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Full Length Research Paper

Factors Associated with the Utilization of Maternal Health Services Amongst Adult Women of Child-Bearing Age in South-Western Nigeria.

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Maternal health is the health of women during pregnancy, childbirth and the postpartum period. It encompasses the health care dimensions of family planning, preconception, prenatal and postnatal care in order to reduce maternal morbidity and mortality. The maternal mortality rate in Nigeria is 630 deaths per thousand live births and Nigeria ranks 10th position in the world record of health indicators of maternal mortality. Studies suggested that the majority of maternal deaths can be prevented or reduced if women had access to, or visited maternal health services during pregnancy, childbirth and the first month after delivery. Therefore, this study aims to contribute to providing a better understanding to explain the perception of women on utilization of maternal health services and the subsequent health outcomes. **Materials and Methods.** A cross-sectional descriptive survey of 462 women of child bearing age (women between the ages of 18-45 years old) was carried out in Sagamu, a town in Ogun state, South-Western Nigeria. Respondents must have delivered a child at least once. Data was collected via semi-structured, interviewer and self-administered questionnaires. The data was analyzed using IBM's Statistical Package for Social Sciences version 20. Results, While 50.4% of the respondents preferred to use Private clinics for their Antenatal care, 55.4% had their most recent deliveries at Private clinics. 24% of the respondents cited long waiting periods as their reason for not using Government hospitals. 79.9% of the respondents received postnatal care. The age of the mother ($p=0.004$), religion ($p=0.018$) and educational level ($p=0.0001$) were found to be significantly associated with the type of facility she prefers to use for antenatal care. The employment level ($p=0.583$), however, had no relationship with the mother's choice of facility for ANC. Similarly, the age of the mother ($p=0.001$) and highest educational level ($p=0.001$) were found, to be significantly associated with the type of facility she last delivered in. The employment level ($p=0.086$) and religion ($p=0.150$) however, had no relationship with the mother's choice of facility for ANC. Reports of complications resulting from child-bearing was low as just 10.6% of the respondents complained of complications. **Conclusion.** This study revealed a high level of utilization of maternal health services. It was observed that factors like age, highest educational level and religion significantly affected the utilization of maternal health services. Employment status, however, had no bearing on the choice of facilities used for antenatal care and for delivery.

Keywords: Maternal Health, Pregnancy, Antenatal Care, Postnatal care

BACKGROUND TO THE STUDY

It is a normal human function to reproduce. In fact, the human population would have been wiped out thousands of years ago if we lost the ability to reproduce. Having established the need to reproduce, we are also aware that it is the females that are saddled with the major responsibility when it comes to reproduction. Therefore, the health of the woman, especially during pregnancy, becomes very important if we want to preserve our species.

Maternal health is the health of women during pregnancy, childbirth and the postpartum period. It encompasses the health care dimensions of family planning, preconception, prenatal and postnatal care in order to reduce maternal morbidity and mortality. Maternal health is a crucial indicator of the quality of health care in any country. This is because maternity is the greatest single factor in high maternal mortality in developing areas. (Ugal et al., 2009).

Burden of Maternal-Related Morbidities and Mortalities

The maternal mortality rate in Nigeria is 630 deaths per thousand live births and Nigeria ranks 10th position in the world record of health indicators of maternal mortality which is far behind our neighboring developing country, Ghana and Benin with 350 deaths per 1000 live birth each; with marked variation in maternal mortality ratio between the six geo-political zones and between urban and rural areas. (CIA 2012).

With an estimated 52,000 annual deaths, Nigeria accounts for about 10% of all maternal deaths, globally, and has the second highest mortality rate in the world, after India. It is also reported that, for every woman that dies from pregnancy-related causes, 20 to 30 more will develop short- and long-term damage to their reproductive organs resulting in disabilities such as obstetric fistula, pelvic inflammatory disease, a ruptured uterus, etc. (WHO 2007; Shiffman and Okonofua 2007).

The high maternal mortality rates in some areas of the world reflects the disparity in access to quality health services. Access and utilization of health facilities by the public is determined largely by availability of health facilities, location and perception of the significance of health. The choice of health facility is dictated by economic factors or influenced by significant others, in a situation whereby the cost of obtaining health services from a particular institution is unaffordable, some resort to self-medication by patronizing hawkers of both herbal preparations and modern pharmaceutical drugs on streets or in transport vehicles. This attitude has serious threat to

reproduction which determines the continuity of the society. Unfortunately, this gloomy picture of poor maternal health among women of child-bearing age is common among many countries of the third world. The implication here is that the life expectancy of child-bearing women is reduced due to maternal mortality. It is estimated that 37,000 maternal deaths occurred in Nigeria alone in 1999. (Ugal et al., 2002; WHO, UNICEF, UNFPA, WB 2012). A more recent estimate showed that over 52,000 women died of pregnancy related complications in 2007 in Nigeria. (Dada 2008).

Despite the introduction of modern facilities, available statistics show that the majority of children are born by Traditional Birth Attendants (TBAs) in rural areas of Nigeria. In Nigeria, a majority of Nigerians live in rural areas where health facilities are often in short supply. Since women must be assisted before pregnancy, during pregnancy and after pregnancy, it is therefore necessary that some care must be given and in this case, it is the Traditional Birth Attendants (TBAs). They (TBAs) are non-professionals (in the strictest sense) who assist women during pregnancy and deliveries and in some cases advocate some form of family planning. The practice of Traditional Birth Attendant in the rural context cannot be under-rated; this is because the knowledge and practice of Traditional Birth Attendants in the improvement of maternal health is crucial and important. Besides, Traditional Birth Attendants remains one of the most utilized health resources in rural areas of Nigeria. This is also because there are still people who would not for cultural and ethnographic reasons go to the maternity wards in modern hospitals to have their babies. They would prefer to have them with the assistance of a Traditional Birth Attendant. (Ugal et al., 2002).

JUSTIFICATION OF STUDY

Despite the existence of national programs for improving maternal and child health in Nigeria, maternal mortality and morbidity continue to be high and studies suggested that the majority of maternal deaths can be prevented or reduced if women had access to, or visited maternal health services during pregnancy, childbirth and the first month after delivery. (Adamu 2011).

Therefore, this present study aims to contribute to providing database for women to explain their perception on utilization of maternal health services and the subsequent health outcomes.

OBJECTIVES

General:

To assess the factors associated with the utilization of maternal health services among women of reproductive age group in Aiyegbami community of Sagamu.

Specific:

- To determine the quality of maternal health services received among women of reproductive age group in Aiyegbami, Sagamu.
- To determine the attitude of women to the known maternal services in Aiyegbami, Sagamu.
- To determine the factors associated with the choice of maternal health services among women in Aiyegbami, Sagamu.

Definition of Terms

- **Maternal Mortality or Maternal Death:** The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.
- **Maternal Morbidity:** is defined as chronic and persistent ill-health occurring as a consequence of complications of pregnancy and childbirth
- **Postnatal Care:** healthcare provided following childbirth to both mother and infant.
- **Skilled Birth Attendance:** the process by which a woman is provided with adequate care during labour, delivery and the early postpartum period
- **Skilled Birth Attendant:** an accredited health professional – such as a midwife, doctor or nurse – who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns.

LITERATURE REVIEW

The World Health Organization defines Maternal health as the health of women during pregnancy, childbirth and the postpartum period. It encompasses the health care dimensions of family planning, preconception, prenatal, antenatal and postnatal care in order to reduce maternal morbidity and mortality. Four elements are essential to maternal death prevention:

- First, prenatal care. It is recommended that expectant mothers receive at least four antenatal visits to check and monitor the health of mother and fetus.
- Second, skilled birth attendance with emergency backup such as doctors, nurses and midwives who have

the skills to manage normal deliveries and recognize the onset of complications.

- Third, emergency obstetric care to address the major causes of maternal death which are hemorrhage, sepsis, unsafe abortion, hypertensive disorders and obstructed labor.
- Lastly, postnatal care which is the six weeks following delivery. During this time bleeding, sepsis and hypertensive disorders can occur and newborns are extremely vulnerable in the immediate aftermath of birth.

Components of Maternal Health Care Services

1. Antenatal care (ANC): Focused Antenatal Care has been found to offer the opportunity for early detection and timely treatment of diseases which improves maternal outcomes. For example, detection and treatment of high blood pressure, to prevent eclampsia, has been found to greatly reduce mortality. (McCaw-Binns et al., 2004). Similarly, improved maternal outcomes have been recorded through the detection and treatment of anaemia. (Reynolds et al., 2006).

The importance of Antenatal Care is, therefore, found in its role of early identification of complications; and also for providing information on danger signs and how to handle them. Opportunities for preventive health services, such as prophylactic treatment of malaria and immunization against neonatal tetanus (Babalola and Fatusi 2009), are also provided through Antenatal Care. Antenatal care also makes it possible to screen for sexually transmitted diseases such as Human Immunodeficiency Virus infection, which is known to have taken its toll in much of the developing world. Counselling and education of pregnant women about their own health and that of their children is also an opportunity that can be incorporated into Antenatal Care.

The WHO recommends a minimum of four Antenatal Care visits for every pregnant woman. A greater number of visits, though not beneficial for low risk pregnancies, are recommended for women with higher risks of obstetric complications. However, the capability of Antenatal Care in improving Maternal Health outcomes is greatly reduced in the absence of a viable health and referral system where women can receive emergency obstetric care when needed. (Adamu 2011).

2. Skilled Birth Attendance: Skilled birth attendance is a term which encompasses the presence of professionals (midwives, doctors, nurses, etc.) during delivery and also an enabling environment where the equipment, drugs and other supplies required for effective and efficient management of obstetric complications are available. (UNFPA, WP 2005). Skilled birth attendants (SBA) are trained to recognize the signs of complications early enough to intervene and manage the situation or make quick referrals to higher levels of care. Available

evidence suggests that the presence of Skilled birth attendants during delivery dramatically reduces maternal mortality. This is illustrated by historical evidence from industrialized countries where maternal mortality was reduced by half following the introduction of professional midwifery care at birth, in the early 20th century. Improved access to hospitals after the Second World War further reduced maternal death rates, subsequently resulting in the impressive low levels currently recorded. (UNFPA, WP 2005).

Skilled attendance during delivery can only be provided in the presence of functioning health systems which include adequately trained and motivated workers, well equipped facilities, transportation and rapid referral systems. These are nonexistent in the health systems of developing countries, like Nigeria, which are grossly under-funded.

The presence of Skilled birth attendants at all births is regarded as, probably, the single most critical intervention for reducing pregnancy-related deaths and disabilities. (UNFPA, WP 2005). For this reason, the proportion of births attended by a skilled health professional is currently being used as one of the indicators for monitoring progress in the achievement of Millennium Development Goals G-5. (Adamu 2011).

3. Postnatal Care (PNC): The postnatal period is the time from immediately after birth up to 40 days. It is important for mothers to receive care at this time as it has been recorded that more than 60% of maternal deaths take place during the postnatal period. The death of a mother further exposes her newborn child to high risks of morbidity and mortality. Thus, receiving Postnatal Care can make the difference between life and death for both mother and child. In developing countries, the most common causes of maternal deaths during the postpartum period are hemorrhage, infections and hypertensive disorders. (Adamu 2011).

Technically, all of these conditions are treatable. Through examination of the mother after childbirth, Postnatal Care can identify these conditions and any other life-threatening or debilitating conditions that may require urgent medical attention.

Several other important services and information can be provided during Postnatal Care. These include family planning services where information about child spacing and techniques to avoid unwanted pregnancies can be given. Other services and information, such as maternal and child nutrition, immunization, hygiene and sanitation, prevention of infections including Human Immunodeficiency Virus and other Sexually Transmitted Infections (USAID 2009); can all be provided during Postnatal Care. However, though the importance of these services are well known and are sometimes available in clinics, it is reported that less than 30% of women in developing countries access or receive care or medical follow-up in the period immediately following childbirth.

Factors Influencing Use of Maternal Health Care Services

Past literature suggests that the use of Maternal Health Services in developing countries can be influenced by factors such as the socio-demographic characteristics (SDC) of women; culture; and availability and accessibility of the 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 Maternal Health Care Services.

Age

Mother's age at birth plays an important role in utilization of Maternal Health Care Services, though the direction of the effect is often contradictory. (Bhattacharjee et al., 2013). However, age is highly correlated with parity and when controlled for, the apparent advantage of younger women disappears, and older women are found to be more likely to seek Maternal Health Care Services. (Elo 1992; Reynolds et al., 2006; Adamu 2011).

Possible explanations for higher use of Maternal Health Care Services by older women could include the fact that women in this cohort are generally more experienced and knowledgeable about healthcare services and their use which may improve utilization. Older women may also be more confident and have higher household decision-making power than younger women, particularly adolescents (Reynolds et al., 2006), which will improve their likelihood of health service use.

Education

Research in developing countries has consistently shown maternal schooling to be strongly and positively associated with utilization of Maternal Health Care Services. (Elo 1992; Nigussie et al., 2004; Fotso et al., 2009; Kamal 2009).

The higher a women's level of education the more likely she is to utilize Maternal Health Care Services. Some studies have suggested that more educated women are better able to comprehend the importance of receiving prenatal care and are also more likely to know where to get it. (Obermeyer and Potter 1991; Raghupathy 1996).

Some researchers, however, question the strong independent effects of education on Maternal Health Care Services utilization. They argue that other factors such as childhood place of residence, husband's educational level, socioeconomic environment, etc., interact to dilute this strong association. (Raghupathy 1996; Gage and Calixte 2006).

Employment

The context within which women are employed influences their access to Maternal Health Care Services. It is generally assumed that women who are working and earning money will have better autonomy and the financial ability to pay for services.

Moreover, in many settings women have no control over their own earnings (Adamu 2011) and many working women do not earn money for the work they do. Additionally, employment may be poverty-induced suggesting resource constraint.

Few studies also indicate that women engaged in low cadre occupations e.g. farming are less likely to utilize Maternal Health Care Services (Obermeyer and Potter 1991).

Family Wealth Index (FWI)

It is well recognized that increased income positively affects utilization of healthcare services. (Elo 1992; Chakraborty et al., 2003). The costs of seeking healthcare may include costs for transportation, user fees (official and/or unofficial), medications and other supplies. Women from poor families or those with limited financial resources may have difficulty paying for such costs and are likely to be deterred from using Maternal Health Care Services (Gabrysch and Campbell 2009). This much was illustrated by Thaddeus and Maine, 1994 (Gabrysch and Campbell 2009), when they noted that hospital births drastically declined in Nigeria following the introduction of user fees in the 1980s.

Studies also indicate that women whose husbands have higher status occupations are more likely to use Maternal Health Care Services. This is because such occupations are usually associated with greater wealth, making it easier to bear the costs of healthcare. However, various other studies have shown that women are less likely to utilize Maternal Health Care Services when they do not have personal control over finances (Gage and Calixte 2006; Defo 1997), suggesting that an interaction between autonomy and family wealth produces health services utilization.

Overall, women are more likely to use health services as their economic status and autonomy level increase. (Adamu 2011; Fotso et al., 2009).

Place of Residence

The location and quality of services available are also important factors affecting Maternal Health Care Services utilization. Proximity to a health facility has been found to affect the use of Maternal Health Care Services especially in rural areas (Chakraborty et al., 2003), as these facilities are usually located at long distances.

For many, lack of transportation and/or considerations of the cost of transportation serve as mitigating factors to healthcare seeking. For others, the low quality of services and anticipation of poor behavior from health staff may be the mitigating factor/s (Njoku 2014).

As this work was carried out in a semi-urban area, the place of residence was not considered in the data collection.

Religion

Studies indicate that religion is negatively associated with the use of some Maternal Health Care Services but shows no significant difference for others. A lower propensity for the use of Skilled Birth Attendants and Postnatal Care was found in women in northern Nigeria, who are predominantly Muslim, compared to those in the southern part of the country who are mostly of the Christian faith.

The impact of religion in determining Maternal Health Care Services utilization lies in the fact that it plays a significant role in shaping beliefs, norms and values including those that relate to childbirth and health services use. For example, it is argued that Islamic injunctions which encourage male domination constrain women's power and autonomy which could limit the ability to make important decisions and also restrict movement. (Ghuman 2003). This could prevent women from attending antenatal clinics and could cause delays in seeking medical attention in the event of complications developing.

Utilization of Maternal Health Services

Utilization of maternal health facilities by women of child bearing age has direct bearing on maternal and infant morbidity and mortality. This feature is noticeable in most third world countries including Nigeria. The high rate of maternal morbidity and mortality therefore indicates that majority of Nigerian women do not have good maternal health as captured by the United Nations. For women to have good maternal health there must be availability and accessibility of modern maternal health facilities to these women. This is because it has been indicated that despite the introduction of modern health facilities, studies have shown that majority of children in developing areas are born by Traditional Birth Attendants (TBAs). These are untrained midwives who often do not refer complications to appropriate quarters and as a result, several women and children are subjected to preventable deaths (Ugal et al., 2002).

METHODS AND MATERIALS

This section contains a brief history of the study area and the methodology that was used for the study. The

methodology described the process and procedure used in carrying out the research study.

A Brief Background of the Study Area

Sagamu Local Government Area was under the former political administration network of Remo division of the defunct Western Region of Nigeria. The geographical entity called Remo zone became divisible on the 23rd September, 1991 when the Federal Military Government of Nigeria Created More Local Government Areas. This led to the creation of two Local Government Areas from the then Remo Local Government Area namely: Ikenne and Sagamu Local Government. Long before this, Sagamu Township stood at the apex of political, cultural and economic activities and for a very long time to come, Sagamu will remain as a very important settlement in rendering of higher order service to newly created local governments.

The present Sagamu Local Government Area includes the territory of the older divisions of Offin, Makun and Ode-Lemo local councils. It is bounded in the east by Ikenne Local Government Area, in the north by Remo North Local Government Area, in the west and south by Obafemi Owode local Government Area in Ogun state and Ikorodu Local Government Area in Lagos state.

The Local Government Area is peopled by all tribes in Nigeria though Remo dialect of Yoruba language is the main local language. The Sabo area of Offin, Sagamu, can be mistaken for any northern town for language, culture and setting. The main occupation of the people is farming while few engage in, industrialization and civil service job.

The Sagamu Local Government Area has the largest kolanut market in Nigeria. This is an indicator of the fact that majority of the people are kola-nut farmers.

Sagamu Local Government Area, in its geographical and political administrative extension, spans a total area of 68.3 square kilometers. The climatic pattern of the Sagamu Local Government Area is a subset of the humid tropical region, characterized by relative high temperature, apparent absence of cold session, low pressure and high relative humidity.

As at 2006 population census, Sagamu local government area has a total population figure of about 253,421 people.

For administrative and political convenience, Sagamu local government is divided into 15 wards namely: Oko, Epe<unla I, Oko, Epe & ltunla II, Aiyegbami/Ijoku, Sabo I, Sabo II, Itunsoku/Oyebajo, Ijagba, Latawa, Ode-Lemo, Ogiyo/Ikosi, Surulere, Isote, Simawa, Agbowa and Ivido/ltunAlara (Oyediji 2013).

RESEARCH DESIGN

The research design adopted was a descriptive survey. Descriptive survey collects and uses the data

systematically from a given population to describe certain characteristics of that population.

STUDY POPULATION

The target population for this study was made up of adult females of child-bearing age living or working in Sagamu Local Government Area.

INCLUSION CRITERIA

Respondents must be female and have delivered a child at least once

STUDY DESIGN

A cross-sectional descriptive (quantitative) study on adult women of child bearing age (women between the ages of 18-45 years old) was carried out. Analysis of primary health data on utilization of four types of Maternal Health Services and five selected variables was carried out. The four types of services – Antenatal Care, place of delivery, assistance during delivery and Postnatal Care – served as dependent variables; while mother's age, education level, religion, employment and respondent's monthly income represented independent variables.

SAMPLE SIZE

A minimum sample size of 385 women was obtained using the Leslie-Kish formula and $p= 0.5$. After correcting for No Responses, the Calculated Sample Size was 462 women.

SAMPLING TECHNIQUE

Systematic Random Sampling Technique was used as the sampling technique

RESEARCH INSTRUMENT

The respondents were directly interviewed using questionnaires designed according to the general and specific objectives of this research. Explanations were made before administering, and the respondents who were literate were guided on how to fill the questionnaires.

VALIDITY AND RELIABILITY OF THE INSTRUMENT

To test the validity and reliability of a study, it is through the instrument used to obtain data for the study. A pretest of the questionnaire was done in Abeokuta a town in Ogun state with a similar population of study.

METHOD OF DATA COLLECTION

Questionnaires were used to generate quantitative data for the study. They were self-administered. The respondents were adequately briefed on the content of the questionnaire before distribution and interview guide before administration. This was done to ensure good data output. The questionnaire was semi-structured and was developed in English. In some cases, it was translated to Yoruba Language and then back-translated to English.

Each questionnaire had 2 sections (labeled A-B) namely;

Section A: SOCIO-DEMOGRAPHIC DATA

Section B: QUESTIONS ON UTILIZATION OF MATERNAL HEALTH SERVICES

ETHICAL CONSIDERATION

Ethical approval was obtained from the Department of Community Medicine and Primary Care, Olabisi Onabanjo University. Also, an informed verbal consent was obtained from the respondents after they had been fully counseled about the study. Participant confidentiality was also ensured.

METHOD OF DATA ANALYSIS

A data set that served to answer the research question was created following the extraction of relevant data from various sources.

The imputation was done using Statistical Package for Social Sciences (version 20.0) software. This was followed by collation of the data into sets to reflect utilization of the selected Maternal Health Care Services based on the background characteristics chosen.

Chi-square test was used for categorical variables as appropriate. Level of statistical significance was set at $p=0.05$

PROBLEMS ENCOUNTERED

Conducting a study like this is associated with some issues or limitations. It is important to state these issues/limitations and how they were overcome as a guide for researchers conducting related future study in the area. Thus, the following were encountered in the course of conducting this study:

1. There was the problem of inability of most women to understand the items and instructions in the questionnaire and how to respond to them.

2. Another major problem encountered was the poor attitude displayed by women towards responding to the questionnaire.

RESULTS, DATA PRESENTATION AND ANALYSIS

This section deals with the statistical presentation and analysis of quantitative data collected in the field to achieve the stated objectives and research questions in chapter one of the study. It contains the socio-demographic characteristics of the respondents, responses on issues based on the research topic and the test of the hypothesis formulated for the study. Furthermore, the section presents the discussion of major findings.

A total of 400 questionnaires were administered.

SOCIODEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS.

This section of the study deals with the demographic characteristics of the respondents.

TABLE 1: SOCIODEMOGRAPHIC VARIABLES OF THE RESPONDENTS

Table 1 is on the demographic variables of the respondents that participated in the study. The table indicated that the majority (33.3%) of respondents were between the ages of 31-35 and 22.9% aged between 36-40. This table also shows that 84% of respondents were Christians, 64.3% had attained tertiary education, 90.9% were married, 85.3% were of the Yoruba tribe and 94.8% were employed in one way or the other.

The Mean age was 34.56 and the Standard Deviation was calculated at 5.643.

RESPONSES ON ISSUES RAISED ON THE RESEARCH TOPIC

This section of the study contains data on the respondents' responses on issues raised on the research topic

UTILIZATION OF MATERNAL HEALTH SERVICES.

TABLE 2: TABLE SHOWING DEPENDENT VARIABLES

From the table, 47.2% said they visited a Government Clinic/Hospital while 50.4% made use of Private Clinics/Hospitals. However, 2.4% of the respondents had Traditional Birth Attendants seeing to their Antenatal Care. Where the choice of Health services was not Government Clinics/Hospitals, various reasons were given with 24.7% of the respondents citing long waiting periods as the reason they chose otherwise.

55.4% of the respondents however chose to have their most recent deliveries at a Private Clinics/Hospitals.

66.7% of the respondents claimed that their most recent deliveries were taken by doctors.

Table 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS

| SOCIO-DEMOGRAPHIC CHARACTERISTICS | FREQUENCY | PERCENTAGE |
|-----------------------------------|--------------|------------|
| Age group (in years) | N=462 | |
| 21-25 | 21 | 4.5 |
| 26-30 | 94 | 20.3 |
| 31-35 | 154 | 33.3 |
| 36-40 | 106 | 22.9 |
| 41-45 | 87 | 18.8 |
| Religion | N=462 | |
| Islam | 74 | 16.0 |
| Christianity | 388 | 84.0 |
| Highest Educational Level | N=462 | |
| Primary | 29 | 6.3 |
| Secondary | 136 | 29.4 |
| Tertiary | 297 | 64.3 |
| Marital Status | N=462 | |
| Single | 7 | 1.5 |
| Married | 420 | 90.9 |
| Divorced | 7 | 1.5 |
| Separated | 4 | 0.9 |
| Widowed | 24 | 5.2 |
| Ethnicity | N=462 | |
| Igbo | 40 | 8.7 |
| Yoruba | 394 | 85.3 |
| Other Tribes | 28 | 6.1 |
| Employment | N=462 | |
| Unemployed | 24 | 5.2 |
| Employed | 438 | 94.8 |
| Monthly Income (in Naira) | N=462 | |
| <18,500 | 86 | 18.6 |
| 18,500-50,000 | 164 | 35.5 |
| 51,000-100,000 | 144 | 31.2 |
| 101,000-300,000 | 56 | 12.1 |
| >300,000 | 12 | 2.6 |

Age: The Mean age is 34.56

The Median age is 33.00

The Mode is 33

Standard deviation is calculated at 5.643

Table 2 DEPENDENT VARIABLES

| DEPENDENT VARIABLES | FREQUENCY | PERCENTAGE (%) |
|--|--------------|----------------|
| Type of health facility used for Antenatal care | N=462 | |
| Government clinic/ hospital | 218 | 47.2 |
| Private clinic/ hospital | 233 | 50.4 |
| Traditional birth attendants | 11 | 2.4 |
| Where Government clinics were not used, these are the reasons why | N=462 | |
| Service Not Satisfactory | 42 | 9.1 |
| Long Waiting Periods | 114 | 24.7 |
| Unavailable Doctors | 42 | 9.1 |
| Unavailable Drugs | 4 | 0.9 |
| Long Distance | 24 | 5.2 |
| Costly Treatment | 6 | 1.3 |
| Strike Action | 42 | 9.1 |
| Other Reasons | 12 | 2.6 |
| Total | 286 | 61.9 |
| No response | 176 | 38.1 |
| Average time spent waiting to see medical staff in Government-owned Hospital/Clinic | N=462 | |
| >2 hours | 55 | 11.9 |
| 1 hour 30 minutes – 2 hours | 23 | 5.0 |
| 1 hour – 1 hour 30 minutes | 76 | 16.5 |
| 30 minutes – 1 hour | 176 | 38.1 |
| < 30 minutes | 132 | 28.6 |
| Where most recent delivery took place | N=462 | |
| Government clinic/hospital | 162 | 35.1 |
| Private clinic/hospital | 256 | 55.4 |
| Other Places | 44 | 9.5 |
| The delivery was taken by | N=462 | |
| Doctor | 308 | 66.7 |
| Nurse | 76 | 16.5 |
| Midwife | 66 | 14.3 |
| Others | 12 | 2.6 |
| Doctor | 308 | 66.7 |
| Were there complications during the delivery? | N=462 | |
| No | 413 | 89.4 |
| Yes | 49 | 10.6 |
| Did you receive postnatal care? | N=462 | |
| No | 93 | 20.1 |
| Yes | 369 | 79.9 |

CROSSTABULATIONS

10.6% of the respondents reported various complications with their most recent deliveries while 79.9% of the respondents received Postnatal Care.

CROSSTABULATIONS

TABLE 3: TABLE SHOWING CROSS-TABULATION OF SOCIODEMOGRAPHIC CHARACTERISTICS WITH TYPE OF HEALTH FACILITY VISITED FOR ANTENATAL CARE

Based on the table above, Age was seen to have a significant statistical relationship with the type of facility visited for Antenatal Care with a z- score of 0.004. Other

Table 3 Cross tabulation of Sociodemographic Characteristics with Type of Health Facility Visited for Antenatal Care

| | TYPE OF HEALTH FACILITY USED FOR ANC | | | SIGNIFICANCE |
|----------------------------------|--|-------------------------|------------------------------|-----------------|
| | Government clinic/hospital | Private clinic/hospital | Traditional birth attendants | |
| Age | Chi-Square= 22.728 z-score = 0.004. | | | SIGNIFICANT |
| 21-25 | 15 6.9% | 6 2.6% | 0 0.0% | |
| 26-30 | 37 17.0% | 52 22.3% | 5 45.5% | |
| 31-35 | 78 35.8% | 70 30.0% | 6 54.5% | |
| 36-40 | 41 18.8% | 64 27.9% | 0 0.0% | |
| 41-45 | 47 21.6% | 40 17.2% | 0 0.0% | |
| Religion | Chi-Square= 8.001 z-score = 0.018. | | | SIGNIFICANT |
| Christianity | 188 86.2% | 194 83.3% | 6 54.5% | |
| Islam | 30 13.8% | 39 16.7% | 5 45.5% | |
| Employment | Chi-Square= 1.079 z-score = 0.583. | | | NOT SIGNIFICANT |
| Employed | 208 95.4% | 212 94.0% | 11 100% | |
| Unemployed | 10 4.6% | 14 6.0% | 0 0.0% | |
| Highest educational level | Chi-Square= 89.146 z-score = 0.001. | | | SIGNIFICANT |
| Primary | 19 8.7% | 5 2.1% | 5 45.5% | |
| Secondary | 29 13.3% | 101 43.3% | 6 54.5% | |
| Tertiary | 170 78.0% | 127 54.5% | 0 0.0% | |
| Mother's Monthly Income | Chi-Square= 80.729 z-score = 0.001. | | | SIGNIFICANT |
| <18,500 | 30 13.8% | 45 19.3% | 11 100.0% | |
| 18,500-50,000 | 65 29.8% | 99 42.5% | 0 0.0% | |
| 51,000-100,000 | 82 37.6% | 62 26.6% | 0 0.0% | |
| 101,000-300,000 | 40 18.3% | 16 6.9% | 0 0.0% | |
| >300,000 | 1 0.5% | 11 4.7% | 0 0.0% | |

variables like Religion, Highest Educational Level and the Mother's Educational Level also had statistical significance. However, there was no statistical relationship between Employment status and the sociodemographic characteristics of the mother.

TABLE 4: TABLE SHOWING CROSS-TABULATION OF SOCIODEMOGRAPHIC CHARACTERISTICS WITH TYPE OF HEALTH FACILITY WHERE MOST RECENT DELIVERIES TOOK PLACE

Similar to what was obtained above, Age was seen to have a significant statistical relationship with the type of facility visited for Antenatal Care with a z- score of 0.004. Other variables like Religion, Highest Educational Level and the Mother's Educational Level also had statistical significance. There was no statistical relationship, however, between Employment status and the sociodemographic characteristics of the mother.

TABLE 5: TABLE SHOWING CROSS-TABULATION OF SOCIODEMOGRAPHIC CHARACTERISTICS WITH POSTNATAL CARE

Also similar to what was previously obtained, Age, Religion, Highest Educational Level and the Mother's Educational Level was seen to have a significant statistical relationship with the choice of the Mother to receive Postnatal Care with z-scores of 0.015, 0.025, 0.001 and 0.001 respectively. Employment status, however, does have a statistical relationship with the choice of the Mother to receive Postnatal Care with a z-score of 0.012.

DISCUSSION ON FINDINGS

A few decades back in Nigeria, a woman, in her husband's home, was rated according to the number of children she had. A "rich" woman was one who had 6 children and above. Women with just one or two were considered "poor" or "cursed". In a bid to appear "rich" women in Nigeria delivered multiple times, some delivering as high as 15 times. Many of these children died either at delivery or in infancy. This multi-parity lead to a very high maternal and child mortality rate in Nigeria.

In present day Nigeria, in a few parts of the country, many women still deliver as many children as possible and many die in the process. Most of these deaths could be prevented through access to and utilization of quality Maternal Healthcare Services, as evidenced by many studies (Bhatia, 1993; Babalola & Fatusi, 2009). However, many factors, including socio-economic and demographic factors, have been documented to affect access to and utilization of such services.

The aim of this study was to determine the differential factors (with reference to Socio-demographic

Characteristics) that influence utilization of Maternal Healthcare Services in a semi-urban area.

From this study, the demographic variables (Table 1) revealed that majority of the respondents were aged between the ages of 31 – 40 (count= 260, percentage= 56.2%). The mean age was 34.56 years but 33 years was the modal age. The median age was 33.00. Therefore, the majority of the respondents were well within reproductive age and could be said to give a fairly accurate representation of the current trends in maternal choices during pregnancy.

It was observed that much more than half of the respondents were Christians (84%), with 64.3% of the respondents having Tertiary education (which includes University, College of Education and Polytechnic education) as their highest educational level. This is in keeping with the fact that Sagamu is a semi-urban town.

A vast majority of the respondents were married (90.9%) and of the Yoruba tribe (85.3%) which is appropriate seeing as the study was carried out in a Yoruba town. 94.8% of the respondents were employed. Monthly income results show that 35.5% of the respondents earn between 18,500 to 50,000 naira monthly while 31.2% of the respondents earn between 51,000 to 100,000 naira monthly. One could classify the monthly incomes into Below Minimum wage/Low Socioeconomic class (<18, 500 naira), Lower Middle class (18,500-50,000 naira), Upper Middle class (51,000 – 100,000 naira) and the Upper class (>100,000 naira).

From Table 1, we can postulate that a large number of the women who are resident or work in Sagamu are either Lower or Upper Middle class earners. This could result in the women not being able to afford quality health care services because quality health care services for pregnant women are very expensive in a country like Nigeria that does not have a functioning Health Insurance System.

When asked at what facility they had their Antenatal Care during their last pregnancy, 50.4% of the respondents replied that they had it at various Private clinics/hospitals. Another 47.2% had theirs at a Government-owned clinic/hospital. It is generally accepted that Government-owned health facilities tend to have more and better trained personnel than private clinics/hospitals although this may not always be the case. Also, very many private clinics are not subject to the strict monitoring of health practices that go on in their centres unlike what obtains in Government-owned health facilities. This usually results in various harmful practices going on in these Private centres. Therefore, women who chose Private Clinics/Hospitals could be said to have undergone questionable antenatal care during their last pregnancy.

The most common reason given for the preference of Private clinics/hospitals over Government-owned hospitals is that the waiting periods in Government-owned hospitals were very long with more than 50% of the respondents stating that it took varying amounts of time ranging from 30

Table 4 Crosstabulation of Socio-Demographic Characteristics with Where Most Recent Delivery Took Place

| | WHERE MOST RECENT DELIVERY TOOK PLACE. | | | SIGNIFICANCE |
|----------------------------------|--|--------------------------|--------------|-----------------|
| | Government clinic/ hospital | Private clinic/ hospital | Other Places | |
| Age | Chi-Square= 89.149 z-score = 0.001. | | | SIGNIFICANT |
| 21-25 | 15 9.3% | 4 1.6% | 2 4.5% | |
| 26-30 | 17 10.5% | 49 19.1% | 28 63.6% | |
| 31-35 | 48 29.6% | 100 39.1% | 6 13.6% | |
| 36-40 | 35 21.6% | 63 24.6% | 8 18.2% | |
| 41-45 | 47 29.0% | 40 15.6% | 0 0.0% | |
| Religion | Chi-Square= 3.792 z-score = 0.150. | | | SIGNIFICANT |
| Christianity | 141 87.0% | 214 83.6% | 33 75.0% | |
| Islam | 21 13.0% | 42 16.4% | 11 25.0% | |
| Employment | Chi-Square= 4.895 z-score = 0.086. | | | NOT SIGNIFICANT |
| Employed | 156 96.3% | 238 93.0% | 44 100.0% | |
| Unemployed | 6 3.7% | 18 7.0% | 0 0.0% | |
| Highest Educational Level | Chi-Square= 49.800 z-score = 0.001. | | | SIGNIFICANT |
| Primary | 13 8.0% | 11 4.3% | 5 11.4% | |
| Secondary | 16 9.9% | 101 39.5% | 19 43.2% | |
| Tertiary | 133 82.1% | 144 56.2% | 20 45.5% | |
| Mother's Monthly Income | Chi-Square= 45.723 z-score = 0.001. | | | SIGNIFICANT |
| <18,500 | 19 11.7% | 49 19.1% | 18 40.9% | |
| 18,500-50,000 | 54 33.3% | 97 37.9% | 13 29.5% | |
| 51,000-100,000 | 55 34.0% | 76 29.7% | 13 29.5% | |
| 101,000-300,000 | 34 21.0% | 22 8.6% | 0 0.0% | |
| >300,000 | 0 0.0% | 12 4.7% | 0 0.0% | |

Table 5 Crosstabulation of Socio-Demographic Characteristics with Postnatal Care

| | DID YOU RECEIVE POSTNATAL CARE? | | SIGNIFICANCE |
|----------------------------------|--|--------------|---------------------|
| | NO | YES | |
| Age | Chi-Square= 12.346 z-score = 0.015. | | |
| 21-25 | 5 5.4% | 16 4.3% | SIGNIFICANT |
| 26-30 | 30 32.3% | 64 17.3% | |
| 31-35 | 26 28.0% | 128 34.7% | |
| 36-40 | 21 22.6% | 85 23.0% | |
| 41-45 | 11 11.8% | 76 20.6% | |
| Religion | Chi-Square= 5.051 z-score = 0.025. | | |
| Christianity | 71 76.3% | 317 85.9% | SIGNIFICANT |
| Islam | 22 23.7% | 52 14.1% | |
| Employment | Chi-Square= 6.380 z-score = 0.012. | | |
| Unemployed | 0 0.0% | 24 6.5% | SIGNIFICANT |
| Employed | 93 100.0% | 345 93.5% | |
| Highest educational level | Chi-Square= 17.066 z-score = 0.001 | | |
| Primary | 0 0.0% | 29 7.9% | SIGNIFICANT |
| Secondary | 41 44.1% | 95 25.7% | |
| Tertiary | 52 55.9% | 245 66.4% | |
| Mother's Monthly Income | Chi-Square= 31.799 z-score = 0.001. | | |
| <18,500 | 6 6.5% | 80 21.7% | SIGNIFICANT |
| 18,500-50,000 | 53 57.0% | 111 30.1% | |
| 51,000-100,000 | 29 31.2% | 115 31.2% | |
| 101,000-300,000 | 5 5.4% | 51 13.8% | |
| >300,000 | 0 0.0% | 12 3.3% | |

minutes to 90 minutes to see a doctor in Government-owned hospitals.

Following the trend set above, 55.4% of the respondents had their last deliveries at various private clinics/hospitals of their choosing; just 35% had their last deliveries taken at a Government-owned health facility. 9.5% of the respondents had their deliveries at other places like at home, at their religious centres and at the traditional birth homes. Majority of the respondents interviewed had their deliveries at private hospitals because it was relatively closer to their houses than Government hospitals.

A vast majority of the respondents, 79.9%, had Postnatal Care after delivery although just 46.1% of the respondents had more than 2 visits.

Table 3 shows the relationship between the socio-demographic characteristics of the respondents and the type of facility she prefers to use for antenatal care.

The age of the mother ($p=0.004$), religion ($p=0.018$) and educational level ($p=0.001$) were found to be significantly associated with the type of facility she prefers to use for antenatal care.

The above results agree with a study by Hauwa S. A. (2011) showing a relationship between choice of antenatal care facility and age, educational level, income and religion.

The age of the mother (as at last delivery) seems to have a significant effect on the mother's choice of health service provider. It is seen from Table 3 that the majority of women seeking professional health care services (this includes Government – owned hospitals and Privately – owned hospitals) during pregnancy were between the ages of 31-35. This is almost similar to results gotten by Hauwa S. A. (2011) which gives women between the ages of 20 – 34 years as more likely to seek professional help during pregnancy.

Religion plays a very great part in the decisions any adult makes in Nigeria, be it a man or a woman. It is not surprising that this has been proven statistically here. As Nigerians are deeply religious people, utilization of maternal health services could easily be dictated by the dictates of the Church or Mosque.

Also worthy of note is the role that the mother's highest level of education plays in the utilization of maternal health services. From table 3, we can see that women who were educated up to the tertiary level (University, College of Education, Polytechnics etc.) sought professional help only either from Government Hospitals or from Privately owned Hospitals. This could be explained by the fact that women with a higher level of education are able to get better paying jobs which enables them become more independent and to afford the relatively expensive cost of proper healthcare. Also, the more educated a woman is, the easier it becomes for her to break away from traditional practices and utilize modern health care facilities because she becomes armed with more information.

The employment level ($p=0.583$), however, had no significant relationship with the mother's choice of facility for Antenatal Care. This is also in agreement with the study carried out by Hauwa S. A. (2011) which surmises that no association was found between Antenatal care and employment status. An explanation for this could be that pregnant women in Sagamu, more often than not, turn to their husbands or family members for funds when pregnant therefore, the presence or absence of gainful employment does not necessarily dictate the health seeking pattern of the pregnant woman.

Table 4 shows the relationship between the sociodemographic characteristics of the respondents and the type of facility she last delivered in.

The Age of the mother ($p=0.001$), Religion ($p=0.150$), the mother's Monthly Income and Highest Educational Level ($p=0.001$) were found, to be significantly associated with the type of facility she last delivered in.

The mother's employment status ($p=0.086$) was found, again, to not have a significant relationship with the mother's choice of facility for delivery.

This is completely in agreement with the study by Hauwa S. A. (2011) which shows a significant relationship between place of delivery and age, educational level, employment status and religion.

Therefore, younger women are more likely to deliver in proper health facilities than older women.

Based on the above, it can be said that factors such as Age, Religion.

CONCLUSION AND RECOMMENDATION

CONCLUSION

The findings of this study confirm that utilization of Maternal Health Care Services is high in the Aiyegbami area of Sagamu Local Government Area of Ogun state, Nigeria. Also, different factors may affect utilization of Maternal Healthcare Services.

Age, Educational level, Monthly Income and Religion were found to be strong predictors of utilization of Maternal Healthcare Services.

It is evident that the women of Aiyegbami, Sagamu will benefit from programs aimed at improving utilization of Maternal Healthcare Services among women with low levels of education and those from poor backgrounds. It is also necessary to explore ways of improving availability and accessibility to Maternal Healthcare Services to women living in rural areas. However, additional strategies need to be focused on improving utilization among teenage and older mothers as well as women with traditionalist beliefs.

The following observation was made based on the lessons learned from the study:

This study focused on individual and community level characteristics without recourse to any state-level factors e.g. number of facilities per community, number of staff, etc. As such, more studies including state-level factors, are needed to study the complex nature of interactions between determinants of Maternal Healthcare Service utilization.

RECOMMENDATIONS

The evidence from this study suggests that public health policies aimed at reducing maternal morbidities and mortalities in Nigeria should include strategies that will improve Maternal Healthcare Services through:

- Increasing maternal education at least up to secondary level in all regions of the country.
- Provision of opportunities for employment and poverty reduction.
- Increasing availability and accessibility of maternal health centers to women in the country.
- Campaigns against social norms that are harmful to women's health such as early marriage and stigmatization of unwed teenage mothers in the south.
- Education programs to women of traditionalist beliefs on the importance of Maternal Healthcare Service utilization. These programs can be routed through religious and traditional/community leaders.

REFERENCE

- Adamu SH (2011). 'Utilization of Maternal Health Care Services in Nigeria: An Analysis of Regional Differences in the Patterns and Determinants of Maternal Health Care Use'
- Babalola S, Fatusi A (2009). 'Determinants of use of maternal health services in Nigeria – looking beyond individual and household factors'. *BMC Pregnancy and Childbirth* 2009, 9:43
- Bhattacharjee S, Datta S, Saha JB, Chakraborty M (2013). Maternal health care services utilization in tea gardens of Darjeeling, India. *J Basic Clin Reprod Sci* 2013; 2:77-84
- Central Intelligence Agency (CIA) World Fact book (2012). Maternal Mortality Rate: Country Comparison
- Chakraborty N, Islam MA, Chowdhury RI, Bari WW, Akhter HH (2003). Determinants of the use of maternal health services in rural Bangladesh. *Health Promotion International*, 18(4): 327-337
- Dada J (2008). *The Maternal, Newborn and Child Health: Policy Environment Realities*. Punch Newspaper, June, 2, 2008: 8.
- Defo BK (1997). 'Effects of socioeconomic disadvantage and women's status on women's health in Cameroon'. *Soc. Sci. Med.* Vol. 44, No. 7, pp. 1023-1042, 1997
- Elo IT (1992). 'Utilization of maternal health-care services in Peru: the role of women's education'. *Health Transition Review* Vol. 2 No. 1 1992
- Fotso J, Ezeh AC, Essendi H (2009). 'Maternal health in resource-poor urban settings: how does women's autonomy influence the utilization of obstetric care services?' *Reproductive Health* 2009, 6:9
- Gabrysch S, Campbell OMR (2009). 'Still too far to walk: Literature review of the determinants of delivery service use'. *BMC Pregnancy and Childbirth* 2009, 9:34.
- Gage AJ (1998). 'Premarital childbearing, unwanted fertility and maternity care in Kenya and Namibia'. *Population Studies*, 1998 Mar; 52(1), 21-34
- Gage AJ, Calixte MG (2006). 'Effects of the physical accessibility of maternal health services on their use in rural Haiti' *Population Studies*, Vol. 60, No. 3, 2006, pp. 271-288
- Ghuman SJ (2003). 'Women's Autonomy and Child Survival: A Comparison of Muslims and Non-Muslims in Four Asian Countries'. *Demography*, Vol. 40:3 (Aug., 2003), pp. 419-436
- Kamal SMM (2009). 'Factors Affecting Utilization of Skilled Maternity Care Services Among Married Adolescents in Bangladesh', *Asian Population Studies*, 5: 2, 153 — 170
- McCaw-Binns AM, Ashley DE, Knight LP, MacGillivray I, Golding J (2004). 'Strategies to prevent eclampsia in a developing country: I. Reorganization of maternity services'. *International Journal of Gynecology and Obstetrics* 2004 Dec; 87(3): 286-94.
- Nigussie M, Haile MD, Mitike G (2004). 'Assessment of safe delivery service utilization among women of childbearing age in north Gondar zone, north west Ethiopia' *Ethiop.J.Health Dev.* 2004; 18(3):145-152
- Njoku C (2014). 'Importance of provision and utilization of MCH services'. April 28, 2014. http://caponic.blogspot.com.ng/2014/04/importance-of-provision-and-utilization_1904.html
- Obermeyer CM, Potter JE (1991). 'Maternal Healthcare Utilization in Jordan: A Study of Patterns and Determinants' *Studies in Family Planning*, Vol. 22, No. 3 (1991), pp. 177-187
- Oyediji OB (2013). 'The Role of Lafarge Cement Wapco Nigeria Plc in the Development of Sagamu Local Government Area, Ogun State' 2013 accessed at <https://profseunoyediji.wordpress.com/2013/09/17/the-role-of-lafarge-cement-wapco-nigeria-plc-in-the-development-of-sagamu-local-government-area-ogun-state-written-by-oyediji-oluwaseun-babatunde/>
- Raghupathy S (1996). 'Education and the use of maternal healthcare in Thailand'. *Social Science & Medicine*, 1996,43(4):459–471
- Reynolds HW, Wong EL, Tucker H (2006). 'Adolescents Use of Maternal and Child Health Services in Developing Countries' *International Family Planning Perspectives*, 2006, 32(1):6–16.
- Shiffman J, Okonofua FE (2007). The state of political priority for safe motherhood in Nigeria. *Brit. J. Obstet. Gynecol.* 114:127–133.
- Ugal D, Ugabi, John I, Awah IM (2009). Utilization and Maternal Health Outcome Among Urban Dwellers of Obudu and Ogoja: Local Government Areas of Cross River State, Nigeria (November 26, 2009).
- Ugal DB, Ushie BA, Ushie M (2002). Ingwu Justine Utilization of Facilities and Maternal Health Outcome Among Urban Dwellers of Obudu and Ogoja Local Government Areas of Cross River State, Nigeria. *Afro Asian Journal of Social Sciences* Volume 3, No. 3.3 Quarter III 2012 ISSN: 2229 – 5313.
- UNFPA State of the World Population (2005). *Reproductive Health: A Measure of Equity*. Available from: <http://www.unfpa.org/swp/2005/english/ch4/index.htm>
- USAID (2009). *Maternal and Child Health*. Available at: http://www.usaid.gov/our_work/global_health/mch/mh/techareas/post.html
- WHO (2011). 'Maternal Mortality Ratio'. Health statistics and health information systems
- Wikipedia. https://en.wikipedia.org/wiki/Maternal_health
- World Health Organization (2007). *Maternal mortality in 2005: estimates developed by WHO, UNICEF, UNFPA, and the World Bank*. Geneva
- World Health Organization, UNICEF, UNFPA and The World Bank (2012). *Trends in maternal mortality: 1990 to 2010*

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