Original Papers

Musodiq Adewale Abdulahi[*]
Fadhilat Motunrayo Adegbite[*]

The Effect of Lagos State Government Expenditure on Maternal Mortality Ratio

Abstract: *Maternal mortality has posed a great problem in the health sector of most African countries. Nigeria's maternal mortality ratio remains high despite efforts made to meet millennium development goal 5 (MDG_5). This study used the Lagos state community health survey 2011 and the Lagos state health budget allocations 2011 to examine the effect of government expenditure on maternal mortality ratio. Factors like inadequate transportation facilities, lack of awareness, inadequate infrastructures, which contribute to high maternal mortality rate, can be traced back to revenue though under different ministries. The other ministries need to work and support the ministry of health in the fight against maternal, especially in Lagos state. Secondary data was compiled from the state budget, records of death in different local governments in the state and relevant reviewed literature. Regression analysis was used to analyze the hypothesis and it was discovered that government expenditure does not have a significant effect on maternal mortality based on the R-square coefficient. However, correlation coefficient gives a contrasting result. Hence, further research work, government expenditure from other local government areas need to be taken into consideration to arrive at a valid conclusion. It is difficult to ascertain how much of the revenue allocated was put to appropriate use, due to a high level of corruption.*

Keywords: *Maternal mortality, government expenditure, regression analysis*

Introduction

Maternal mortality is a worldwide problem and an issue of great concern. In the International statistical classification of diseases and health related problems, 10th revision (ICD-10), World Health Organization (WHO) defines a maternal death as "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". WHO in its 2005 World Health Report "Make Every Mother and Child Count" stated that the major causes of maternal deaths are: haemorrhage, sepsis, unsafe abortions, eclampsia, obstructed labour, and other indirect causes. The extent of maternal mortality is essentially the combination of two factors; i) the risk of death in a single pregnancy or a single live birth; ii) the fertility level, that is, the number of pregnancies or births that are experienced by women of reproductive age.[1] Statistical measures of maternal mortality include:

Maternal mortality ratio (MMR): This is the number of maternal deaths during a given time period per 100,000 live births during the same period.

Maternal mortality rate (MMRate): This is the number of maternal deaths in a given period per 100,000 women of reproductive age during the same time period.

Adult lifetime risk of maternal death: This is the probability that a 15-year-old female will die eventually from a maternal cause.

The proportion of maternal deaths of women of reproductive age (PM): This is the number of maternal deaths in a given time period divided by the total deaths among women aged 15–49 years.

Of the estimated maternal deaths worldwide yearly, 99% of these annual deaths occur in developing countries.[2]

The MMR in developing countries is 240 per 100,000 births versus 16 per 100,000 in developed countries,[1] with sub-Saharan Africa having the highest MMR at 500 per 100,000 births.[2] However, between 1990 and 2010, the global maternal mortality ratio declined by only 3.1% per year, which is far from the annual decline of 5.5% required

---

[*] **University of Lagos**

Corresponding author: Musodiq Adewale Abdulahi, e-mail: walexdelighted2014@gmail.com

to achieve MDG5.[3] A United Nations report released May 16 2010 titled "Trends in Maternal Mortality: 1990–2010" showed that 14 percent of the world's death related to child bearing are in Nigeria. Nigeria makes up only 1.7% of the total world population, but accounts for about 10% of the global estimate for maternal mortality.[4] The MMR in Nigeria was last reported in 2010 at 630 per 100,000 live births according to a World Bank report making it the 10th -highest in the world.[5] There are significant disparities among regions in Nigeria, with Northern Nigeria having higher mortality rates than the wealthier South. 'The UNFPA estimates stated that in 2009, maternal mortality in Lagos state was 400 per 100,000 live births, while the state Ministry of health provides a higher estimate of 650 per 100,000 live births.[6]

Nigeria's expenditure on health is relatively low, even when compared with other African countries. The total health expenditure as a percentage of the gross domestic product (GDP) from 1998 to 2000 was less than 5%, falling behind that of other developing countries such as Kenya (5.3%), Zambia (6.2%), Tanzania (6.8%), Malawi (7.2%) and South Africa (7.5%).[7] The total government health expenditure as a proportion of the total health expenditure was estimated as 18.69% in 2003, 26.4% in 2004 and 26.02% in 2005.[7] Remarkably, the federal budgetary component of health expenditure has increased over the years. It increased from 1.7% on 1991 to 7.2% in 2007. Nevertheless, the budgetary allocation for health is still below the 15% signed by the Nigerian government in the Abuja Declaration.[7] The Nigerian Medical Association (NMA) dismissed the 6.4% allocation to the health sector for 2013, describing it as paltry and inadequate to achieve the desired health dividends of democracy. Provision of essential and quality health care services and reduction of maternal mortality has been difficult owing to this level of government spending. Also the unwillingness and inability of the government leaders to rise to their responsibility and lack of political will for strategic policy, coupled with the prevalence of corruption owe to the worsening of the sector: Public officials misuse entrusted power for their private gains at the expense of people's lives and thereby fail to release information on how the funds were managed, or instead give false accounts. Therefore, there is a mismatch between resource allocation and what is actually spent. The absence of data for effective planning and ensuring proper accountability, and failure to implement policies contribute to the slow progress.

Improving maternal mortality is one of the eight Millennium Development Goals (MDGs) adopted by the international community at the United Nations Millennium Summit in 2000. In MDG5, countries committed themselves to reducing maternal mortality ratio by three quarters between 1990 and 2015. In achieving the MDG target of reducing maternal mortality by 75%, progress in Nigeria could prove pivotal, as Nigeria still remains one of the most dangerous countries in the world to give birth.[5] Achieving MDG5 requires accelerating progress in promoting maternal health in developing countries.

According to the National Demographic and Health Survey of 2008, 39.7% of women in Lagos state could not access healthcare due to lack of funds. The overall percentage of health budget to total federal budget is a far cry from the WHO's recommendation of 15% health budget to national budget.[5] It can be said that of all the factors that affect maternal mortality, government expenditure on health serves as a yardstick in determining the manner in which all others affect it. Other factors contributing to high maternal mortality include: lack of antenatal care, inadequate staffing, delays in treatment of complications, low maternal educational level, adverse cultural practices, inadequate standard facilities, poverty, accessibility, transport and so on. These can all be charged to lack of adequate funding and the inefficient allocation of resources by the government.

The main objective of this research work is to determine the effect of government healthcare expenditure on maternal mortality especially with respect to Lagos State. Specifically, it seeks to consider the relationship between the level of expenditure by government and the overall effect on maternal mortality. This study evaluates healthcare funding in Lagos state, with respect to the health budget and health expenditure and how these affect the maternal mortality ratio in the state. The remaining parts of this paper are as follows: section two involves review of maternal mortality; section three includes material and methods, the summary and conclusion are in section four and five respectively.

Literature Review

Maternal Mortality

According to a WHO publication released May 2012, 99% of all maternal deaths occur in developing countries, with a higher percentage in women living in rural areas and among poorer communities. Almost all of these were as a result of low-resource settings, and most could have been prevented. The high number of maternal deaths in some of these areas reflected inequities in access to health services, and highlighted the gap between the rich and the poor. Access to antenatal care, skilled care during childbirth and care and support in the weeks after childbirth were listed as ways to prevent these deaths while poverty, distance, lack of information, inadequate service and cultural practices were listed as factors that prevent women from receiving quality healthcare. They reasoned that poor women are least likely to receive adequate health care as a result of insufficient health facilities and health workers in their countries. To improve healthcare it was suggested that barriers that limit access to quality maternal health services must be identified and addressed at all levels of the health system.

Alvarez et al.[8] concluded that education is strongly related to maternal death, as education of women is higher in those countries were the MMR is lower. McAlister et al.[9] suggest a strong relationship between the level of female literacy and education, and maternal and infant mortality. Programs aimed at providing medical care to reduce maternal and infant mortality may have limited success

unless carried out in parallel with improved availability of education for women.[10]

Education allows women to make informed choices and seek proper health care. A World Health Organization report on Asia and the Pacific shows that female literacy rates are a strong predictor of maternal mortality rates; the more literate the female population, the lower the maternal mortality rate.[11] Using data from the World Health Organization's Global Survey on Maternal and Perinatal Health, researchers found that women with no education were nearly three times more likely to die during pregnancy and childbirth than women who had finished secondary school.[11]

A woman's level of education, and her specific knowledge about the importance of pregnancy and delivery care and awareness of where to receive them, also plays a role in uptake of services.[12] For example, in Namibia, women with post- secondary education were over twice as likely to deliver with a skilled attendant compared to those with no education, and seven times more likely to obtain a caesarean section.[13]

According to Ahmed et al.,[14] efforts to expand maternal health service utilization can be accelerated by parallel investments by government in programs aimed at poverty eradication (MDG 1), universal primary education (MDG 2), and women's empowerment (MDG 3). UNFPA[11] states that a woman's chance of dying or becoming disabled during pregnancy and childbirth is closely connected to her social and economic status, the norms and values of her culture, and the geographic remoteness of her home.

Relationship between Government Expenditure on Health and Maternal Mortality

Government financing may increase access to maternal health services to a greater extent than the private sector (including households paying out-of-pocket), as these services represent a substantial investment in the supply of hospitals, nurses and doctors – an investment that cannot be tackled by households or the nascent private health care sector.[15]

Adequate investment in health as a governmental priority is a prerequisite to ensuring widespread coverage of interventions that prevent pregnancy, its complications, and resulting deaths.[10] Health spending needs to be directed into programs that are known to be effective, through mechanisms that reach the most neglected populations. A systematic review of maternal health programs found that implementation of evidence based interventions was associated with the amount of national resources allocated to the issue, but also with leadership skills and the development of health facility accountability, community based financing systems, and efforts to facilitate service use by remote and rural areas.[16] A positive example comes from Thailand, which has demonstrated particular success in health system investment, with particular attention to improvements in district and sub-district level public sector primary health care delivery.[17]

Efforts to achieve MDG5 cannot succeed where there is inadequate attention to maternal and reproductive health in national planning instruments, insufficient human and financial resources to meet demands, or an over-reliance on external funding sources.[10]

Bassey et al.[18] examined the relationship between levels of government health care expenditure and health status in Nigeria. Where health care services are not subsidized, the dependent poor population are caused to accommodate the over bearing cost of utilizing health care services. This study reveals that government health expenditure is insufficient in improving the health status of the population. They assessed that in order to improve the health status of the population, the Government needs to increase budgetary funding of the health sector, reduce the inequality in the budgetary distribution of health expenditure and undertake a policy that will account for the cost funding health per head in the population.

According to the International Initiative on Maternal Mortality and Human Rights,[19] it was concluded that if maternal mortality is to be reduced, governments must allocate and effectively spend increasing and sustained resources to strengthen their health systems and make them available, accessible, and affordable. Olakunde[7] explored the different mechanisms used for healthcare financing in Nigeria, and identified them as a combination of tax revenue, out-of-pocket payments, donor funding and health insurance. He pointed out that the health financing system is still characterized by low investment by the government, extensive out-of-pocket payments, limited insurance coverage and low donor funding. According to him, to achieve universal coverage of health care services for the poor, Nigeria must move from out-of-pocket payments to other mechanisms of financing.

Onotai et al.[20] in their research paper "A Review of the Nigerian Health care Funding System and How it Compares to that of South Africa, Europe and America" described the Nigerian health care funding system as evolving despite the numerous challenges facing it such as, shortage of manpower, poor implementation of good programs, poor funding and lack of political will on the part of government. The study criticized general taxation as the predominant health care funding by the Nigerian government, as it is never sufficient for the provision of good healthcare services. Furthermore, the study recommended that the government should embark on increasing health care funding by putting more resources into the sector, resuscitating the public health facilities and eradicating corruption within the health sector.

Shiffman et al.[21] assessed the state of political priority for maternal mortality reduction in Nigeria. The study stressed that maternal mortality was a cause worthy of attention and resources, and that reduction objectives will only be achieved if governments make the cause a national political priority. These findings tend to support Ogunlela[22] who was with the view that safe motherhood needs to become a political priority with a definite national plan of action in the form of a national policy for safe motherhood. She argued that free health care services such as ante-natal care, emergency obstetric care, post-natal care, provision of qualified and skilled personnel as well as availability of drugs and facilities are the responsibility of the government.

Yaqub et al.[23] investigate how the effectiveness of public health expenditure is affected by governance in Nigeria. The study obtained results that showed that public health expenditure had a negative effect on life expectancy when the governance indicators were included. According to them simply increasing public expenditure on health is less likely to lead to improvement in health status unless corruption is addressed.

Fabamwo et al.[6] in their research on "An Assessment of Policies and Programs for Reducing Maternal Mortality in Lagos State" praised Lagos State government for a great deal of commitment to the issue of reduction of maternal mortality, though there are still quite a number of positive interventions that need to be embarked upon. They concluded that the cumulative reach of maternal health services is still below expectation, which then calls for rejuvenation and upgrading of the primary health system so that the citizenry will not need to travel long distances to access essential obstetric care. The research stressed that the cost of emergency care in the state needed to be addressed. It recommended that operative deliveries should be completely underwritten or substantially subsidized by government, as it will enable a lot more women access maternal health care at both secondary and tertiary levels. Therefore, they described the financial allocations to maternal health in the state as underfunding though visible infra-structural and equipment development had taken place within the available allocation.

Mojekwu[24] examined the major determinants factors that appear to affect maternal mortality ratio more than others. The study revealed that delivery by a skilled health professional and educational attainment of women had more effect on MMR than other factors. They stated that increased funding of the health care sector is absolutely essential, and therefore argued that the MDG5 will be achieved only if governments devote more resources to the training of medical professionals and also make the education of women a national political priority.

Material and Methods

The study employed qualitative and quantitative research techniques. A non-experimental research design was used for the study. The quantitative aspect of this research requires data on the MMR in the various local governments and their allocated health revenue. The population of this research study constitutes women of childbearing age across 16 local governments Areas in Lagos State. Agege LGA, Ajeromi-Ifelodun LGA, Alimosho LGA, Apapa LGA, Badagry LGA, Epe LGA, lbeju-Lekki LGA, lfako-ljaye LGA, Ikorodu LGA, Kosofe LGA, Lagos Island LGA, Lagos Mainland LGA, Mushin LGA, Oshodi-Isolo LGA, Shomolu LGA, Surulere LGA. Secondary data was employed in this research work. They are compiled from the records of deaths in different local governments in the state and relevant reviewed literature such as: Textbooks, journals, seminar materials etc. Sufficient material on related literature was supplied through internet sources and library research.

The 2011 community based survey on maternal mortality, conducted by Lagos State Ministry of Health was used to obtain values for maternal mortality rates while the Lagos State 2011 approved budget was used to obtain revenue allocations. For the objective of this study, descriptive statistical tools such as tables and graphs was employed in analyzing the data. Data generated was processed through SPSS (Statistical Package for Social Sciences) using regression analysis.

Analysis

The data used in this study are quantitative in nature. Descriptive statistical tools such as tables and graphs were employed in analyzing data. Linear regression was carried out to obtain the equation for determining maternal mortality. The variables involved in the study are as follows:

Independent Variable X = REVENUE
Dependent Variable Y = MMR
The hypothesis tested was:

Ho: The level of government expenditure does not have an effect on maternal mortality.

HI: The level of government expenditure has an effect on maternal mortality.

Table 1. MMR And Revenue Allocation Across Local Governments In Lagos State For The Year 2011

LGA	MMR (per 100,000)	REVENUE
Agege LGA	667	226,800,000
Ajeromi-Ifelodun LGA	736	88,000,000
Alimosho LGA	826	157,600,000
Apapa LGA	421	88,800,000
Badagry LGA	600	178,000,000
Epe LGA	803	93,600,000
lbeju-Lekki LGA	758	44,200,000
lfako-ljaye LGA	690	124,800,000
Ikorodu LGA	754	276,039,998
Kosofe LGA	421	12,100,000
Lagos Island LGA	310	672,360,000
Lagos Mainland LGA	443	163,600,000
Mushin LGA	511	168,000,000
Oshodi-Isolo LGA	443	181,440,000
Shomolu LGA	667	285,200,000
Surulere LGA	332	187,200,000

MMR Source: Lagos State Ministry of Health
Revenue allocation source: Y2011 Lagos State Abridged Annual Budget
SPSS was used to carry out linear regression on the data. The results from the tables have been summarized below.

Table 2. Descriptive Statistics

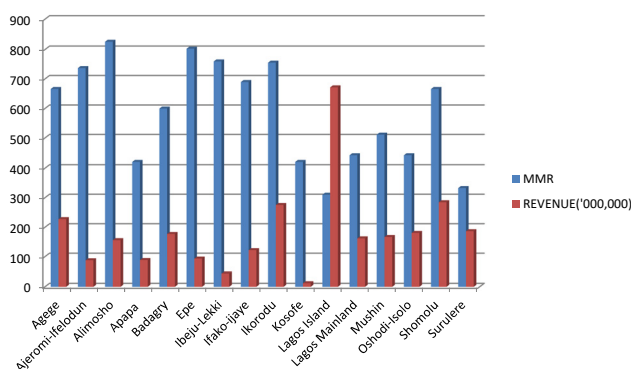|	Mean	Std. Deviation	N
MMR	586.3750	173.35777	16
REVENUE	184.2338	150.44615	16

The descriptive statistics table gives:
- MMR mean and standard deviation as 586.3750 and 173.35777 respectively with a sample size of 16,
- Revenue mean and standard deviation are 184.2338 and 150.44615 respectively, with a sample size of 16.

Table 3. Correlations

		MMR	REVENUE
Pearson Correlation	MMR	1.00	−.334
	REVENUE	−.334	1.000
Sig. (1-tailed)	MMR		.103
	REVENUE	.103	
N	MMR	16	16
	REVENUE	16	16

The Pearson correlation shows a negative value of −.334. This shows an inverse relationship, that is, as revenue increases, MMR falls. This agrees with previously reviewed literature. Initiative on Maternal Mortality and Human Rights (IIMMHR) in a brief published in 2009 concluded that if maternal mortality is to be reduced, government must allocate increasing and sustained resources to the health care system. The inverse relationship is also seen to be in line with the findings on the graph (fig. 1) of MMR plotted against revenue. Lagos Island LGA had the highest revenue of N672, 360,000 and the lowest MMR of 310 amongst the various local governments. Ajeromi-Ifelodun LGA had one of the lowest revenues

Figure 1. Chart comparing MMR and Revenue

of N88, 000,000 and one of the highest MMRs of 736. The same was for Epe and Ibeju-Lekki LGAs; they both had low revenue and high MMR. Shomolu LGA had the second highest revenue, but the MMR was still high. This could be because the population in that LGA is high.

Table 4. Model Summary

Model	R	R Square	Adjusted R	Std. Error of the Estimate
1	.334[a]	.111	.049	169.15484

a. Predictors: (Constant), REVENUE

From the model summary the R value is .334.

The R square value is .111. R square indicates how much of the dependent variable "MMR" can be explained by the independent variable. In this case, 11% of the dependent variable can be explained by the independent variable, which is very small. This result is much less than expected. Other factors that affect MMR could be the reasons for this outcome. Available transportation to medical facilities, distance to the hospital, and number of trained doctors, well equipped health facilities and ante-natal care are a few of the other factors that affect MMR. All these could also be attributed to how efficiently the allocations to the health sectors are used. Even when resources are directed towards health care, the lack of transparency in how funds are spent and the prevalence of corruption mean that funds do not always fill their intended goals. Corruption is defined by Transparency International in 2006 as 'misuse of entrusted power for private gain'. Money lost to corruption is difficult to determine and should be used to buy medicines, equip hospitals and clinics and hire badly needed health staff, it can also be used to prevent serious sicknesses and many deaths.[25]

Table 5. ANOVA[a]

Model	Sum of Square	Df	Mean Square	F	Sig.
1 Regression	50206.733	1	50206.733	1.755	.207[b]
Residual	400587.017	14	28613.358		
total	450793.750	15			

a. Dependent Variable: MMR

b. Predictors: (Constant), REVENUE

From the ANOVA table $F = 1.755$.

Degrees of freedom between groups $= k - 1 = 2 - 1 = 1$ (where k is the number of groups).

Degrees of freedom within groups $N - k = 16 - 2 = 14$ (where N is the total number of observations).

Total degrees of freedom is $N - 1 = 16 - 1 = 15$.

a. ????? - **brak odnośnika** w treści lub tytule tabeli

Table 6. Coefficients

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
(Constant)	657.222	68.183		9.639	.000
1 REVENUE	−.385	.290	−.334	−1.325	.207

a. Dependent Variable: MMR

The probability (.207 in the Sig.Column) is above .05; therefore we do not reject the null hypothesis.

The table of coefficients gives the estimated values of the regression and their standard errors.

If we let *MMR = Y* and REVENUE = *X*, the model will be:

$$Y = \alpha + \beta X$$

$$Y = -385X + 657.222$$

i.e. $MMR = -.385(REVENUE) + 657\,222$.

For additional revenue of N 1,000,000, MMR will be 656.837.

At $Y = 0$, $X = 1{,}707\,07$ It implies that, to achieve a MMR value of zero, additional revenue of NI, 707,000,000 will be expected.

Summary

Due to poor accountability mechanisms and lack of transparency, it is difficult to determine how the revenue allocations are put to use. There is a possibility that the funds put into the health sector are grossly mismanaged. More attention should be paid to how efficiently the allocations to health sector are used.

The results also show that revenue is not the only variable responsible for the high rate of maternal mortality. Other factors such as education and transportation play a prominent role. Therefore, other ministries such as the Ministry of Education for example, have a role to play in the reduction of MMR. This point to the need for further research work

Conclusion

This research work was carried out to determine the effect of government expenditure on maternal mortality ratio in Lagos State, Nigeria. Various works of researchers were studied and used in order to properly assess their findings and in furtherance of this research topic.

Through the use of linear regression, it was discovered that there is no significant relationship between government expenditure and maternal mortality. Only 11% of MMR could be explained by the revenue allocated. Consideration has to be given to the fact that a substantial amount of allocated revenue is grossly mismanaged and misused. On the other side, as a result of negative correlation i.e. −.334 obtained which implies greater funding works for lower MMR. This gives contrasting outcome; hence, it is difficult to arrive at a conclusion that there is no relationship between government expenditure and maternal mortality.

One of the limitations of this study was due to data available, only sixteen of the whole local government areas in Lagos state was used for the analysis. However, further research work, government expenditure from other local government areas need to be taken into consideration to generally accept the result of this research work.

Also, like other researchers have pointed out ministry of education and transportation amongst others play vital roles in reducing maternal mortality. "Because education of women does not come under the ambit of the Ministry of Health, any effective advocacy for the reduction of maternal mortality in Nigeria will have to collaborate to an appreciable extent with interests outside the health ministry in order to achieve success".[24] It is evident that the government has to demonstrate strong political will and commitment to the issue of maternal mortality. Despite claims by the government of huge spending in the health sector on maternal mortality, improvements in these areas are not visible to the public. The cumulative reach of health services is still below expectation.

References

1. World Health Organization, & UNICEF. (2012). Trends in maternal mortality: 1990 to 2010: WHO, UNICEF, UNFPA and The World Bank estimates.
2. World Bank. (2010). Improving Primary Health Care Delivery in Nigeria Evidence From Four States. Working paper No 187. Washington Dc.
3. World Health Organization. (2011). Closing the gap: policy into practice on social determinants of health: discussion paper.
4. Grant, J. P. (1992). *The state of the world's children.*
5. Cooke, J. G., Tahir, F. (2013). Maternal health in Nigeria. *Center for Strategic & International Studies.*
6. Fabamwo, A. O., Okonofua, F. E. (2010). An assessment of policies and programs for reducing maternal mortality in Lagos State, Nigeria. *African Journal of Reproductive Health*, *14*(3), 55–63.
7. Olakunde, B. O. (2012). Public health care financing in Nigeria: Which way forward?. *Annals of Nigerian Medicine*, *6*(1), 4.
8. Alvarez, J. L., Gil, R., Hernández, V., Gil, A. (2009). Factors associated with maternal mortality in Sub-Saharan Africa: an ecological study. *BMC public health*, *9*(1), 462.
9. McAlister, C., Baskett, T. F. (2006). Female education and maternal mortality: a worldwide survey. *Journal of obstetrics and gynaecology Canada*, *28*(11), 983–990.
10. UNDP. (2011). Discussion Paper: A Social Determinants Approach to Maternal Health.

11. UNFPA. (2012). Rich mother, poor mother: the social determinants of maternal death and disability.
12. Simkhada, B., Teijlingen, E. R. V., Porter, M., Simkhada, P. (2008). Factors affecting the utilization of antenatal care in developing countries: systematic review of the literature. *Journal of advanced nursing*, *61*(3), 244–260.
13. Zere, E., Oluwole, D., Kirigia, J. M., Mwikisa, C. N., Mbeeli, T. (2011). Inequities in skilled attendance at birth in Namibia: a decomposition analysis. *BMC Pregnancy and Childbirth*, *11*(1), 34.
14. Ahmed, S., Khan, M. M. (2011). Is demand-side financing equity enhancing? Lessons from a maternal health voucher scheme in Bangladesh. *Social science & medicine.* *72*(10), 1704–1710.
15. Kruk, M. E., Galea, S., Prescott, M., Freedman, L. P. (2011). Health care financing and utilization of maternal health services in developing countries. *Health Policy and Planning*, *22*(5), 303–310.
16. Nyamtema, A. S., Urassa, D. P., van Roosmalen, J. (2011). Maternal health interventions in resource limited countries: a systematic review of packages, impacts and factors for change. *BMC Pregnancy and Childbirth*, *11*(1), 30.
17. Kongsri, S., Limwattananon, S., Sirilak, S., Prakongsai, P., Tangcharoensathien, V. (2011) Equity of access to and utilization of reproductive health services in Thailand: national Reproductive Health Survey data, 2006 and 2009. *Reproductive Health Matters*, *19*(37), 86–97.
18. Bassey, J., Riman, H., Edu, B. (2010). Health Care Expenditure in Nigeria: does the level of Government Spending really matter?
19. IIMMIIR The missing link: Applied budget work as a tool to hold governments accountable for maternal mortality reduction commitments. Washington DC: IBP, 2009.
20. Onotai, L. O., Nwankwo, N. C. (2012). A review of the Nigerian healthcare funding system and how it compares to that of South Africa, Europe and America. *J Med Med Sci., 3*(4), 226–231.
21. Shiffman, J., Okonofua, F. E. (2007). The state of political priority for safe motherhood in Nigeria. *BJOG: An International Journal of Obstetrics & Gynaecology*, *114*(2), 127–133.
22. Ogunlela, Y. I. (2012). An Assessment of Safe Motherhood Initiative in Nigeria and the Achievement of the Millennium Development Goal Number 5. *The Social Sciences*, *7*(3), 353–360.
23. Yaqub, J. O., Ojapinwa, T. V., Yussuff, R. O. (2012). Public health expenditure and health outcome in Nigeria: the impact of governance. *European Scientific Journal, ESJ*, *8*(13).
24. Mojekwu, J. N., Ibekwe, U. (2012). Maternal mortality in Nigeria: Examination of intervention methods. *International Journal of Humanities and Social Science*, *2*(20), 135–149.
25. United Nations. (2008). Millennium Development Goals.