

Awareness of Danger Signs During Pregnancy, Labor And Childbirth on Women's Choice of Delivery Facilities in Oshimili South Local Government Area of Delta State, Nigeria.

* Akpoyovwere O.J¹, Oladimeji O.R², Falade O. J.³

^{1,3} Department of Nursing Science Delta State University, Abraka Delta State, Nigeria

² College of Medicine and Allied Health Sciences (COMAHS), University of Sierra Leone, Freetown, Sierra Leone.

Corresponding Author: Akpoyovwere O.J

Abstract: Death of women during pregnancy, delivery and postpartum period often preventable remains a serious health burden in developing countries. One major factor responsible for high maternal and neonatal deaths in developing countries is ignorance which has impeded healthy health seeking behaviour among pregnant women. This study seeks to investigate awareness of pregnant women about danger signs in pregnancy, labour and postpartum periods and its effect on their choice of delivery facility. This study is carried out in Oshimili South Local Government Area of Delta State, Nigeria. It adopts an exploratory design to investigate the influence of knowledge on choice of delivery facility. Questionnaires were used to obtain data from a sample of 100 pregnant women. Data analyzed were presented using frequencies, percentages and charts. Results show that 71.0% of respondents are aware of danger signs in pregnancy, labour and childbirth, 21.0% of respondent planned to have their babies at home, 17.0% at government hospital while 36% were undecided. 66.0% of respondents however reported that government hospitals/health centres are the best places for delivery. Awareness of danger signs in pregnancy was not a strong determinant of use of health care facility as seen in the study, it is therefore important for midwives to give more sensitization (go beyond the antenatal Clinics) to the public on the importance of seeking skilled health care services when danger signs present. Conclusively, domiciliary involvement of midwives in delivery will help meet the needs of majority of pregnant women in rural settings in developing countries.

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I. Introduction

Deaths as a result of pregnancy and childbirth are most often than not avoidable. Childbirth in this study include the postnatal period and care of the new born. 99 percent of maternal deaths occur in developing countries and two thirds in 13 Countries among which is Nigeria, 25 percent of all deaths occur in India alone (DFID, 2004). Even though Asia and Africa have an almost equal number of deaths, the risks are highest by far in Africa, which has a much smaller population than Asia. An African woman has a 1 in 16 chance of dying in pregnancy or childbirth over her lifetime, compared with 1 in 94 in Asia. In Europe, where the average number of Children per woman is less than two and medical care is readily available, only one in every 2,400 pregnant women dies of maternity-related causes. Most maternal deaths result from excessive bleeding, infections, hypertensive disorder, obstructed labor, or complications from unsafe abortion. These do not occur suddenly most times but present with signs and symptoms that can be classified as danger signs. In many poor communities, women with pregnancy – related complications face delays in deciding to seek care, getting to the appropriate health facility, and receiving treatment once they get there (Collimore, 2005). This can be attributed to the fact that most women are not aware of the danger signs in pregnancy, labor/delivery, postnatal and in the new born. Definition of maternal mortality by WHO (1992) A death of a woman while pregnant or within 42 days of a termination of a pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by pregnancy or its management but not from accidental and incidental causes. Oladipo (2005) stressed the issue of late maternal death as stated by the International Classification of Disease – 10 (ICD) as death of a woman from direct or indirect obstetric causes more than 42 days but less than one year after termination of pregnancy. He also went on to report the medical causes of maternal death in Nigeria which is also globally recorded though at varied percentages.

1.1 The causes of death were highlighted as follows:

1. Hemorrhage	23%	
2. Infection	17%	
3. Toxemia/Eclampsia	11%	(Hypertensive disorders)
4. Unsafe abortion	11%	
5. Obstructed labor	11%	
6. Malaria	11%	
7. Anemia	11%	
8. Others	9%	

The above description had been classified into direct and indirect causes of maternal death. The direct causes include those that are as a result of pregnancy or childbirth (labor/delivery). It is recorded that the majority of maternal death occurs after childbirth (postnatal) – most within 24 hours. About a quarter take place during pregnancy and about 15 percent happen at the time of delivery (Starrs, 1998). The most common medical cause is hemorrhage, a swift and severe loss of blood before, during, or after delivery (Ransom and Yinger, 2002). The direct causes are summarized as hemorrhage (34%), infection (21%), complications related to unsafe abortion (18%), hypertensive disorders (16%) and obstructed labor (11%). The indirect causes account for 20% of maternal death and are conditions, which are aggravated by pregnancy such as malaria, anemia, diabetes, viral hepatitis, rheumatic heart disease, ectopic pregnancy, embolism in and anesthesia related death (Ransom and Yinger, 2002). Another factor that can cause maternal death is lack of quality of Obstetric care accounting for about 5% of death (MNHP, 2004). In Nigeria an account on the proportion of women receiving antenatal care from trained providers and delivery in health facilities was documented, to have improved during the 1990s and that in 1999 almost two third of babies were still born or delivered outside health facilities (Hodges, 2001). This was further reiterated in the study, “The inequality of Maternal Health in Urban Sub-Sahara Africa”. The results showed that although the urban poor on average receive better antenatal and delivery care than rural residents; they (urban poor) consistently have poorer maternal health indicators than the urban non-poor (Magadi, Zulu and Brouckerhoff, 2003). A more recent account of maternal health in Nigeria as provided by the National Department of Health Services ((NDHS), 2003) showed the following about women who gave birth between 1998 – 2003; that:

1. 60% of received ANC at least once.
2. Nigerian women are more likely to receive ANC if they have secondary or higher education and if they are economically advantaged.
3. Urban women are 3 times as likely to receive ANC as rural women (46% v 15%).
4. Almost half of teenage mothers did not receive ANC.
5. Only 58% received iron supplement, 39% received malaria drugs.
6. 40% received two or more doses of tetanus. (Oladipo, 2005).

Despite a significant global drop in maternal mortality from 543 000 deaths in 1990 to 287 000 deaths in 2010 (WHO, UNICEF, UNFPA & World Bank 2012), and a decrease of under-5 mortality from 11.6 million deaths in 1990 to 7.2 million deaths in 2011 (Lozano et al. 2011), maternal and newborn mortality remain unacceptably high in sub-Saharan Africa. About 56% of maternal deaths (WHO, UNICEF, UNFPA & World Bank 2012) and 49% of under-5 deaths (Lozano et al. 2011) occur in sub-Saharan Africa, although this region is home to only about 13% of the world population (Population Reference Bureau (PRB) 2011) and 19% of the global under-5 population (UNICEF 2012). Most sub-Saharan African countries will need many years past 2015 to achieve the Millennium Development Goals 4 and 5 (MDGs 4 & 5), which aim to reduce the under-5 mortality rate by two thirds and the maternal mortality ratio by three-quarters between 1990 and 2015 (Lozano et al. 2011; WHO, UNICEF, UNFPA & World Bank 2012).

Statement Of Problem

Danger signs in pregnancy, labor, and of the newborn known to the woman enhance her decision-making in seeking care and reaching care promptly for efficient management.

Purpose Of Study

The aim of this study is to investigate how much awareness women have about the danger signs in pregnancy, labor, and of the newborn and the effect of that on their choice of delivery facilities.

Maternal And Child Mortality And Morbidity

The health of the mother and factors that influence her health, directly and indirectly affect the health of the child, either positively or negatively. Across all developing countries for every 100,000 live births, 450 women died during pregnancy, childbirth or the postpartum period. By comparison, the figure for the developed

world was 30. The enormous discrepancy highlights one of the most striking aspects of maternal mortality, its hugely disproportionate burden on poor countries (Ransom and Yinger, 2002 and Starrs 1987 cited in JHPIEGO/Maternal and Neonatal Health Program, 2004). of 100 deaths per 1000 Live Births with an overall Under Five Mortality Rate of 201 deaths per 1000 Live Births as per National Population Commission (NPC, 2004). Infant and child mortality remain disturbingly high in developing countries despite the significant decline in most parts of the developed world. The state of the world's children indicated that about 12.9 million children die every year in developing world (UNICEF, 1987). Also, the Nigeria Demographic and Health Survey (NDHS), 1990 reported that 87 of 1000 infants born in Nigeria die before their first birthday while 115 of 1000 children die before reaching age five (FOS, 1992).

The 1999 NDHS reported an infant mortality rate of 75 deaths per 1000 live births and under five mortality rate of 140 deaths per 1,000 live births for the 1995 to 1999 period. Also, review of trends in under five mortality rates between 1960 and 1998 by UNICEF (2000), based on an estimate of 187 deaths per 1,000 for 1998 indicates a 10 percent reduction in Nigeria. According to the Nigeria Demographic and Health Survey (NDHS), 1999, infant mortality and under five mortality rates for the ten years period preceding the survey for the south western part of Nigeria, the focus of this study, are 70 per 1,000 and 102 per 1,000 live birth respectively (NPC, 2000). For five years immediately preceding the 1999-2003 survey, the infant mortality rate was 100 deaths per 1,000 live births, while the overall under-five mortality rate was 201 deaths per 1,000 live births (NPC, 2004). The level of improvement in infant and child mortality in Nigeria as a whole is significantly lower than the average of 34 percent for the sub-Saharan Africa. According to the World Health Organization, approximately half a million women die each year from complications of pregnancy or childbirth. The level of maternal mortality is disproportionately high in Africa, with a regional maternal mortality ratio of 1000 per 100 000 live births (Lozano, Wang, Foreman et al., 2011). Most maternal deaths occur during childbirth, and the presence of trained medical staff could substantially reduce the number (UNICEF, 2012). Therefore the need exists to understand the factors that encourage childbirth in a health facility attended by a trained medical professional. Most maternal and child deaths can be averted through preventive care or early and effective medical treatment from a skilled practitioner when needed (Mavalankar & Rosenfield, 2005). Though some researchers have been skeptical of a link between the use of health services and lower risk of maternal and child mortality in developing contexts, several studies support the conclusion that utilization of maternal and child health services is key to improving survival in these settings (LeVine & Rowe, 2009).

II. Methodology

The study design is exploratory aimed at investigating the influence of knowledge of services provided in delivery facilities on women's choice of patronage.

Study Setting:

The setting for the study comprises of two health districts located in Oshimili South Local Government Area, which were purposively selected from among the seven health districts in the local government area (see maps Appendices 1&II). Oshimili South Local Government Area of Delta State, Nigeria, came into existence on the 14th December, 1996; when the defunct Oshimili Local Government was split into two by the then Federal Military Government under the Late Gen. Sani Abacha to speed up development and enhance good governance at the grass root. Asaba was made the Headquarters of the Local Government, which incidentally is also the state's capital of Delta State, Nigeria. The Local Government Area is endowed with seven primary health care facilities, one Federal Medical Center, One State Government Hospital and several private health facilities including clinics, maternities and hospitals. The primary health care facilities are made up of three major component parts. The Asaba Urban with two health districts (Asaba North and Asaba Central health districts); and the two Rural Communities of Oko and Okwe having two and three health districts respectively, (see Appendix II). The health districts for the study is that located in Okwe namely; Cable Point Health District and Okwe Health District as they provide comprehensive maternity services (one on one discussion with the PHC coordinator and personal visit to the centers). The PHC coordinator said the other health centers provide mainly immunization, family planning and health education services apart from those in the riverine areas, which provide basic maternity services along side.

Cable Point Health Centre

It is located to the East Central part of the local government Area (Refer Appendix I) within the cable point health district. The population of the people in this district is approximated to be about 37,500 persons as at present (see Appendix I). The Health center was started in July 1999, but antenatal services commenced in January 2000, with an average of 29 attendances every year.

Records of ANC visit from 2000-2004.

2000	-	24	
2001	-	41	
2002	-	38	
2003	-	42	
2004	-	31	
Average: (for the 5 years)	-		34
2005 (Jan.-August)	-	25	

Source: Cable Point Health Centre Records (19/9/2005).

It is relevant to point out here that the total number of deliveries recorded for the past 5 years in view was just eight (8) for 2000(No proper records kept). The matron in charge attributed it to their not running night shift, which is to commence in October 2005. The center has staff strength of 13 personnel comprising of, six Nurses among who are four Nurse/Midwives and one Staff midwife headed by a Chief Nursing Officer. Three Community Health Extension Workers (CHEWS) and four Health Assistants (Orderlies)

Okwe Primary Health Care Centre:

It is situated within the Okwe Health district located in the southwestern part of the Local Government Area, with a population of about 27, 145 (Refer Appendix II). The health center was opened in 1994, May 25th. It has staff strength of 8 personnel; 6 nurses, comprised of 2 Principal Nursing Officers (PNO) and 4 staff Nurse/Midwives; and 2 community health extension workers (CHEW).

Antenatal visit Record from 2000 to 2005 (August)

Year	-		ANC Attendance
2000	-		No record
2001	-		13
2002	-		69
2003	-	51	
2004	-	71	
Average: 39.8 (for the 5 years)	=	40	
Records for 2005 (Jan - August)	-	47	

Delivery Records

Year		[Deliveries]
2000	-	25
2001	-	22
2002	-	26
2003	-	7
2004	-	16
2005 (Jan – August)		14

Source: Okwe Primary Health Centre Records (20/9/2005)

Table 2: Summary of ANC Attendants 2000-2004 according to Parity

PHC CENTRES	Primigravida (First pregnancy)	Multigravida (2-4 pregnancy)	Grand Multigravida (above 4 pregnancy)	Total/year
Okwe Cable Point	-- 5	- 10	- 9	-/2000 24/ „
Okwe Cable Point	4 11	5 14	9 16	18/2001 41/ “
Okwe Cable Point	12 13	44 16	13 9	69/2002 28 / “
Okwe Cable Point	12 10	32 20	7 12	51/2003 42/
Okwe Cable Point	14 5	46 18	11 8	71/ 2004 31 / “
Total	86	205	94	385/5years

Compiled from records received from the PHC centres on 19th and 20th of September 2005.

The Target Population:

All women of child bearing age residing in Okwe area of Oshimili South Local Government Area.

The Study Population

This consisted of all pregnant women who visited the primary health care centres at Okwe and Cable Point for antenatal clinic care.

The Sample Size

The sample size is 100 pregnant women aged 18-45 years who attended ANC at the primary health care centres in the two selected health districts of Oshimili South Local Government Area of Delta State between November 2005 and June 2006.

Sampling Technique

The Non-probability method using purposive and convenient sampling methods were employed to select health centres and respondents respectively. This was premised on the information from the PHC coordinator that comprehensive maternity service is provided in only two of the health centers within the mainland. Also that the riverine areas of Oko could not be accessed, because of the season (rainy) when the study was carried out. Therefore by elimination based on the points or facts stated above – the Cable Point Health Center and Okwe Health Center were used for the study.

Determination of Sample Size

From the health centres a total of a hundred women were given questionnaires to complete. Any pregnant woman met at the clinics was involved if she consented to participate. Criteria for inclusion of respondents were:

1. Those aged 18 - 45 years old
2. Those that could speak English or pidgin (colloquial English) fluently enough, to sustain a conversation for the filling of the questionnaire.
3. Those that could read and write to enable them fill the questionnaires independently.
4. Those that were willing to participate and volunteers.

The hundred participants were drawn at a ratio of 60 (from Okwe PHC centre) and 40 (from Cable Point PHC centre) based on the average attendances of 40 and 34 antenatal visits as earlier shown under the background of study(see Table 2).

The Development of Instrument

The data collection instrument was questionnaire, which was administered by the researcher and trained research assistant. The questions were designed to elicit respondent's views and opinions on what informed their choice of delivery facilities. The questionnaire was divided into two sections namely:

Section A: Socio-Demographic characteristics of the respondents' status, age, religion, ethnicity etc which are likely to influence women's behavior in making choice of delivery facility.

Section B: Items on danger signs in pregnancy, labour and of the new born and planned place for confinement. The items were scored by assigning 5 points to correct responses(strongly agree and agree) while wrong responses were assigned 1 point (don't know ,strongly disagree and disagree).The questions were structured using the simple objective question format giving options to choose from, filling the gap; provide opinions and the Likert Scale. The items were drawn from review of literature and previous empirical studies. The item on educational status was adopted from the typologies coded by the International standard classification of Education (ISCED): developed by the (UN Educational Scientific and Cultural Organization (UNESCO) in 1996. This classification was relevant to the study because educational level has been described as the strongest predictor of socio-economic health inequalities (Rancher, Sanderman, and Vanden-heuvel, 1990; and Lunch, 1992 cited in Tsehemba, 1999). The questionnaire was presented in both simple Queen's English and in the Pidgin English commonly spoken in the Niger-Delta.

Validity and Reliability

The face validity of content was done by peer scrutiny; while the reliability of the instrument was tested using 15 pregnant women who attended ANC at the Umuagu PHC (Asaba Central Health District) to answer the questions / items. Their responses were then analysed to ascertain the reliability of the instrument, and all ambiguity noted in the items were corrected before the final use of the tool. The result of the split-half test (odd and even number method) showed that they comprehended the text as answers provided were within the expected responses, with a coefficient of r.80.

Procedure for Data Collection

Permission to conduct the study was sought from the Chairman of Oshimili South LGA at the Council's secretariat located along the Benin Onitsha Express road in Asaba. A research assistant was trained by the researcher to aid in the administration of the instrument, recording and retrieval from respondents. The researcher and her assistant visited the health centers on the booking days for initial contacts with the care providers and the subjects. Subsequent visits were made on other days to get the sample size of one hundred (100) at the proposed ratio of 60 subjects from Okwe PHC and 40 subjects from Cable Point PHC respectively. The method of administration was one on one contact. Respondents who could read and write were given the questionnaire to complete, while those who could not read and write were asked the questions and filling was done by either the researcher or the researcher assistant. Because of this method of administration employed, a hundred percent (100%) retrieval of questionnaires was achieved

Ethical Consideration

The Local Government Chairman was approached with a letter of intent which he endorsed and forwarded to the PHC coordinator who in turn introduced me to the matrons in charge of the various clinics to be used. Consent of subjects was sought verbally and they were informed about the purpose of the study. Their anonymity and confidentiality was assured. They were told that the research findings will be communicated to the Local Government Authorities; for use in improving delivery services if and where applicable. They were also assured that participation was voluntary and failure to participate does not hold any penalty. To further buttress this, the introduction note attached to the questionnaire stressed that anonymity and confidentiality would be maintained.

Data Analysis

Data were analyzed using manual table calculator. Data were presented in frequency tables, bar charts, pie charts and histogram. The findings were analyzed using both the descriptive and inferential statistics, as some question items were coded.

III. Findings

The result findings are presented in tables and figure.

Table 3. Demographic Characteristics of Respondents

Characteristics	Frequency N=100	Percentage (%)
1 Age (Value in Years)		
< 18	2	2.0
18 – 25	31	31.0
25 – 30	46	46.0
30 – 35	15	15.0
35 – 40	2	2.0
40 – 45	2	2.0
No Response	2	2.0
Total	100	100%
2. Marital status		
Single	2	2.0
Married\in union	92	92.0
Widowed	1	1.0
Divorced	3	3.0
Separated	1	1.0
No Response	1	1.0
Total	100	100%
3. Occupation		
Self-employed	19	19.0
Farming	4	4.0
Trading	23	23.0
Civil/public Servant	28	28.0
Religious workers	5	5.0
Unemployed	2	2.0
Housewife	9	9.0
No Response	10	10.0
Total	100	100%
4. Educational status		
Primary	14	14.0
Secondary	51	51.0
Tertiary	34	34.0
None	1	1.0

Total	100	100%
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The above table reveals in panel 1 the age distribution of the respondents. 46% of the respondent fall within the age range of 25-30years, 31% within 18-25 years, while 15% within 30-35 years. Ages <18, and within 35-40 and 40-45, account for 2% each. From the table valid responses are 98%.The panel on marital status shows a 99% valid responses of which 92% are married and union. 3% are divorced, 2% single and the remaining 2% distributed evenly among the widowed and separated.Panel 3 shows that 28% of respondents are civil/public servants, 23% are trading. 19% are self-employed. 5% are religious workers, 4% are farming and 9% housewives, 2% unemployed. Valid responses are 90%.Panel 4 shows that 51% of the respondents completed secondary education, 34% completed tertiary education while 14% completed primary education.

Table 4. Awareness about danger signs during pregnancy, labour and childbirth

Responses	Frequency N=100	Percentage (%)
Yes	71	71.0
No	18	18.0
Total	1001	100%

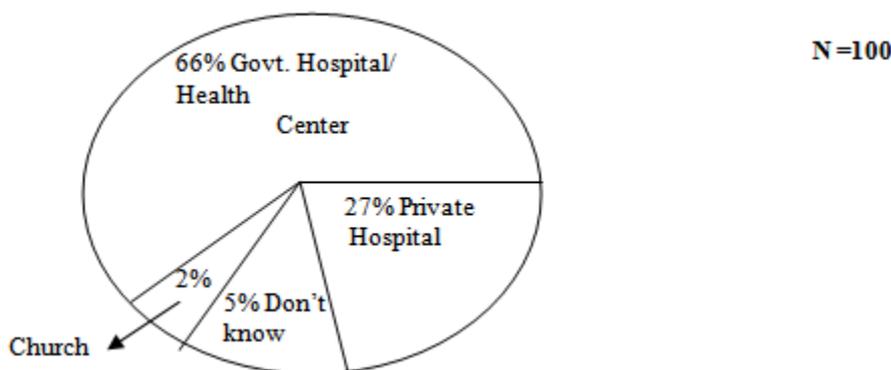
From the above table, 71% of respondents are aware of dangers signs while 18% are not aware.

Table 5. Planned places for present confinement.

Responses	Frequency N=100	Percentage (%)
Respondents ' home	21	21.0
TBA	2	2.0
Relative's Home	17	17.0
Govt. Hospital	17	17.0
Health Care Centre	5	5.0
Private Hospital	2	2.0
Don't know	36	36.0
Total	100	100.0%

The table shows that on the whole 38% of respondents plan to have their babies at home (Respondents home or relatives home). 17% in Govt. hospital, 5% in the PHC centre, while 2% in private hospital / maternity, while 36% are not decided on where to deliver.

Figure 1: Respondents' opinion about the best place to give birth



This pie chart shows that in the opinion of the respondents the best to give birth is the government hospital\health center of 66% responses, 24% for private hospital, and 2% for church.

IV. Discussion Of Findings

The danger signs in pregnancy, labour and of the new born are made known to the woman during ANC to enhance decision- making in seeking care and reaching care promptly for efficient management (Table 2 - summaries the danger signs, JHPIEGO/MNH, 2004). This study reveals that respondents are aware of danger signs. Table 4 shows, 76% valid responses of which 93.4% are aware of danger signs. It is interesting that despite the above position, only 5% intend to deliver in the health facility (see table 5); though 66% are of the opinion that the best place to give birth is Govt. Hospital/Health Centre (see Fig. 1).This corroborates Shrestha' study on determinants of delivery practices in Nepal (Shrestha, 2003). The reason most respondents gave for their opinion was that expert care is provided.

The question is why a woman who is aware of the various danger signs and of the opinion that the best place to deliver is a health facility would still want to have her baby at home? Could it be due to their perception of health needs? The researcher had conceptualized health needs as being aware that one's body has to be kept in normal conditions, which in turn leads to what is known as health behavior. Mitchell and Loustau (1981) had described health behavior as a voluntary action performed in an asymptomatic state directed to primary prevention of disease and early detection of disease. This the researcher deduced in maternal and child health (MCH) to mean early antenatal visits, immunization, hygiene practices, exercises and reporting early for delivery. This is in line with the submission of Rashad and Essa (2010), who in a study reflected the need for strategic plan to increase the awareness to shape health seeking behavior of the public related to signs of obstetric complications.

V. Summary And Conclusion

The purpose of the study was to investigate how much awareness women have about the danger signs in pregnancy, labor, and of the newborn and the effect of that on their choice of delivery facilities. One hundred (100) respondents were selected through purposive sampling for the study from two selected health centers (convenient) at a ratio of 60:40 participants. The research tool for the collection of data was the questionnaire, which was both, administered by the researcher and an assistant and self-administered by eligible subjects. The results of the study were analyzed using the Statistical Package for Social Sciences (SPSS) version 10. Data was placed on frequency tables and in figures. The study participants were pregnant women with mean age of 24 years and mostly married and in union. Respondents were mainly multigravidas which are those who have had at least one previous life birth. Most of who were on subsequent visit to the antenatal clinic. A number of the respondents have had secondary and higher education and were economically advantaged. This study reveals that respondents are aware of danger signs but only 5% intend to have their babies in a health centre. In conclusion from the foregoing it can be said that the study has met the purpose of study and achieved its aim. The researcher is of the opinion that the research questions raised have been answered in the course of discussion. She believes that the findings can be utilized by midwives in primary, secondary and tertiary levels of care to provide maternity service through well-defined follow-up and referral strategies applied to care. The researcher is of the opinion that although the focus of the study was not on the incidence of maternal death, Maternal Mortality Rate (MMR) can be reduced significantly and more patronage of delivery facilities achieved if the suggestions proffered are utilized.

VI. Recommendations

This study has shown that pregnant women would choose a facility that provides or meets their expectancy. It is therefore recommended that midwives co-opt more of domiciliary midwifery to meet the felt needs of the clients. Awareness of danger signs did not guarantee usage of facilities as revealed in this study, it is therefore recommended that midwives give more health education to the public on the importance of seeking skilled care when danger signs present. This will enable them see the need to deliver in health facilities. Recognizing danger signs during pregnancy and taking timely action are crucial to reduce maternal and newborn mortality and morbidity. Therefore, counselling on danger signs is an essential element of ANC (WHO, UNFPA, UNICEF & World bank 2006). The study also showed that a great percentage of the respondents would prefer home delivery, though they stated that the best place to deliver is the Govt. hospital/ Primary health center. It is recommended that the government provide the enabling environment for midwives to carry out more of domiciliary care, with adequate referral networking.

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