

## DETERMINANTS OF MATERNAL HEALTH CARE SERVICES UTILISATION AMONG RURAL WOMEN IN ABIA STATE

Onuekwusi, G. C. and Odoemelam, L. E.

Department of Rural Sociology and Extension, Michael Okpara University of Agriculture, Umudike

Correspondence contact details: gideononuekwusi@gmail.com

### ABSTRACT

Poor maternal health service delivery in Nigeria has resulted in many maternal deaths during pregnancy, childbirth or within a few weeks of delivery. This is partly due to unavailability and low utilisation of maternal health services in the country. The aim of this study was to investigate the use of maternal health care services in rural communities of Abia State. Two stage sampling technique was used to select 180 women between 18 – 49 years of age who had attended maternal health care services at the selected hospitals two months to the time of the research. A structured questionnaire, Focus Group Discussion (FGD) and participants' observation were used to collect information from the respondents. The data collected was analysed using descriptive (percentages and mean) and inferential (probit regression model) statistics. The result revealed that level of maternal health care utilisation was low with a grand mean score of ( $\bar{x} = 1.63$ ) and regression result showed that age ( $z=2.795 <0.01$ ), household size ( $z=2.505 <0.05$ ), education ( $z=3.282 <0.01$ ), employment status ( $z=0.644 <0.05$ ), distance to facility ( $z=2.705 <0.05$ ) were positive and significantly related to utilisation of maternal health care services at various levels of significance. In conclusion, the study found that utilisation of maternal health care services is affected by socioeconomic characteristics of the rural women in the study area. It is therefore recommended that interventions geared towards socioeconomic characteristics of the women to enhance utilisation of maternal health care services should be encouraged.

**Keywords:** Utilisation, rural women and maternal health care services.

### INTRODUCTION

Maternal health is defined as a state of total physical, mental and social well-being and not just non-existence of illness or infirmity in all issues that has to do with the reproductive age of women (WHO, 2013). Maternal health care services also include an extensive scope of health services mothers are given before pregnancy, during pregnancy, delivery and after delivery. Maternal health care services therefore comprise pre-natal care, child birth and post-natal care. However, in Nigeria and other parts of African societies, certain cultural practices continue to affect maternal well-being and consequently the children.

Furthermore, with peculiarity to the African societies, maternal health would include the ability to exercise reproductive rights of family planning and access to basic focused antenatal care without the encumbrance of patriarchy, financial or geographical inhibitions impacting on her overall health (Okeke, Oluwuo and Azil, 2016).

Antenatal health care is defined by the World Health Organisation as the 'care' pregnant women receive before birth and involves among other services education, screening, counselling, treatment of minor ailment, and immunisation. Antenatal care coverage is defined by Arthur (2012) as the percentage of women who use antenatal care services provided by skilled health personnel for reasons related to pregnancy, as a percentage of live-birth in a given period usually one year. The basic objective of antenatal care in Nigeria is to promote and maintain the health status of the pregnant mother. Its main purpose is only detection and management of pregnancy-related complications.

A woman's reproductive period is a very crucial period and spans several stages (Okeke *et al*, 2016). In 2015, Nigeria's estimated maternal mortality ratio was over 800 maternal deaths per 100000 live births, with approximately 58000 maternal deaths during the year (Nigerian Near-Miss and Maternal Death Survey, 2019). Nigeria is a leading contributor to the maternal death figure in Sub-Saharan Africa not only because of the hugeness of high population but also because of her high mortality rate (Aschenati, Olivia and Maryse, 2018). In Nigeria only 38.1% of women received skilled attendance at delivery, and immunisation coverage range between 43% and 16% in urban and rural areas while 25% of children are fully immunised at the age of 23 months in a country where the service has been almost free since inception. Ignorance about the factors that determine the health care choices women make for themselves and their children will lead to continuation of waste of already limited resources and increase in mortality figures (Agunwa, Obi and Aniwala, 2017). As pointed by Nwokocho (2012) different stages of the woman's reproductive lifecycle must be given due attention for a smooth pregnancy process. There are reports of inadequate utilisation of health facilities in South East rural communities of Nigeria, despite the availability of maternal and child health services. This is evidenced by the findings from the antenatal register of one of the communities (Obiagu health centre, 2015), which showed that 1,452 women registered in the health care. It was equally observed that many of them registered late for antenatal care and do not attend the postnatal clinic (Okpala, Okoye, Adeyemo, Iheanacho, Emesonwu, Osuala and Okpala, 2019).

Many factors play key role in the inadequate use of maternal health care services such as lack of information, cultural factors and educational attainment of the women especially among those residing in rural areas (Ngomane and Mulaudzi, 2010). Distance (or travelling time) to health facilities is one of the major barriers to health care use. Accessibility of maternal health care facilities and general health facilities is important in ensuring that lives are saved through the provision of essential maternal services. Access to health care services directly translates to use of these services – meaning that, if people cannot access life-saving health care services, then use of such services will be limited. Accessibility to reproductive health service is considered an essential empowerment in the fulfilment of an individual's right to health in all its form and levels. Some researchers tend to equate access with characteristics of the population (family income, insurance coverage and attitude) towards medical care, or of the delivery system others argue that access can best be evaluated through outcome indicators of individual passage through the system, such as utilisation rates or satisfaction score.

This low utilisation of maternal health care services as reported by Okpala *et al.*; (2019), informed the objectives of this study, to investigate determinants of maternal health care services utilisation among rural women in Abia State, with the following specific objectives: to describe the socioeconomic characteristics of the women; to ascertain the level of utilisation of maternal health care services by the women and to ascertain the determinants of the maternal health service utilisation in the study area.

## METHODOLOGY

The study area was Abia State, which is made up of three Senatorial Zones and 17 Local Government Areas. Two-stage sampling procedure was adopted to select respondents for the study. At the first stage, purposive sampling technique was used to select one public maternal health care facility from each of the senatorial zones in Abia state (Abia North (Ohafia General Hospital), Abia Central (Amachara General Hospital) and Abia South (Aba General Hospital) were selected. The second stage involved the selection from the eligible participants for this study who are women of child bearing age 18 – 49 years of age who had attended maternal health care services (including ante-natal care, delivery care and post-natal care services) at the selected hospitals two months to the time of the research. A mother was taken to have used a service if she had accessed the service at the health facility at least once (WHO, 2014). The time frame was set to reduce recall bias as much as possible.

### Measurement of variables

Using information from these hospitals, simple random sampling was used to select 180 participants, sixty from each hospital who met the criteria. Three doctors and 3 nurses were interviewed in each location to authenticate some of the information given by the respondents. The participants were asked a range of questions, in a structured questionnaire and Focus Group Discussion regarding their utilisation of maternal health care services. Data generated were analysed using descriptive and inferential statistics. Objective 1 was analysed using simple descriptive statistics such as frequency distribution and percentages, Objective 2 which is the level of utilisation of maternal health care services was analysed using mean scores. Their responses were rated on a 3-point Likert type scale of High utilisation = 3, moderate utilisation = 2 and low utilisation = 1. The total scores of each respondent were calculated as utilisation scores. These scores were added to obtain a value of 6 which was divided by 3 to get a benchmark of 2.0. Any utilisation with mean score > 2.0 was regarded as high utilisation, while any utilisation with mean score ≤ 2.0 was regarded as low utilisation.

To ascertain the level of maternal health care services utilisation of the respondents the following questions were asked:

1. Where did you go for ante-natal?
2. What is the frequency of your ante-natal visit? a) every week b) twice in a month c) once in two-month d) once in three months e) others
3. How many times did you attend antenatal services before delivery?
4. What services did you receive during ante-natal? a) counselling b) physical examination c) laboratory test d) drug administration
5. Where did you deliver the baby?
6. Did you receive any form of assistance during delivery?
7. How many doses of anti-tetanus toxoid did you receive before and after delivery?
8. How many times did you go to the hospital after delivery?

What services did you receive? a) immunisation for mother and child b) physical examination c) Nutrition advices d) Family planning counselling

Any positive response attracts 1 mark, otherwise 0.

Objectives 3 which is to ascertain the determinants of maternal health care utilisation was analysed using probit regression model. The analytical framework is stated below;

### Analytical framework

The participants who have attended maternal health care services in the selected hospitals may be either seen as having utilised

maternal health care or not, depending on the number of visits resulting in a binary dependent variable ( $y_i$ ). The binary dependent variable ( $y_i$ ) takes on the value of zero (0) if the number of visits to health facility in accessing maternal health care service is < than 4 times and (1) if the number of visits  $\geq$  4 times as outlined by Kearns, Hurst, Caglia and Langer (2014). The probability of observing a value of one is

$$\Pr = y_i = \frac{1}{X_1\beta_1} = 1 - F(X_1\beta_1) \dots\dots (1)$$

Where F is a cumulative distribution. It is a continuous strictly increasing function that takes a real value and returns a value which ranges from 0 + 1 consequently, the probability of observing the zeros is

$$\Pr = y_i = \frac{0}{X_1\beta_1} = 1 - F(X_1\beta_1) \dots\dots (2)$$

Given the above specification, the maximum likelihood estimation approach can be used to estimate the model. The dependent variable  $y_i$  is an unobserved latent variable that is linearly related to by the equation

$$y_i = X_1\beta_1 + u_i \dots\dots\dots (3)$$

Where  $\mu$  is a random distribution term and  $X_1$  is independent variables which influence the number of maternal health care service visits. The observed dependent variable is determined by whether  $y_i$  exceeds three or otherwise:

$$y_i = \begin{cases} 1 & \text{if } y_i > 0 \\ 0 & \text{if } y_i \leq 0 \end{cases} = 4$$

Where  $y_i^*$  is the threshold value of  $y_i$ . This study adopted the probit model to analyse the data and the empirical form is specified as:

$$y_i = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + \alpha_6 X_6 + \alpha_7 X_7 + \alpha_8 X_8 + \alpha_9 X_9 + \varepsilon$$

Where;

$Y$  = Utilisation (proxied by 4 or more visits to health care services = 1; less than 4 visits = 0) and  $X_1 - X_9$  (Independent variables)

$X_1$  = Age (measured in years)

$X_2$  = Household size (number of people living together in a household)

$X_3$  = Educational level (number of years of formal schooling)

$X_4$  = Employment status (dummy variable) Employed 1; Otherwise 0)

$X_5$  = Waiting time (minutes) in accessing the services; (<20 minutes = 1, > 20 minute = 0)

$X_6$  = Proximity (km) (dichotomous categories: > 20km = 1; < 20km = 0)

$X_7$  = Cost of utilising services (measured in Naira; affordable = 1, otherwise = 0)

$X_8$  = Knowledge of health care services Good (3), moderate (2) and low (1)

$X_9$  = Cultural factors (Refers to the choice of a woman to utilise maternal health care services or not, a 2-point Likert type scale was used to define the choice of whether to use maternal health

services or not (used 2; otherwise 1). The mean scores were used for the analysis).

$e$  = error term

- a. Utilisation of maternal care health services were measured and rated on a 3-point Likert rating scale of namely; high = 3, moderate = 2 and low = 1. The bench was obtained thus; 3+2+1 = 6 divided by 3 to give 2.0

The following decision rule was obtained

- 1.0 – 1.50 - low
- 1.51 – 1.99 - moderate
- 2.0 and above - high

- b. Antenatal care services were measured and rated based on four or more visits by respondents during pregnancy. If the four visits were accomplished by the patient, the score is 1 and otherwise 0.
- c. Skilled birth attendant was captured based on the attention given to the patient if she visits (attended 1; otherwise 0).
- d. Postnatal care for the mother and baby received from a trained Health Care Worker (HCW) within three days or more during previous pregnancy (received care 1; otherwise 0).
- e. Knowledge of health care services were measured and rated on a 3-point Likert rating scale of namely; good = 3, moderate = 2 and low = 1. The bench mark was obtained thus; 3+2+1 = divided by 3 to give 2.0
- f. Cultural factors, which is the choice of a woman to utilise maternal health services or not were measured and rated on a 2-point Likert type scale of used = 2; unused = 1. The mean score was used for the analysis.

## RESULTS AND DISCUSSION

### Distribution of respondents based on socioeconomic characteristics

Results in Table 1 indicate the socioeconomic characteristics of the respondents. From the results, the largest proportion (37.8%) of the respondents was between the ages of 25 – 30 years of age. It is the age bracket where most women of reproductive age fall under.

Non-use of health service during delivery among middle-aged (25 – 34) is higher compared to women in older age category (35<sup>+</sup>). Although it may be opined that the later comprises those whose pregnancy is considered risky as a result of their age bracket, which consequently prompts them to seek facility delivery, the former also consists of women who are at the prime of their child bearing period (Okesola and Sadia, 2013). The table further revealed the variations in educational level of the various respondents. About (34%) of the respondents had no formal education while the

remaining percent had one form of educational attainment or the other. Women's educational status retains a visible effect on maternal health services, independent of other demographic characteristics (Yaya, Bishwajit, Ekholuenetale, Shah and Udenigwe, 2018). Results on Table 1, further revealed the marital status of the respondents. About 72.2% were married, 6.7% were single, 8.9% were divorced while 7.2% were widowed. Being married or not also have some effects on utilisation of maternal care services.

According to some of the respondents, husbands and mothers-in-law often hold the decision to utilise facility-based care or not. The results on household size in the table indicated that majority of the women (47%) had a household size of between 12 and 14 in number. The implication of this result is a large mouth to feed and less money to take care of oneself during pregnancy. Women with smaller family sizes and with higher previous pregnancy experiences are more likely to seek health care from qualified medical personnel.

**Table 1: Distribution of Respondents based on Socioeconomic Characteristics**

Variables	Frequency	Percentage
<b>Age</b>		
Under 20	29	16.1
25 – 30	68	37.8
35 – 40	49	27.2
45 <sup>+</sup>	25	13.9
<b>Educational level</b>		
Non-formal	61	33.8
Primary	53	29.4
Secondary	47	26.1
Tertiary	19	10.6
<b>Marital status</b>		
Married	139	77.2
Single	12	6.7
Divorced	16	8.9
Widowed	13	7.2
<b>Household size</b>		
2 – 4	25	13.9
6 – 8	71	39.4
10 – 12	84	46.7
Total	180	100

Source: Field survey, 2019.

#### **Distribution of respondents based on utilisation of maternal health care services**

Results on Table 2, showed the level of utilisation of maternal health care services which include antenatal care (ANC), skilled birth attendance and post-natal care services (PNC). From the result, ante-natal care services received by the respondents, had a mean score of ( $\bar{x} = 1.5$ ) which is less than 2.0 which is the benchmark for decision making. The ANC is known to help augment health care during pregnancy through provision of preventive health care services. Skilled birth attendance ( $\bar{x} = 1.8$ ) is also less than 2.0. the assistance by skilled birth attendant at delivery, is

also an important aspect of maternal care. Skilled birth encompasses the presence of health professionals during delivery. According to Bililign and Mulati (2017), the presence of skilled birth attendants in the community may help to reduce maternal mortality. Postnatal services (postpartum period) which is 42 days after delivery had a mean score of ( $\bar{x} = 1.6$ ). It is reported that less than 30% of women in developing countries receive postnatal services. The grand mean score was ( $\bar{x} = 1.63$ ) which is below 2.0 indicating low utilisation of maternal health care services among the participants.

**Table 2: Distribution of Respondents based on Utilisation Maternal Health Care Services**

Statement	HU	MU	LU	Total	Mean ( $\bar{x}$ )
Antenatal care services (visits)	28(84)	34(68)	118(118)	270	1.5
Skilled birth attendance	44(132)	57(114)	79(79)	325	1.8
Postnatal care services	26(78)	55(110)	99(99)	287	1.6
Grand mean					1.63

Source: Field survey, 2019.

HU= high utilisation; MU = moderate utilisation; LU = low utilisation

### **Probit regression estimates of determinants of maternal health care services utilisation in the study area**

Result in Table 3; shows that the age of the respondents ( $z=2.795p<0.05$ ) was positive and significantly related to maternal health care services utilisation. The age of the pregnant mother affects her quest for the use of maternal health care services. This result is in line with the study carried out by Klemetti, Gissler, Sainio and Heminti (2013) which confirms that older women were more likely to use maternal care services than their younger counterparts. The reason may be due to the fact that they have gathered immense experience and knowledge on maternal health care services. But, Owilli, Muga, Chou, Hsu, Huang and Chien (2016) found a reduction in the proportion of women obtaining maternal health care services with increasing age in Kenya.

Household size ( $z=2.505p < 0.05$ ) was positive and significantly related to utilisation of maternal health care (Y). Household size is another predisposing factor believed to influence the utilisation of antenatal care. Household size is measured as the number of persons in a particular household that are dependent on the pregnant mother for their daily sustenance (Falwole and Adeoye, 2015). It is widely acknowledged that women with large family sizes tend to under-utilise maternal health care services due to the excessive demand on their money, time and other resources (Abor, Abekah-Nkrumah, Sakyi, Adjash and Abor, 2011).

Education ( $z=3.282p < 0.01$ ) was positive and significantly related to utilisation of maternal health care (Y). This result corroborates with the findings of Greenaway, Juan and David (2012) which stated that the association between maternal education and use of health services in Ghana demonstrates a strong link between mother's formal education and a composite measure of women's health knowledge in accessing and utilising health care services.

Employment status ( $z=0.644 p<0.05$ ) of the women was positive and significantly related to utilisation of maternal health care (Y). In their study on the socioeconomic determinants of maternal health care utilisation in seven countries, Sad-Haddad, Dejong and Terrere (2016) revealed that household wealth significantly influenced the facility type for accessing maternal care. So, if the women were not formally employed, the decision and choice of healthcare use depends on who is sponsoring the bills.

Proximity (km) ( $z=2.705p<0.05$ ) was positive and significantly related to utilisation of maternal health care (Y). Okeke *et al*; (2016) in their studies noted that health care centres are often located further away from larger number of residents. In order to receive adequate health care services, rural women need to travel long distance before accessing services, which is enough to discourage them.

Cost of utilising services ( $z=-3.983 p<0.01$ ) was negative but significantly related to utilisation of maternal health care (Y). This against *aprior* expectations according to (Nuamah, Agyei-Baffour, Akohene, Boateng, Dobin and Addai-Donkor, (2016), there was positive relationship between income and utilisation of health care services. It has been argued that women from poor families or with limited financial resources may have difficulties paying the cost of health care (Numah, *et, al*;(2016). Women from household with higher economic status have the power to afford health care services while those with low economic status shy away from such services.

Waiting time (hours) ( $z=5.853 p<0.01$ ) was positive and significantly related to utilisation of maternal health care (Y). According to some of the women, it takes them a very long time to wait in queues before being assisted by health care personnel who are often disrespectful and show a non-caring attitude.

Cultural factors ( $z=5.027 p<0.01$ ) was positive and significantly related to utilisation of maternal health care (Y) at 5% level of probability. Culture is an important concept that influences the way people live as well as their belief system. For instance, there are some women that believe in utilising traditional birth attendants rather than seeking professionals due to their cultural beliefs, those women opt for home delivery assisted by traditional birth attendants rather than going to health centres in their community.

Knowledge on health care services ( $z=5.043 p<0.01$ ) was positive and significantly related to utilisation of maternal health care (Y). The implication of the result is that when women have full knowledge about maternal health services and considered it useful, they could easily access the services and put into use but if they don't have full knowledge about the services they feel reluctant to utilise the services. Pregnant women's knowledge about the need for maternal health care visits increases health care service, resulting in improved birth outcomes (Aiga, Hguyen, Hguyen, Hguyen, Hguyen, 2015).

**Table 3: Probit Regression Estimates of Determinant of Access and Utilisation of Maternal Health Care Services in the Study Area.**

Parameters	Estimate	Standard error	Z-value
Age	-0.012	0.007	2.795**
Household size	0.000	0.000	2.505**
Education	0.005	0.16	3.282***
Employment status	0.0644	0.0255	0.644**
Proximity	0.040	0.023	2.705**
Cost of utilising services	-0.017	0.008	-3.983***
Waiting time	0.000	0.000	5.853***
Cultural factors`	0.000	0.000	5.027***
Knowledge of health care services	405.617***	-	5.043***
Intercept	2.546	0.363	7.012***
Pearson Goodness of fit	343.271		

Probit model: Probit (P) = Intercept + BX

Sources: Field survey, 2018

\*\*\* = significant at 1%

\*\* = significant at 5%

\* = significant at 10%

## CONCLUSION

The study examined the utilisation of maternal healthcare services in Abia state, Nigeria. Major findings of the study revealed that most of the women were married, with majority having a house hold size of 10 – 12 people. The result further revealed that some of the respondents (33.8%) had no formal education while the rest had one form of education or the other. On level of utilisation of specific maternal health care services such antenatal care had a mean score of ( $\bar{x} = 1.5$ ), skilled birth attendance ( $\bar{x} = 1.8$ ) and postnatal services ( $\bar{x} = 1.6$ ) were low. On determinants of maternal health care services the result revealed that age ( $z=2.795$   $p<0.05$ ), education ( $z=3.282$   $p<0.01$ ), employment status ( $z=0.644$   $p<0.05$ ), household size ( $z=2.505$   $p<0.05$ ), proximity ( $z=2.705$   $p<0.05$ ), time spent in waiting to be attended to (hours) ( $z=5.853$   $p<0.01$ ), Cost of utilising services ( $z= -3.983$   $p<0.01$ ), cultural factors ( $z=5.027$   $p<0.01$ ) and knowledge of health services ( $z=5.043$   $p<0.01$ ) affects utilisation of maternal health services.

## RECOMMENDATION

Based on the findings of this study, the paper recommends the need to increase the knowledge of the women on the need to utilise maternal health care services. There is need for Abia State Ministry of Health to engage the media in promoting maternal healthcare services as well as relevant educational programmes that will raise the awareness of vital health care services among the rural women. Such efforts with result in change in behavior towards increasing their patronage of the health care facilities. Furthermore, the State Ministry of Health should strategise ways of bringing maternal health care services closer to the mothers as well as making them very affordable to the rural women.

## REFERENCES

- Abor P. A, Abekah-Nkrumah, G., Sakyi, K., Adjash, C. K. D. and Abor, J. (2011), The Socioeconomic Determinants of Maternal Health Care Utilisation in Ghana, *International Journal of Social Economics*, vol.38, no. 77, pp. 628 – 648.
- Agunwa, C. C., Obi, I. E. and Aniwala, E.C. (2017). Determinants of Maternal and child health service utilisation in a rural community of Southeast Nigeria.
- Aiga, H., Hguyen, V. D, Nguyen, C. D., Nguyen, T. T. T. and Nguyen, L. T. P. (2015). Knowledge, Attitude and Practices: Assessing Maternal and Child Health Care hand book Intervention in Vietnam. BMC public (internet) 2015 Dec. 9 [cited 2018 Nov. 18], 16(1):129. Available from: <http://www.biomedicalcentral.com/1471-2458/16/129>.
- Ameh, C., Msuya, S., Hofman, J., Raven, I. and Matthew, M. (2012), Status of Emergency Obstetrics Care in Six Developing Countries Five years before the Millennium Development Goals Target for Maternal and New born Health. BMC Health Services research 17(715)
- Arthur, E. (2012). Wealth and Antenatal Care Use: Implications for Maternal Health Care Utilisation in Ghana. *Health Economics Review* 2(14).
- Aschenati, Z. K, Olivia, T. and Maryse, C. K. (2018). Exploring Barriers to the Use of Formal Maternal Health Services and Priority Areas for Action in Sidama Zone.
- Bililign, N. and Mulati, T. (2017). Knowledge of Obstetric Danger Signs and Associated Factors among Reproductive Age Women in Raya Kobo District of Ethiopia: A

- Community based Cross-sectional Study, *BMC pregnancy Childbirth*, 17(1):70
- Falowe, I. O and Adeoye I. A (2015). Women's Status within the Household as a Determinant of Maternal Health Care Use in Nigeria, *Africa Health Sciences* Vol. 15, no. 1, pp. 217 – 225.
- Greenaway, E. S., Juan, L. and David, P. B. (2012). Understanding the Association Between Maternal Education and Use of Health Services in Ghana: Exploring the Role of Health Knowledge. Cambridge University Press: 01
- Kearns, A., Hurst, T., Caglia, J. and Langer, A. (2014). Focused Antenatal Care in Tanzania: Delivering Individualized, Targeted, High quality care, Women and Health Initiative: Maternal Health Task Force.
- Klemetti, R., Gissler, M., Sainio, S. and Heminti, E. (2013). Associations of Maternal Age with Maternal Care and Use and Birth Outcome in Primiparous Women: A Comparison of Results in 1991 and 2008 in Finland. *An International Journal of Obstetrics and Gynecology* vol. 121 issue 3.
- Ngomane, S. and Mulaudzi, F. M. (2010). Indigenous Beliefs and Practices that Influence the Delayed Attendance of Antenatal Clinics by Women in the Bohlabele District in Limpopo, South Africa, *Pus Med*. 1 – 9.
- Nigeria's Near-Miss and Maternal Death Survey (2019). *Maternal Health in Nigeria: Generating Information for Action*, An International Journal of Obstetrics and Gynecology
- Nuamah, G. B., Agyei-Baffour P, Akohene, K. M., Boateng, D., Dobin, D. and Addai-Donkor, K. (2016). Incentives to yield to obstetric referrals in deprived areas of Amansie west district in the Ashanti region, Ghana. *Int. J. Equity, Health* [Internet]. 2016;15(1):117. Available from: <http://equityhealth.biomedcentral.com/articles/10.1186/s12939-016-0408-7>
- Nwokocha, E. E. (2012). Maternal Crisis and the Role of African Men; The Case of Nigerian Community. *African Journal of Population Studies* 22(1).
- Okeke, E. C., Oluwuo, S. O. and Azil, E. I. (2016). Women's Perception of Males Involvement in Maternal Healthcare in Rivers State, Nigeria. *International Journal of Health and Psychology Research* (1): 19 – 21.
- Okpala, P. U, Okoye, C. L., Adeyemo, I. O., Iheanacho, P. N., Emesonwu, A. C., Osuala, E. O. and Okpala, I. G. (2019). Utilisation of Maternal and Child Health Services in Enugu, South East, Nigeria. *International Journal of Community Medicine and Public Health*. (ISSN 2394 – 6032/e ISSN2349 – 6040) <http://www.ijcmph.com>
- Owili, P. O., Muga, M. A., Chou, Y. J., Hsu, Y. H. E., Huang, N. and Chien, L. Y. (2016). Family Structure Types and Adequate Utilisation of Ante-natal Care in Kenya. *Family and Community Health*. 39(3): 188 – 198.
- Saad-Haddad, G. J., Dejong, N. and Terrere (2016). Patterns and Determinants of Use of Reproductive Health Services in Ghana. *Health Economics Review (HER)*. 6(1): 1-15.
- United Nations' Children's Fund (UNICEF), *The State of the World's Children Statistical Tables*, 8: Women, New York.
- World Health Organisation (2014), *Making Pregnancies Safer: The Critical Role of Skilled Attendant*. Joint Statement by WHO, ICM and FIGO, Geneva: WHO, 2014.
- World Health Organisation (WHO, 2013), *Health in the Post 2015 Development Agenda*. Report by the Secretariat Sixty-six World Health Assembly Provision Agenda Item 14. A 66/471: 1 – 4
- World Health Organisation (WHO) (2013). *Maternal mortality estimates developed by WHO, UNFPA and the World Bank*.
- Yaya, S., Bishwajit, G., Ekholuenetale, M., Shah, V. B. and Udenigwe, O. (2018). Factors Associated with Maternal Utilisation of Facilities for Delivery in Ethiopia. *International Health*, 10(4): 310 – 7