal Attendance of Respondents**

| Employment status | Postnatal Care Attendance |
|-------------------|---------------------------|
|                   | 25 | 23 | 10 | 10 | 18 |
|                   | 52 | 59 | 39 | 49 | 51 |
|                   | 21 | 10 | 42 | 37 | 28 |
|                   | 2  | 8  | 10 | 4  | 3  |
| Total             | 100| 100| 100| 100| 100|

**Table 3 Cross Tabulation showing the relationship between Educational Status and Postnatal Care Attendance of Respondents**

| Educational status | Postnatal Care Attendance |
|--------------------|---------------------------|
|                    | 34 | 29 | 28 | 31 | 37 |
|                    | 53 | 47 | 40 | 44 | 38 |
|                    | 9  | 20 | 29 | 22 | 32 |
|                    | 4  | 4  | 3  | 3  | 3  |
| Total              | 100| 100| 100| 100| 100|

**Table 4 Cross Tabulation showing the relationship between Religion Belief and Postnatal Care Attendance of Respondents**

| Religion belief | Postnatal Care Attendance |
|-----------------|---------------------------|
|                 | 55 | 21 | 15 | 17 | 5  |
|                 | 25 | 12 | 42 | 36 | 32 |
|                 | 13 | 34 | 36 | 20 | 43 |
|                 | 7  | 33 | 7  | 27 | 20 |
| Total           | 100| 100| 100| 100| 100|

**Table 5: Cross Tabulation showing the relationship between Place of Delivery and Postnatal Care Attendance of Respondents**

| Place of Delivery | Postnatal Care Attendance |
|-------------------|---------------------------|
|                   | 28 | 39 | 22 | 40 | 14 |
|                   | 56 | 57 | 51 | 49 | 38 |
|                   | 14 | 4  | 22 | 11 | 23 |
|                   | 2  | 0  | 5  | 0  | 25 |
| Total             | 100| 100| 100| 100| 100|

**Testing of Hypotheses:**

Five hypotheses were stated for the purpose of testing and establishing the relationships between dependent variable (postnatal care attendance) and independent variable (education, employment, nature of settlement, place of delivery, and religion belief). This part will produce statistical relationship between educational levels of women and postnatal care attendance, relationship between religion belief of women and postnatal care attendance, relationship between nature of settlement of women and postnatal care attendance, relationship between employment status of women and postnatal care attendance, and relationship between place of delivery of women and postnatal
care attendance by using chi-square analysis and multiple linear regression.

The Chi-Square Analysis:

**Table 6 showing the Relationship between Nature of Settlement of Women and Postnatal Care Attendance**

| Chi-Square Test          |       |
|-------------------------|-------|
| Pearson Chi-Square value| 1.075 |
| P-value                 | 0.000 |
| Degree of Freedom       | 12    |

H₀ : There is no significant relationship between the nature of settlement of women and postnatal care attendance.

H₁: There is no significant relationship between the nature of settlement of women and postnatal care attendance.

**Conclusion:** Since P-value (0.000) for this test is less than 0.05, we reject null hypothesis which means that there is significant relationship between the nature of settlement of women and postnatal care attendance. This attributed to the fact that the nature of settlement of women goes a long way in influencing their postnatal care attendance.

**Table 7 shows the Relationship between Employment status of women and Postnatal Care Attendance.**

| Chi-Square Test          |       |
|-------------------------|-------|
| Pearson Chi-Square value| 48.455|
| P-value                 | 0.000 |
| Degree of Freedom       | 12    |

H₀: There is no significant relationship between employment status of women and postnatal care attendance.

H₁: There is a significant relationship between employment status of women and postnatal care attendance.

**Table 8 Relationship between Religion belief of women and Postnatal Care Attendance**

| Chi-Square Test          |       |
|-------------------------|-------|
| Pearson Chi-Square value| 1.323 |
| P-value                 | 0.000 |
| Degree of Freedom       | 12    |

H₀: There is no significant relationship between religion belief of women and postnatal care attendance.

H₁: There is a significant relationship between religion belief of women and postnatal care attendance.

**CONCLUSION:** Since P-value (0.000) for this test is less than 0.05, we reject a null hypothesis which means that there is a significant relationship between religion belief of women and postnatal care attendance. This attributed to the fact that the religion belief of women goes a long way in influencing their postnatal care attendance.

**Table 9 Relationship between Educational levels of women and Postnatal Care Attendance.**

| Chi-Square Test          |       |
|-------------------------|-------|
| Pearson Chi-Square value| 15.511|
| P-value                 | 0.215 |
| Degree of Freedom       | 12    |

H₀: There is no significant relationship between educational level of women and postnatal care attendance.

H₁: There is a significant relationship between educational level of women and postnatal care attendance.
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H1: There is a significant relationship between educational level of women and postnatal care attendance.

Conclusion: Since P-value (0.000) for this test is less than 0.05, we reject a null hypothesis which means that there is a significant relationship between educational level of women and postnatal care attendance. This attributed to the fact that the level of education of women does not go a long way in influencing their postnatal care attendance.

Table 10 Relationship between Place of delivery of women and Postnatal Care Attendance

|                  | Chi-Square Test |                  |
|------------------|-----------------|-----------------|
| Pearson Chi-Square value | 1.090          | P-value         | 0.000           |
| Degree of Freedom  | 12              |

H0: There is no significant relationship between place of delivery of women and postnatal care attendance.

H1: There is a significant relationship between Place of delivery of women and postnatal care attendance.

Conclusion: Since P-value (0.000) for this test is less than 0.05, we reject a null hypothesis which means that there is a significant relationship between place of delivery of women and postnatal care attendance. This attributed to the fact that the place of delivery of women goes a long way in influencing their postnatal care attendance.

Table 1.1 Multiple Linear Regression Analysis

|                  |                  |
|------------------|-----------------|
| Number of Observation Read | 20              |
| Number of Observation Used  | 20              |

Analysis of Variance

| Source          | df | Sum of Squares | Mean Square | F-Value | Pr>F |
|-----------------|----|----------------|-------------|---------|------|
| Model           | 4  | 3947.1977      | 986.7994    | 14.6    | <0.000|      |
| Error           | 5  | 1010.8022      | 8           |         |      |      |
| Corrected Total | 9  | 4958.0000      | 0           |         |      |      |

Root MSE 8.20895 R-Square 0.7961
Dependent Mean 25.00000 Adjusted R-Square 0.7418
Coefficient Variance 32.83579

Parameter Estimates

| Variable | DF | Parameter Estimates | Standard Error | t-Value | Pr>ht1 |
|----------|----|---------------------|----------------|---------|--------|
| Intercept| 1  | 3.34215             | 4.39789        | 0.76    | 0.4591 |
| X1       | 1  | 0.24492             | 0.17959        | 1.36    | 0.1982 |
| X2       | 1  | 0.20782             | 0.19547        | 1.06    | 0.3045 |
| X3       | 1  | 0.45882             | 0.14735        | 3.11    | 0.0071 |
| X4       | 1  | -0.04525            | 0.15916        | -0.28   | 0.7801 |

Hypotheses:

H0 : β = 0
H1 : β ≠ 0

Y = β0 + β1X1i + β2X2i + β3X3i + β4X4i + Ci

Y = the dependent variable
β0 = the intercept
β1, β2, β3, & β4 = are the estimated parameter
X1, X2, X3, & X4 = independent variables
Ci = The error term

Y = 3.34215 + 0.2449X1i + 0.20782X2i + 0.45882X3i – 0.0452X4i + Ci
The conclusion of the test of significance of regression parameters i.e. an increase in $X_i$ will lead to 0.29449 unit increase in $Y$, an increase in $X_2$ will lead to 0.20782 unit increase in $Y$. an increase in $X_3$ will lead to 0.45882 unit increase in $Y$, an increase in $X_4$ will lead to 0.0452 unit decrease in $Y$. This implies that employment status, nature of settlement, religion belief, and place of delivery of women goes a long way in influencing their postnatal health care attendance. While educational levels of women do not influence their postnatal health care attendance.

Discussion of Results:

The analysis and outcome of the research shows that nature of settlement, employment status, religion belief and place of delivery have a greater effect on postnatal care attendance of women. From the Chi-Square Test, this research shows that there is a significant relationship between place of delivery and postnatal care attendance. It was found out that, mothers who delivered in health institution utilized postnatal care services more likely when compared with those who do not. This result is similar to that of the Indian, demographic health survey and other developing countries. The strong positive association of postnatal care services utilization with place of delivery can be attributed to the fact that women who gave birth in health institution have greater opportunity to get exposed to health education related to postnatal care services at the time of delivery and thus get access to learn about the types, benefits and availabilities of postnatal care services during their stay in the health institutions.

Also, there is significant relationship between employment status of women and postnatal care attendance. It was found that, women who were working used more quality postnatal care services than those who were not working. For instance, (Kalmuss and Fennelly 1990) found that employed women, since they are not economically dependents on their spouse, utilized the postpartum care services more than those who were not employed. The husband’s occupation is considered important contributor in household income and has a significant influence on utilization of material health care services (Fosu, 1994). Also, the analysis shows that there is no significant relationship between the educational levels and postnatal care attendance. It was found that educational levels and postnatal care attendance. It was found that women who were educated used more postnatal care services as the same as those who were not educated. Education is considered important in infusing awareness about health problems and seeking proper health care. Women’s education may also demonstrate women’s higher socio-economic status, consequently, allowing her to seek appropriate medical care when she needed it. (Chakraborty et al., 2002).

Religion also appears to have effect on the use of postnatal care services. Women who were Christians were more likely to attend postpartum care than women who practiced Islam. This research agree with a study conducted by (Tsianakas and Liamputtong 2002) of Islamic when living in Australia, which revealed that the prospect of being given ultrasound by a male doctor rather a female caused them to cancel postnatal appointment.

The research also shows that there is significant relationship between place of residence and postnatal care attendance. It was found that, women in urban areas used more postnatal care services than those in rural areas. This is due to lack of awareness on the importance of postpartum care in rural areas. This follows in the footstep of research carried out by (Saseendram et al,2007) that women in urban areas are better informed and the urban women have access to postnatal care services.

Conclusion and Recommendation:

Postnatal care offers tremendous opportunity to reach a large number of women and communities accompanied with health promotion interventions. However inequality exists, unemployed, rural, home, less educated women as well as teenagers and Islamic women concern less about the postnatal care services, or are dropped out due to ignorance and beliefs on postnatal care services. Effort to strengthen postnatal care should focus on universal coverage by addressing financial, religions and cultural barriers to vulnerable groups, quality improvement to increase women’s satisfaction and
carry the less privilege along, and integration of programmes to maximize the contact between women and health care services during delivery. Health facility delivery and postnatal care, focusing on women residing in rural areas, unemployed, home, and less educated women is essential to increase the use of postnatal care and thereby decrease maternal and new-born morbidity and mortality, lastly, strengthening the current capacity of facilities and outreach clinics to enable the provision of postnatal care services.

Based on the findings and conclusion of this research, it worthy to make suggestions for policy formulation and implementation that will increase postnatal care attendance by women, hence reduce maternal and foetal death. On this note the government and non-government organization (NGO) should work hand in hand to increase the awareness campaign programme in order to publicize the significance of postnatal care services. It is imperative for the government at all levels to invest in family planning to change high rate of unwanted pregnancy among women and educative programmes against teenage pregnancy. Family planning should be made available for all women as this will broaden their knowledge on desired fertility. Women should be empowered financially to cater for themselves, employment opportunities should be available to reduce the level of poverty which is the present clog in the wheel of development in this part of the world.

Also, there should be adequate provision regarding postnatal care for women of reproductive age both living in rural and urban area by establishing more clinics and equipping it adequately. Postnatal care services should be free for the less privilege to benefit. This will motivate women to attend quality postnatal care whenever they are pregnant, irrespective of their social status, thereby promoting good maternal and sound health in other to identify risk factors for adverse pregnancy outcomes in an attempt to promptly manage and solve them. Also, early detection of complications and prompt treatment, e.g. detection and treatment of sexually transmitted infections, prevention of tetanus toxoid, prevention of diseases through immunization and micro-nutrient supplementation, birth preparedness and complication readiness and health promotion and diseases prevention through health messages and counseling of pregnant women. Home visits of health workers could be effective approach to increase the uptake of postnatal care services. Head of the family and other members should mandate women to attend good postnatal clinic.

This study showed that significant proportion of the mothers were not aware of postpartum obstetric danger signs. Therefore, the MOH and other health development stakeholders working in the area of maternal health should strengthen provision of information, education and communication. Moreover, as women’s education is an important factor to promote institutional delivery, policy should also focus on encouraging women to pursue education beyond the primary school level. Furthermore, women should also be encouraged to optimize their ability to make informed decisions about their own health care service utilization.

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