

RESEARCH ARTICLE

TRADO-CULTURAL AND SOCIO-ECONOMIC EFFECTS OF FETO-MATERNAL OUTCOME IN A RURAL COMMUNITY IN THE NIGER DELTA: 5 YEARS RETROSPECTIVE STUDY IN NDUTH, OKOLOBIRI

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ABSTRACT

Background: Feto-maternal indices play a vital role in the assessment of nation socio-economic state among other factors. Despite various efforts and measures by the WHO, the feto-maternal morbidity, mortality is still unacceptably high, especially within the low and middle income countries. The objective is to understand the likely socioeconomic and trado-cultural impact on the negative outcome on pregnancies in the rural and semi-urban settlements in the Niger delta.

Result: This is a retrospective study of all pregnant women managed and delivered between the 1st. of January, 2009 and 31st. of December, 2013 with some pathological outcomes (n=508). A total of 2815 deliveries were recorded, the incidence ratio of stillbirth was 31.62 ‰, and maternal mortality was 5.68‰. The major contributor to maternal mortality was PPH, while obstructed labour and preeclampsia contributed more to intrauterine fetal death. Only 22.64% attended antenatal clinic at least once during the pregnancy, 83.07% were managed primarily by the TBA and 72.44% had abdominal massage prior to presentation. Anemia was present in 61.61%, only 9.65% had post secondary education, 91.14% resides in rural areas, while only 3.74% were pension ably employed and cesarean section rate was 45.27%.

Conclusion: Maternal mortality and perinatal loss was unacceptable, majority of those incidences occurred among the socio-economically deprived patients and basically unbooked. Therefore, the need for better health care promotion among the targeted group, re-evaluation some of our trado-cultural practice and non adherence of modern health care; ad vocation and provision of compulsory antenatal care services may have great impact.

Key Words: TBA, Abdominal Massage, Book Status, Stillbirths and Maternal Mortality, Socio-Demography

INTRODUCTION

Good pregnancy outcome depends on many well articulated factors, as the end is an indicator of the socioeconomic, socio-cultural and traditional values of that society. It also demonstrates the degree of the health care system and citizen awareness to healthcare deliveries. A pointer to the nutritional balance, educational development and the political will of such society. Pregnancy outcome rates among the highly pressing reproductive health challenges even in the developed world. Health care providers and various governments have thrived severally in many ways as to reduce the health hazards associated with pregnancy. "Ajiboye OE *et al.*" reported that; Globally, an annual estimate of 600,000 women aged 15-49 died of pregnancy related causes, with 99% coming from the developing world. The gross maternal mortality ratio recorded in this study was 568/100000 live births lower than the countries average, yet higher compared to the developed countries.

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In Nigeria; the gross estimate of maternal mortality ratio is about 704/100000 live births accounting to approximately more than 10% of the global figure. (AbouZahr *et al.*, 1995-2001 Ajiboye, Adebayo, 2012 and The World Health Report 2005. Geneva: World Health Organization; 2005) According to Lancet's still birth series: authorized by 69 experts from more than 50 organization in 18 countries (funded by the Bill and Melinda Gates Foundation) says all causes of still birth combined would place "stillbirth 5th. On the list of leading causes of deaths world while. It is estimated that globally, published in Lancet 14th. April 2011, that close to 2.6 million stillbirths occurs, of which 98% happen in low and middle income countries by 2009 statistics. While the tendency of still births, tends to decrease slightly globally from 22.1‰ to around 18.9‰, the developed world records an average of 1 in every 300 babies, while in this study we recorded 31.62‰ although higher than the global rate, but better than what is obtained some countries in Asia and Africa which still records 76.2‰. (Aatekah *et al.*, 2013 and Stanton *et al.*, 2006). Although the emotional feelings of child loss through stillbirth in some countries has been believed to be lower, due to the socio-cultural and spiritual understanding of death. Yet;

stillbirth is a heartbreaking loss both emotionally and financially for women and families. Sometimes, it results to severe maternal morbidity such as depression, suicidal attempts or suicide and family disintegration. Some of the possible causes: were maternal infections during pregnancy, in our environment predominately malaria and its complications, others are preeclampsia-eclampsia, obstructed labor, delays in making decisions and seeking health care services, delays due to feasibility and financial implications and other forms of delays within the health care system. (Adelusi *et al.*, 1999, AbouZahr, *et al.*, 2001 and Audu *et al.*, 2009) Most of the delays that must have contributed immensely to the many complications and adverse outcome in this study were primarily caused by trade-cultural and socio-economic interplay. (Agan *et al.*, 2009 and Chiwuzie *et al.*, 2001) Reasons seen, large proportion of the population were poor, with no meaningful economic activities, illiterate or with low educational status, therefore prefer seeking home delivery, sometimes with the involvement of spiritualist due to cost; others resort to local TBAs, abdominal massage for the fear and possible cost or surgery. (Audu *et al.*, 2009 and Chiwuzie *et al.*, 2001)

Hence, report to our centre and other health institutions late, when most of the damage must have been done. Although in literatures, the high rate of fetomaternal complications and loss in the developing countries were attributed partially to the non-availability of health care services and the poor health seeking behavior. (Briggs ND, 1994) In line with the general view in this study we also observed other factors as the leading causes of delays; the strongest impeding factor were the chronic adherence to our cultural and trade-orthodox medical practice, as many women believe to have more faith in home delivery, TBAs, and spiritualist (priest, pastor's) opinion than, that of the modern health personnel. Sometimes even the educated class of the society fall prey to such predicaments, where a spiritualist (and some pastors) in some instances assured a pregnant women with potential danger (High risk) that, all is well, so patients feels reluctant to seek for expert care. (Chiwuzie, *et al.* 2001, Di Mario *et al.* 2007, Titley *et al.* 2010 and Etuk *et al.* 1999)

Despite the fact that the actual causes of fetomaternal complications and loss were mainly as a result of the following conditions such as: PPH, Infection (malaria etc), Preeclampsia-eclampsia, Obstructed labor, sepsis/infection due to undesirably long PROM, majority of these events were preventable with proper timely interventions, but some of the factors mentioned prevents the health services uptake in most of the instances in this study. (Briggs, 1994 and Mother-baby package: implementing safe motherhood in countries. Geneva: World Health Organization; 1994.) In Nigeria preeclampsia-eclampsia is one of the major causes of maternal morbidity, mortality, similar to other sub-Saharan countries, and has been reported to have contributed to 46.3% of maternal deaths in Kano State and 43% of maternal deaths in Jigawa State. While PPH complication of delivery associated with preeclampsia, infections, obstructed labor etc has also influenced maternal mortality, morbidity negatively. (Fasubaa *et al.* 2000, Okonta *et al.* 2002, Khan *et al.* 2006 and).

It also buttresses the continuity of those issues of concern: as they are indicators of the poor state of our socio-economic, cultural development, political will and the health care services with the implication that relevant health-related millennium development goals (MDG 4-5) may not be achieved in the country as foreseen. (Abou Zahr *et al.* 2001 and Onwudiegwu U. 2001) Maternal complications and poor perinatal outcome are highly associated with non-utilization of antenatal and delivery care services and poor socioeconomic conditions of the patient, with poorer outcomes in unbooked than booked patients. Various studies had confirmed the positive influence of antenatal care on maternal and perinatal outcomes irrespective of other maternal characteristics. (Adelusi *et al.*, 1999 and Ekwempu *et al.*, 2006). However most of the socio-cultural and economic indices considered in the study were found not impressive and as such reflected negatively on the outcome of pregnancies in the region.

Despite the increasing efforts made by various governments and regional association in addressing maternal mortality in the developing world; recently as a key factor in achieving the Millennium Development Goals (MDGs). (Federal Ministry of Health and World Health Organization, Abuja, Feb. 2003) The World Health Organization (WHO) Consider the poor healthcare seeking behavior, socio-cultural, traditional and socio-economic environment prevailing in the region; and its adverse negative effect on the current state of the perinatal and maternal mortality situation in Nigeria. Which further stresses need for an active participation of consciously integrated national and global effort, were more proactive emphasis could be made on antenatal surveillance, as many studies have shown a direct relationship between maternal and perinatal mortality, morbidity with the unbooked patients?. The resultant effect of these studies on the subject matter will give room for a proper well coordinated planning and implementive interventions that may at least bring about the expected reduction in perinatal and maternal morbidity and mortality. This study is aimed at how our socio-cultural, traditional beliefs and practices and other socio-demographic factors influences perinatal and maternal outcome, among booked and unbooked mothers who delivered at the Niger Delta University Teaching Hospital, Okolobiri, Nigeria.

MATERIALS AND METHODS

This was a retrospective study of all pregnant women admitted and managed to delivery with some forms of negative fetomaternal outcome between 1st January 2009 and 31st of December 2013 at the Department of Obstetrics and Gynecology, Niger Delta University Teaching Hospital, Okolobiri, Nigeria. A newly established tertiary health institution, located within the rural community in Bayelsa State. It covers the rural communities and also referrals from other institutions both public and private from the whole state. It is a teaching unit for specialist obstetricians and gynecologists in training, as well as undergraduate medical students of the Niger Delta University, college of medicine. This was approved by the Hospital Ethics Committee.

Collection of Data

All pregnant women admitted and managed to delivery, including presenting at labour with known or underlying

pathology during the study period with proper medical records were retrieved from medical archives. Patients who attended antenatal clinics in our department, those referred from other health institutions and those self referred were enrolled in the study. Excluded from the studies were those who delivered elsewhere and those whose pregnancies were terminated before the age of fetal viability; in our environment pregnancy less than 28 weeks of gestation, and data of new born babies send to SCUBU. Clinical data included were socio-demographic details (age, marital status, residency, employment status, and education). Pregnancy characteristics such as (abortion, parity, mode of delivery) where included. Others are fetal outcome, booking status, history of abdominal massage, Traditional Birth Attendance uptake and maternal outcome. Finally, questionnaire designed for the study was made and data were entered using the Epi info 7 version 1.4.0.

RESULTS

During the 5 years study period a total of 2815 deliveries were recorded of which 508 women, with negative fetomaternal outcome were evaluated for the study. Maternal mortality was 0.57%, all maternal death occurred in the unbooked group. The most common maternal complication was anemia 61.61%, others includes; Preeclampsia-eclampsia (50.19%), PPH 46.85%, Sepsis/fever 30.31%, Obstructed labor 27.76% and Malaria 23.03% in Table 4. The average age of the patients was 28.5±6.2 years. 78.54% (n=399) were married. Only 9.65% (n=49) had education higher than secondary, 78.93% (n=401) had primary or post primary education, while 11.42% (n=58), have no formal education. Majority, 91.14% (n=463) were rural dwellers. While only 17.13% (n=87) were pensionably employed, 60.23% (n=306) were unemployed in Table 1. Majority of those with higher education were booked 7.48% (n=38), 26.97% (n=137) were house wives, while 46.65% (n=237) of the unemployed where of the unbooked group and 55.71% (n=283) rural residence where from the unbooked

patronized TBAs and 81.82% (n=234) of the unbooked group had abdominal massage. 40.35% (n=205) had preeclampsia-eclampsia, 33.20% (n=169) had PPH and 21.06% (n=107) had obstructed labor in the unbooked, which was significantly higher those booked in Table 4 Table 4 shows that 56.69% (n=288/508) were anemic, 19.88 % (n=101/508) had fever/sepsis, hysterectomy 0.98% (n=1/508) and maternal mortality 3.15% (n=315/508) all in the unbooked group. Blood transfusion was higher in the unbooked group 90.58% (N=125/129). While Table 5: illustrates the total stillbirth was 3.16% (n=89), majority of the stillbirths were in the unbooked group 82.02% (n=73/89). While, 33.86%(n=149/440) of the live birth babies, had a low Apgar score of between 1-6 in one minute, with the unbooked group represented by 24.08%(n=106/440). Gestational week on admission and delivery; 44.69% (n=230) were preterm delivery between 29-36 weeks of gestation. The unbooked group with 30.75% (n=156) preterm delivery. The unbooked group also recorded the lowest birth weight <2500Kg 39.55% (n=174), cesarean section was performed in 45.27% (n=230) there was no significant different with the spontaneous vaginal delivery, while more of the cesarean section was done in the unbooked group 72.61% (n=167/230).

DISCUSSION

Traditional behaviors, socio-cultural and socioeconomic status may not be direct causes of stillbirths, maternal death or morbidity, but rather inversely influences those steps: like antenatal booking, nutritional imbalance, delays in seeking medical helps, also resulting to the patronage of Traditional Birth Attendance services, abdominal massages, seeking the intervention of spiritualist, and sometimes relying on certain pastors in decision making. (Etuk *et al.* 199 and Harrison 1997) In an economically deprived environment like were this study was carried out, though comparatively better quality services can be provided, yet access to these quality care during pregnancy, and in delivery is a crucial factor, resulting to large

Table 1: Socio-demography of the patients (n=508)

Variables	Booked		Unbooked		Cumulative
	Frequency	Percentage	Frequency	Percentage	Percentage
Age					
15-24	15	2.95%	22	4.33%	7.28%
25-34	105	20.67%	163	32.09%	60.06%
≥35	78	15.35%	125	24.61%	100.00%
Marital Status					
Divorced	13	2.56%	18	3.54%	6.10%
Married	155	30.51%	244	48.03%	84.64%
Single	31	6.69%	47	9.25%	100.00%
Education					
Higher	38	7.48%	11	2.17%	9.65%
Primary/Secondary	148	29.13%	253	49.80%	88.58%
No Education	9	1.77%	49	9.65%	100.00%
Occupation					
No occupation	15	2.95%	55	10.83%	13.78%
Petty trader	31	6.10%	106	20.87%	40.75%
Peasant farmer	17	3.35%	35	6.89%	50.99%
Civil servant/Professionals	59	11.61%	17	3.35%	65.95%
House wives	39	7.68%	137	26.97%	100.00%
Occupational Status					
Unemployed	69	13.58%	237	46.65%	60.23%
Employed	68	13.39%	19	3.74%	77.36%
Self employed	26	5.12%	89	17.52%	100.00%
Residence					
Rural	180	35.43%	283	55.71%	91.14%
Urban	19	3.74%	26	5.12%	100.00%

Table 2. Previous obstetrics history of the patients (n=508)

Variables	Booked		Unbooked		Total
	Frequency	Percentage	Frequency	Percentage	Cum. Percentage
Abortion					
0	35	6.89%	122	24.02%	30.91%
1	28	5.51%	97	19.09%	55.51%
2	29	5.71%	100	19.69%	80.91%
≥3	21	4.13%	74	14.57%	100.00%
No of Deliveries					
None	14	2.76%	52	10.24%	12.98%
1	28	5.51%	98	19.29%	37.78%
≥2	70	13.78%	245	48.23%	100.00%

Table 3. Trado-cultural practice and patients attitude to health care system of pathological outcome (n=508)

Booking Status	Frequency	Percent	Cum Percent		
Booked	115	22.64%	22.64%		
Un-booked	393	77.36%	100.00%		
Category			Booked	Unbooked	Total
Variables	Frequency	Percentage	Frequency	Percentage	Percentage
TBA(n=422)	34	6.69%	388	76.38%	83.07%
Abdominal massage(n=368)	52	10.248.18%	316	62.20%	72.44%

Table 4. Complication during and after delivery of patient (n=508)

Maternal morbidity	Booked		Unbooked		Overall	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Causes of Morbidity						
Malaria	18	3.54%	99	19.49%	117	23.03%
PPH	69	13.58%	169	33.27%	238	46.85%
Obstructed labor	34	6.69%	107	21.06%	141	27.76%
Preeclampsia	35	6.89%	142	27.95%	177	34.84%
Eclampsia	15	2.95%	63	12.40%	78	15.35%
Placenta praevia	6	1.18%	4	0.79%	10	1.97%
Placenta Abruption	4	0.79%	27	5.31%	31	6.10%
Type of Morbidity (complication)						
Anemia	25	4.92%	288	56.69%	313	61.61%
Fever/sepsis	53	10.43%	101	19.88%	154	30.31%
Wound breakdown	1	0.19%	5	0.98%	6	1.18%
Injury to organs (bladder)	3	0.59%	15	2.95%	18	3.54%
Uterine rupture (n=29)	4	0.79%	25	4.92%	29	5.71%
Hysterectomy	0	0.00%	1	0.19%	1	0.19%
Reoperation	0	0.00%	4	0.79%	4	0.79%
HIV	0	0.00%	5	0.98%	5	0.98%
Mortality	0	0.00%	16	3.15%	16	3.15%
Blood transfusion (N=138)	13	2.56%	125	24.61%	138	27.17%

Table 5. Gestational and peri-natal information of the patient

Variables	Booked		Unbooked		Overall	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Gestational age (week) on admission (n=508)						
29-32	17	3.35%	36	7.09%	56	10.44%
33-36	54	10.63%	120	23.62%	174	44.69%
37-42	83	16.34%	95	38.39%	278	100.00%
Total No. of babies (N=529) Babies born alive	114	21.55%	326	61.63%	440	83.18%
Stillbirth (n=2815)	16	0.57%	73	2.59%	89	3.16%
Apgar score (n=440)						
1-3	15	3.41%	36	8.18%	51	11.59%
4-6	28	6.36%	70	15.91%	98	33.86%
7-10	71	16.14%	220	50.00%	291	100.00%
Baby weight in Kg. of babies alive (n=440)						
<1000	3	0.68%	4	0.91%	7	1.59%
1100-2000	7	1.59%	82	18.64%	89	28.64%
2000-2450	12	2.73%	58	13.18%	70	44.55%
2500-3500	83	18.86%	176	40.00%	259	84.55%
>3500	9	2.06%	65	14.77%	74	100.00%
Mode of Delivery (n=508)						
CS (n=230)	63	12.40%	167	32.87%	230	45.27%
SVD	61	12.01%	217	42.72%	278	100.00%

degree of hindrance, as majority were rural dwellers, unemployed or substantial farmers, with no formal education or lower educational status, therefore many of the patients are living below the country's minimum basic salary level of < \$100 USD (₦ 188=\$1.00) monthly. The overall outcome, although better than studies done by "Garenne M *et al.* 1997 in Senegal", yet the causative factors were similar. The cost on transport, availability of transportation system, poor communicating routes, hospital bills and other expenses, the fear of surgical delivery, other causes like some of the new wave of spiritual houses and churches where the ministers do assure the patients, that belief is just enough to overcome all odds and obstacles, thereby encouraging women of faith as the only answer to all circumstances. (Etuk *et al.*, 1999 and Wagle *et al.*, 2004), Women feel secured and are untouchable as regards illness or adverse effect of not seeking for antenatal care during pregnancy. The World Bank (1998) had observed that maternal and infant mortality depends to a large extent on whether women have access to information, education and communication recourses' required to provide themselves and their infants with adequate care.

(Ajiboye Adebayo 2012, Okeudo *et al.* 2012). Regrettably so, contrast to the assumption of the World Bank assumption, the reverse is the case among the population in these study, were large proportion of the patients are illiterate, or with low educational background. Therefore the high level of foeto-maternal mortality and morbidity in the study and similar studies done in the country and other developing countries could be attributed partly to the non-availability of services due to consistence interruption in the health care system and poor utilization of the health care services for obvious reasons such as the economic, educational and other trado-cultural reasons in place (Harrison 1997, Hossain *et al.* 2009 and Khan *et al.* 2006). The none use of early ultrasound to rule out some correctable fetal abnormalities, coupled with the poor utilization of antenatal care services and delay in decision making as to report early in labor has all resulted to some extent adverse fetal outcomes recognized to be constituting an important public health issues as some of the late chronic health issues in life has been linked with the intrauterine life of the individual. (Kean, 2004 and Ugwuja *et al.* 2011)

This is even more apparent in our environment where the culture is determined and is dominated by men, so dictate what the woman should eat, when to attend antenatal, even more frustrating is the fact that, in most cases the men provide for the family as the men are often educated and have gainful employment while the woman's role is in the kitchen, therefore dictates everything. (Ajiboye, Adebayo 2012) Elo in 1992 found quantitatively important and statistically reliable estimates of the positive effect of maternal schooling on the use of prenatal care and delivery assistance. Also in addition, large discrepancies were found in the utilization of maternal health-care services by place of residence, which correlates with this study as more than two-third of the patients were rural habitants, therefore, a low uptake of the antenatal care services was experienced (Bolam *et al.* 1998; Wagle *et al.* 2004). In every society the outcome of a pregnancy may undermine family stability, and a negative outcome sometimes leads to family disintegration.

There is also the general economic aspect of that, because the feature of the society depends on the upcoming generations. This study is in line with other earlier studies which has depicted the importance of the socio-economic status of the woman as it significantly affect the pregnancy outcome in those resources handicapped societies ref. (Ezeibunwa *et al.* 2013). In spite of efforts, made to improve the foeto-maternal health indices by the federal government as to meet the Millennium Development Goals (MDGs 4-5) targets; we are still challenged by the constant trado-cultural practice of the TBAs, Spiritualist, and local masseurs' encouraging pregnant women to patronize their services. During this study 83.07 % of the patients were admitted to the department and the labor ward after many hours or days of labor in the TBAs or home in unskilled hands before presentation.

Also, quite a large proportion of the patient's 72.44% went for abdominal massage, which consequently in some cases induces abruption placenta before presenting. Furthermore majority of the patient's 77.36% with different degree of complications were unbooked. The study recorded a high 16 maternal mortality, 0.57% as a result of complications of the pregnancy and delivery during the study period, though lower than studies done by "Shehu, *et al.* 1992" in Sokoto, Nigeria. All the fatal cases recorded were apparently from those patients, who were unbooked. We also observed a very high frequency of complications (Pre-eclampsia, eclampsia, PPH, obstructed labour) primarily due to such factors like the poor utilization of prenatal care services, poverty, educational handicaps, lack of communication, rural habitation, cultural practice (TBAs, abdominal massage etc), delays due to (distance, discouragement from spouse, spiritualist, pastors, from services providers).

Outstanding among the complication were obstructed labour 27.76%, preeclampsia-eclampsia 50.19% and Postpartum haemorrhage 46.85%. Several degree of maternal morbidities were also recorded; such as (Malaria, infection/sepsis, anaemia, injuries to organs. (Ugwuja 2011, Khama *et al.* 2005 and Kwast, 1996) Anemia was significantly high 56.69% in the unbooked group and 4.92 % in the booked group, malaria was 23.03%, while infection/ sepsis were 30.31% and injuries to other organs were 9.25% (uterine rupture 5.71%, and bladder injuries 3.54%). The WHO reported for the first time national statistical review of stillbirth estimates; in which 10 countries represented two-thirds of all stillbirths. These countries (in order from the highest to the lowest stillbirths) includes: India, Pakistan, Nigeria, China, Bangladesh, Democratic Republic of the Congo, Ethiopia, Indonesia, Afghanistan and Tanzania. (Stanton *et al.* 2006) The incidence of stillbirths was 31.6‰, much more higher than result from other studies done in developed countries like 2‰ in Finland and global average 18.9‰, but lower than the national figure of Nigerian 42‰ and 47‰ in Pakistan by (Say *et al.* 2006 and Steenhuisen 2011). In this study majority occurred in the unbooked group 82.02%, similar to report from (Shingairai *et al.* 2003). The reasons were mainly due to the different types of delays experienced in this part of the country, and those pathologies earlier mentioned, which has high tendency of fetal compromise. Despite the urgent interventions when obvious fetal distress were observed, still; many newborns with low Apgar scores

(1-6/min) required intensive care SCUBU 33.86% in the studied population. The highest age group incidence of 48.42% were in the age group of 20-29 years, similar to the 25-29 years found in Aba and much less than 31-35 years found in the National hospital (Ozumba, Ibe 1993 and Tukur, Muhammad Z 2010). It is however, greater than the highest age group of 15-19 years found in Shagamu (Status of emergency obstetric service in six states of Nigeria – A needs assessment report, 2004). The average age of the patients was 29.02±10.34 years. Majority of the patients were married, 78.9%. Majority of the patients were rural dwellers 89.5%, with low educational background 66.3%, predominately dominated by house wives, farmers and petty traders; who belong to the low income earning group of the society. However; only 17.13% were pension ably employed. All these socio-economic factors influences patients' decisions as regards antenatal uptake Conclusively certain degree of errors is expected as it is a retrospective review, where there are lots of dependable factors as to the accuracy and storage of all the documents in the patient's records, and the actual perinatal mortality could not be ascertained because information about those with low Apgar scores referred to SCUBU where difficult to obtain.

Conclusion

The information retrieved has shown light in regards to the direction to follow as to achieve better result; such as provision of general health information, education and good working opportunities for the female gender, review of certain cultural values. Most importantly; the provision of universal health care policy, which embraces free Medicare for the pregnant woman and for the infants would encourage more women to participate in the antenatal care services.

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REFERENCES

Aatekah, O., Abu Syed, G.F., Sumon, K.D., Shahnawaz, A.S. R. and Aryeh, D.S. November 7, 2013. Maternal and Antenatal Risk Factors for Stillbirths and Neonatal Mortality in Rural Bangladesh: A Case-Control Stud; PLO DOI: 10.1371/journal.pone.0080164.

AbouZahr, C. and Wardlaw, T. 2001. Maternal Mortality at End of a Decade: Signs of Progress. Bulletin of the World Health Organization. 79:32-34. [PMC free article: PMC2566451][PubMed: 11436479]

Ajiboye, O.E. and Adebayo, K.A. February 2012. Socio-cultural factors affecting pregnancy outcome among the Ogu speaking people of Badagry area of Lagos State, Nigeria; *Int. Journal of Humanities and Social Sciences*, vol.2 No.4 [Special issue.

AbouZahr, C., Wardlaw, T. and Hill, K. 2001. "Maternal Mortality in 1995: Estimates Developed by WHO, UNICEF, UNFPA." WHO/RHR/01.9, WHO, Geneva.

Adelusi, B., al-Nuaim, L.A., Chowdhury, N. *et al.* 1999. Socio-demographic characteristics of the "unbooked mother". *West Afr. J. Med.*, 18:191-5.

Agan, T.U., Archibong. E.I., Ekabua, J.E., Ekanem, E.I., Abeshi, S.E., Edentekhe, T.A. and Basse, E.E. 2010. Trends in maternal mortality at the University of Calabar Teaching Hospital, Nigeria, 1999-2009; *Int J Womens Health*, 2010; 2: 249-254. Aug 10. PMID: PMC2990892

Audu, B.M., Alhaji, M.A., Takai, U.I., Bukar, M. 2009. Risk factors for stillbirths at Universty of Maiduguri Teaching Hospital, Maiduguri, Nigeria: A cross-sectional retrospective analysis. *Niger Med J.*, 50:42-6.

Bolam, A., Manandhar, D.S., Shrestha, P., Ellis, M., Malla, K., Costello, A.M. Factors affecting home delivery in the Kathmandu Valley. *Health Policy Plann* 1998, 13:152-158.

Briggs, N.D. 1994. Maternal mortality in sub-Saharan Africa: The problems and prevention. *Trop J. Obstet Gynaecol*, 2:8-11.

Chiwuzie, J. and Okolocha, C.O. 2001. "Traditional belief systems and Maternal Mortality in a Semi Urban Community in Southern Nigeria", *African Journal of Reproductive Health*, 5(11), 75-82.

Di Mario, S., Say, L. and Lincetto, O. 2007. Risk factors for stillbirth in developing countries: a systematic review of the literature. *Sex Transm Dis.*, 34:S11-21. [PubMed]

Ekwempu, C.C. 1988. The influence of antenatal care on pregnancy outcome. *Trop J Obstet Gynaecol*, 1:67-71.

Ekele B. Magnesium sulphate: The gold standard for the treatment of eclampsia and severe pre-eclampsia. *Trop J Obstet Gynaecol*. 2006; 23:1-2.

Etuk, S.J., Itam, I.H. and Asuguo, E.E. Nov 1999. Role of the spiritual churches in antenatal clinic default in Calabar, Nigeria; *East Afr. Med. J.*, 76(11):639-43.

Ezeibunwa, E.N. 2013. Pregnancy outcomes among the Ibani of Rivers State, Nigeria: Findings from case-studies; *African Population Studies*, 10/Doi:10.11564/21-1-352.

Fasubaa, O.B., Ogunniyi, S.O. and Ezechi, O.C. 2000. Maternal mortality in Obafemi Awolowo University Teaching Hospital Complex Ile-Ife - a comparison of maternal death in young and older women. *Nig. J. Med.*, 4:147-51.

Garenne, M., Mbaye, K. and Bah, M. D. and Correa P. 1997. Risk Factors for Maternal Mortality: A Case-Control Study in Dakar Hospitals (Senegal) *African Journal of Reproductive Health*, 1 (1):14-24. [PubMed: 10214399]

Harrison, K. 1997. Maternal Mortality in Nigeria: The Real Issues. *African Journal of Reproductive Health*, 1(1):7-13. [PubMed: 10214398]

Hossain, N., Khan, N. and Khan, N.H. 2009. Obstetric causes of stillbirth at low socioeconomic settings. *J Pak Med Assoc.*, 59:744-7. [PubMed]

Itam, I.H. and Ekabua, J.E. 2001. A review of pregnancy outcome in women with eclampsia at the University of Calabar Teaching Hospital, Calabar, *Trop J. Obstet Gynaecol*, 18(2): 66-6

Khan, K.S., Wojdyla, D., Say, L., Gulmezoglu, M.A. and Van Look, P.F.A. 2006. WHO analysis of causes of maternal deaths: a systematic review. *Lancet*. 367:1066-1074. doi: 10.1016/S0140-6736(06)68397-9. [PubMed] [Cross Ref]

Kean, L. 2004. Intrauterine fetal death. In: Leusley DM, Baker PN, editors. *Obstetrics and gynaecology: An evidence-based text for mrcog*. Oxford: Arnold, pp. 317-24.

- Khama, O., Rogo, John Oucho, and Philip Mwalali 2005. Disease and Mortality in Sub-Saharan Africa. 2nd edition.
- Kwast, B. E. 1996. Reduction of Maternal and Perinatal Mortality in Rural and Peri-Urban Settings: What Works. Review. *European Journal of Obstetrics, Gynecology, and Reproductive Biology*, 69(1):47–53. [PubMed: 8909956]
- Okeudo, C., Ezem, B.U. and Ojiji, E.E. 2012 Jul-Dec. Stillbirth Rate in a Teaching Hospital in South-Eastern Nigeria: A Silent Tragedy; *Ann Med Health Sci Res.*, 2(2): 176–179. doi: 10.4103/2141-9248.105667 PMID: PMC3573514
- Okonta, P.I., Okali, U.K., Otoide, V.O. and Twomey, D. 2002. Exploring the causes of and risk factors for maternal deaths in a rural Nigerian referral hospital. *J. Obstet Gynaecol*, 22:626-9
- Onadeko, M.O., Lawoyin, T.O. 2003. The pattern of stillbirth in a secondary and a tertiary hospital in Ibadan, Nigeria. *Afr J Med Med Sci.*, 32:349–52.[PubMed]
- Onwudiegu, U. 2001. “The influence of poverty on the Utilization of Maternal Health Services in Nigeria”, Research and Policy Directions on Poverty in Nigeria pp 77-8538.
- Ozumba, B.C. and Ibe, A.I. 1993. Eclampsia in Enugu, eastern Nigeria. *Acta Obstet Gynecol Scand*, 72:189-92.
- REDUCE. Maternal and Newborn Deaths in Nigeria. Make Pregnancy Safer. Federal Ministry of Health and World Health Organization, Abuja, Feb. 2003
- Say, L., Donner, A., Guilmezoglu, A.M., Taljaard, M. and Plaggio G. 2006. [PubMed] The prevalence of stillbirths: A systematic review. *Reprod Health*.3:1. [PMC free article] [PubMed]
- Shehu, D. 1992. Sociocultural factors in causation of maternal mortality and morbidity in Sokoto in M.N.Kissekka ED Women Health issues in Nigeria, Tamaza Publishing, Company ltd. Zaria Society of Gynaecology and Obstetrics of Nigeria. Status of emergency obstetric service in six states of Nigeria – A needs assessment report, 2004.
- Steenhuysen, J. Stillbirth 2011. A silent tragedy haunts the world's poor. Reuters Health. [Last accessed on 2011]. Available from: <http://in.reuters.com/article/04/14/us-stillbirth-idINTRE73C85120110414>
- Shingairai, A.F., Sioban, D.H., Kathy, W. and Brenda, W.G. 2003. Incidence of and socio-demographic risk factors for stillbirth, preterm birth and low birth weight among Zimbabwean women. *Blackwell Synergy: Paediatr Perinat Epidemiol*, 18:154–63.[PubMed]
- Stanton, C., Lawn, J.E. and Rahman, H. *et al.* Stillbirth rates: Delivering estimates in 190 countries, *Lancet* 2006; 367:14871494
- Titaley, C.R., Hunter, C.L., Dibley, M.J. and Heywood, P. 2010. Why do some women still prefer traditional birth attendants and home delivery?: a qualitative study on delivery care services in West Java Province, Indonesia. *BMC Pregnancy and Childbirth* 10:43. Doi:10.1186/1471-2393-10-43.PubMed:20701762.
- Tukur, J. and Muhammad, Z. 2010. Management of eclampsia at AKTH: before and after magnesium sulphate. *Niger J Med.*, 19(1):104–107. [PubMed]
- Ugwuja, E.I., Akubugwo, E.I., Ibiom, U.A. and Obidoa, O. Apr 2011. Maternal sociodemographic parameters: Impact on trace element status and pregnancy outcomes in Nigerian women; *J. Health Popul Nutr.*, 29(2):156-162.
- Wagle, R.R., Sabroe, S. and Nielsen, B.B. 2004. Socioeconomic and physical distance to the maternity hospital as a predictors for place of delivery: an observation study from Nepal; *BMC Pregnancy and Childbirth*, 4:8 doi:10.1186/1471-2393-4-8
- World Health Organization. 1994. Mother-baby package: implementing safe motherhood in countries. Geneva: World Health Organization.
