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Full Length Research Paper

Exploring challenges in decreasing maternal mortality in Africa with respect to failure to achieve Millennium Development Goals (MDGs)

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Abstract

Globally, the rate of mortality and morbidity is enhanced by complications in pregnancy and childbirth. It is estimated that every day, approximately 1000 women and girls die due to labour and pregnancy complications worldwide. However, there are many strategies put in place notably the MDGs in order to decrease the menace. This study aims to identify the challenges encountered while trying to decrease maternal mortality in Africa in light of the MDGs. A systematic review approach was adopted, in which data was searched in MEDLINE, CINAHL, web of science and global health. Relevant articles were extracted and synthesised using a narrative synthesis approach. It was identified that poor transportation system, lack of quality health care system, poor attitude of health staff toward labouring women, lack of awareness about maternal services due to poor sensitisation and belief in traditional medicine were the major challenges that led to the failure to reduce maternal mortality with respect to MDGs. It is thus concluded that these challenges be addressed in order to reduce maternal mortality in Africa.

Keywords: Maternal, mortality, Challenges, MDGs, Africa.

INTRODUCTION

The MDGs are eight inter-connected goals set to improve lives throughout the world by a time bound and successful push (United Nations Populations Fund – UNFPA, 2016). MDG number five is to improve maternal health including decreasing maternal mortality and improving access to maternal health (UNFPA, 2016). Worldwide, maternal mortality rates have dropped by 45% between 1990 and 2015 and the number of maternal mortalities during child birth dropped from 543,000 to 287,000 between 2000 and 2015 (Maternity Worldwide, 2015). But, it still remains the least progressed goal amongst all eight MDGs, as the decrease in maternal mortality achieved was less than half of what is needed for achieving the target of MDG which requires three quarters reduced mortality rate (The World Bank, 2016; Maternity Worldwide, 2015).

This is the problem in African as a whole and Sub-Saharan Africa in particular, where there have been least improvement in MDG five compared to other countries. As a result of which the maternal mortality rates are high and a large population of girls are unable to access reproductive health services resulting in transmission of sexually transmitted diseases (STDs) including HIV and also unplanned pregnancies (The World Bank, 2016). In 2013, Sub-Saharan Africa along with Southern Asia together accounted for 86% of maternal mortality rate throughout the world (United Nations – UN, 2015). Sub-Saharan Africa is the only continent considered to be lacking behind in achieving the MDGs and it is not expected to achieve any goals at its current rate (Easterly, 2009). The chance of a woman dying during pregnancy or childbirth in sub-Saharan Africa is 1 in 16 compared to 1 in 4,000 risk in a developing country (World Health Organisation – WHO, 2005).

Maternal mortality is defined 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, 2016 no page number). It can be a result of many factors and based on the data from 2003–2009, haemorrhage was the most common cause of maternal mortality as I caused more than 27% maternal deaths in the developing regions. Other maternal mortality factors include infections, high blood pressure in pregnancy, delivery complications and unsafe abortion (UN, 2015).In Africa, the regional inequality between the rural and urban areas in regards to births attended by skilled health staff is the greatest at 52 percentage points (UN, 2015).

The lack of skilled birth assistance and delivery in a health facility are the leading causes of maternal mortality. Thus, intra-partum care which includes delivery by skilled health staff is very important for reducing maternal mortality. But, Africa faces a number of challenges in applying this intra-partum care because of its deficient political commitment, shortage of skilled health staff, lack of training of staff and the inability to retain skilled health staff in areas in need (Prata*et al*., 2010). In Africa the fertility rate is also very high which is strongly associated with the high maternal mortality rate and there is also poor access or lack of availability of medicines (Prata*et al*., 2010). All these challenges causes high maternal mortality rates in Africa and hence this research was conducted to explore all the challenges faced by Africa to achieve the MDG five.

Statement of problem

Estimation of maternal mortality indicators is challenging and can be subjected to error because the data is usually inaccurate, on which the estimates are based (Rogo, Oucho and Mwalali, 2006). This is because in most African countries there is no complete civil registration of the number of births and deaths and the cause-of-death attribution is poor and without a civil registration system, vital events like maternal deaths go unrecorded there (Rogo, Oucho and Mwalali, 2006). Although in hospitals data is collected on causes of maternal deaths, but lower-level facilities, including clinics or health posts, at times omit the maternal mortality inquiries resulting in incomplete and misclassified health services data.

As well, deaths outside health facilities are usually omitted from the health services data and in Sub-Saharan Africa 58% of birth take place outside the health facilities which causes an underestimation of the rates and challenges of maternal mortalities (Rogo, Oucho and Mwalali, 2006). Thus, this review was conducted to synthesise all information on this subject area to get a better picture of the challenges that Africa faces in reducing these mortality rates and achieving the MDG goal five. It will synthesise all available primary studies on challenges to reduce maternal mortality and form a reliable evidence base for practice and policy making.

Research question

What are the challenges in decreasing maternal mortality in Africa with respect to failure to achieve MDGs?

Aims and objectives

The aim of this research study is to recognise the challenges in lessening the rate of maternal mortality in Africa. The objectives are:

- Explore the evidence related to the challenges of reducing maternal mortality in Africa with respect to failure to achieve MDGs.
- Identify how the information can be used to improve maternal health in Africa

METHODS

A systematic review approach was adopted, which set certain inclusion criteria for studies to be included as follows;

- Studies must focus on challenges in reducing maternal mortality.
- Studies must be primary researches.
- Studies must be conducted in Africa.
- Studies must be published in English
- Studies must be published in 2000 or later

The last criteria was necessary to ensure that only studies conducted after the establishment of MDGs are included. Similarly studies in English language only were adopted to avoid miss-interpretation of data. While other criteria were set to ensure that the aim of the study were fully attained. Based on these criteria, studies were excluded if;

- The study does not identify any challenge of reducing maternal mortality
- The study is not original primary research paper
- The study is conducted outside Africa
- The study is not in English language
- The study is published prior to 2000

Articles were searched from four major educational databases, which include MEDLINE, CINAHL, web of science and global health. A total of 504 potentially relevant articles were identified, out of which 5 were from hand searched from reference list. These articles undergo two stage of screening, which include title/abstract check and full text screening (Figure 1). As a result, 9 articles fully met the inclusion criteria, hence were included in the study.

The 9 studies selected were all cross-sectional studies mainly of qualitative nature, which were quality, appraised using the CASP tool so that studies included in the review fulfil a minimum quality level. The assessment tool is based on the study methodologies, their key biases and relevance of the study. Studies were graded on three categories; poor, moderate and strong, out of which all the 9 studies fall within moderate to high quality

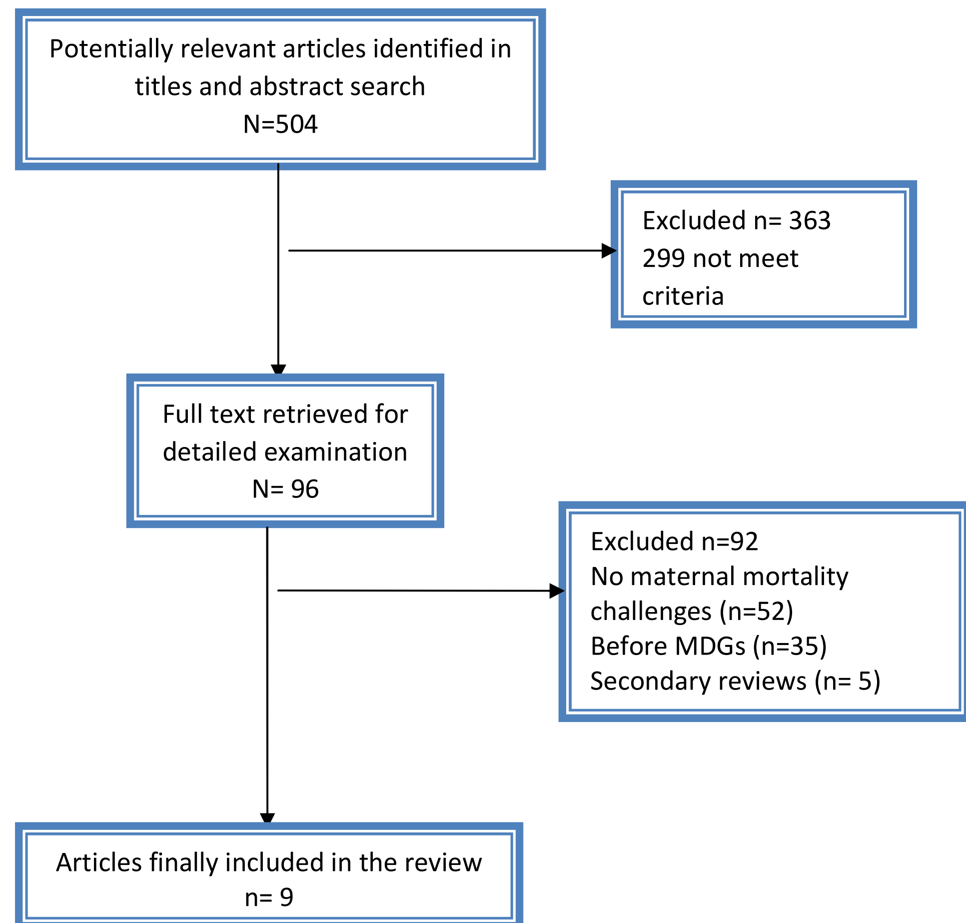

Figure 1: Included and excluded studies

(Table 1). It was the initial intention of the researcher to conduct a meta-analysis in synthesising the findings, however, heterogeneity in terms of reporting the outcomes made it impossible, hence the outcome of the studies were synthesised using a narrative synthesis approach which grouped the findings into the following outcome measures; Staff shortage/attitude, religious/ cultural factors, Transport/economic problems, poor awareness/low educational status and other risk factors of maternal mortality.

RESULTS

Staff shortage and attitude

One-third of the studies (n=3) indicated evidence related to shortage of staff or poor attitude of staff (Tsawe and Susuman, 2014, Cheptum *et al.*, 2014, Idris *et al.*, 2013). According to Tsawe and Susuman (2014) shortage of health professionals can be a very serious problem and hindrance in maintaining maternal health, thus, contributing to the high rate of maternal mortality in Africa. Tsawe and Susuman (2015) added that low staffing levels in a particular health facility can increase the waiting periods of the mothers, thereby causing them to be dissatisfied with the service resulting to a decline in the way the health services are being utilised. For instance, it was reported that some of the women they interviewed spoke of how they waited for long hours in the health facilities and were not attended to despite their long waiting. Similarly, Cheptum *et al.*, (2014) identified that most of the women preferred to go to traditional birth attendants (TBAs) because they were more friendly and accommodating compared to the Health professionals at the health facilities who were usually unfriendly to the women. Cheptum *et al.*, (2014) added that the TBAs are easily accessible and their services are affordable to use and the women are more comfortable using these services.

Tsawe and Susuman (2014) noted that shortage of the health personal is highly associated with possibilities of misdemeanour on the part of the health staff towards the patients and this makes the women avoid going to the health facilities for further treatment or attention. As a result, when the women refuse to go to these facilities, they may develop complications which may lead to their demise, thereby, adding to the increase in the rate of

Table 1: Summary of included studies

S/N	Reference	Type of study	Purpose of study	Sample	Data collection	Key findings	Quality Ranking
1.	Tsawe, M and Susuman, A. S (2015) Determinants of access to and use of maternal health care services in the Eastern Cape, South Africa: a quantitative and qualitative investigation, *BMC Research Notes, Vol 7:723*	Qualitative and Quantitative study	To examine whether women in Mdantsane are accessing and using maternal health care services.	6 health professionals and 267 women	One to one interviews with health professionals and use of questionnaire for women	The study suggests that lack of awareness of the maternal health services delivered within the public Health sector is significant in determining the regularity in the usage of maternal health services.	High CASP tool for qualitative studies Score 7/10
2.	Idowu, A. E., Edewor, P. A., Amoo, E. O (2014). Working Conditions and Maternal Health Challenges in LagosState, Nigeria.Research on Humanities and Social Sciences, *Vol 4 (9), pp. 136 – 147*	Qualitative and Quantitative study	This research work investigates the impact of working settings on the maternal health during inadequate delivery of facilities and decay of infrastructures infiltrating the urban centres within sub-Saharan Africa.	1,362 respondents	Structured face to face interviews.	The findings reveal that factors such as socio-environmental conditions encompassing indigence, ineffective transport structure, gender bias, stress and poor standard of life make a lot of women vulnerable to diseases, malnutrition, and miscarriages leading to increase in maternal mortality within the study area.	Moderate CASP tool for qualitative studies Score 5/10
3.	Pierre-Marie, T., Gregory, H., Maxwell, D.I., Robinson, E.M., Yvette, M., Nelson, F. J (2015). Maternal mortality in Cameroon: a university teaching hospital report. Pan-African Medical Journal, Available Online.	Case control study	Identifying the triggers and risk factors for maternal mortality.	9,071 participants	The use of questionnaires	The results showed that the risk factors of maternal mortality were postpartum hemorrhage (229.2%), risky abortion (25%), ectopic pregnancy (12.5%), high blood pressure in pregnancy (8.3%), malaria (8.3%), anemia (8.3%), heart disease (4.2%), and pneumonia (4.2%), and placenta praevia (4.2%)	Moderate CASP tool for case control studies Score 6/11
4.	Garenne, M., Kahn, K., Collinson, M. A., Gómez-Olivé, F. X., Tollman, S (2013). Maternal mortality in rural South Africa: the impact of case definition on levels and trends. *International Journal of Women's Health, Vol 5, pp. 457–463.*	Prospective study through census	To determine the rate of maternal mortality in South Africa.	3,725,655 persons from census record	The use of questionnaires	The mortality rate per month was quite consistent recording an average of 2,790 deaths.	Moderate CASP tool for qualitative studies Score 6/10
5.	Mlambo, C., Chinamo, C., Zingwe, T (2013). An Investigation of the Causes of	Retrospective	To investigate the factors causing maternal mortality	13,200	The use of	Maternal mortality was highest for people about 40 years old while	moderate CASP tool for
5.	Mlambo, C., Chinamo, C., Zingwe, T (2013). An Investigation of the Causes of Maternal Mortality in Zimbabwe, *Mediterranean Journal of Social Sciences, Vol 4 (14), pp. 615-620*	Retrospective study	To investigate the factors causing maternal mortality in Zimbabwe.	13,200	The use of interviews	Maternal mortality was highest for people about 40 years old while lesser in people between 20 and 24 years old.	moderate CASP tool for qualitative studies Score 5/10
6.	Orcutt, M. J (2012). Maternal mortality in Eastern Zambia: Accessing healthcare for delivery and obstetric emergencies. Available at:http://afcap.willat.net/Document%20Library/DEVTECH%20Report%20final.pdf (Accessed on 28th June 2016).	Qualitative study	To identify the existing access to the healthcare amenities for the purpose of delivery and obstetric crises including transportation issues.	145	The use of interviews through focus groups.	This research reveals that while poor transportation is a significant obstacle, it has also been noted that the economic and socio-cultural perspective is also criticalto enhancedmaternal health.	High CASP tool for qualitative studies Score 8/10
7.	Olayinka, O. A., Achi, O. T., Amos, A. O and Chiedu, E. M (2013) Awareness and barriers to utilization of maternal health care services among reproductive women in Amassoma community, Bayelsa State. *Academic Journals, Vol 6 (1), pp. 10-15*	Descriptive research study and Quantitative study	To investigate awareness and usage of maternal health care facilities amongst women of reproductive age between 15 and 45 years old.	192	The use of questionnaires	The study shows that the most of the participants (94.8%) are aware of the maternal health services available, however, few of them actually understood the essence of the maternal services which were delivered.	moderate CASP tool for qualitative studies Score 6/10
8.	Idris, S. H., Sambo, M. N and Ibrahim, M. S (2013). Barriers to utilisation of maternal health services in a semi-urban community in northern Nigeria: The clients' perspective. *Nigerian Medical Journal, 54(1), pp. 27–32*	Cross sectional study	To determine the barriers to the usage of maternal health facilities from the mothers' perspective.	150 participants	The use of structured interviewer directed questionnaires.	The study revealed that the use of Maternal health services was poor based on the fact that they didn't experience obstetric complications earlier and also because of the bad attitude of the health care professionals who attended to the people.	High CASP tool for qualitative studies Score 7/10
9.	Cheptum, J., Gitonga, M., Mutua, E., Mukui, S., Ndambuki J andKoima, W (2014). Barriers to access and utilization of maternal and infant healthservices in Migori, Kenya. Developing Country Studies, Vol.4 (5), pp. 48-52.	Cross sectional study	To determine the barriers or hindrances which deter women from utilising maternal health services.	446 women	Interviewer regulated questionnaires.	The outcome of the study revealed that some of the women refused to attend maternal health services based on the following reasons; religious beliefs, husbands didn't allow them, lack of drugs and health professional's bad attitude.	High CASP tool for qualitative studies Score 8/10

maternal mortality. Similarly, Cheptum *et al.*, (2014) also suggested that one of the major reasons women refuse to visit the health facilities is based on the bad attitude displayed by the health professionals. Additionally, Idris

et al., (2013) identified that uptake of maternal health services was poor based on the fact that the women didn't experience obstetric complications earlier as well as bad attitude of the health care professionals who attended to the people.

Religious, social and cultural factors

Only two studies (n=2) reported evidence associated with religion, social and cultural factors (Cheptum *et al*., 2014; Idowu *et al.,* 2014). Cheptum *et al*., (2014) also noted that there are other factors that prevent women from accessing health care facilities such as belief in Traditional birth attendants and husbands preventing their wives from attending the public health care centres due to religious/cultural beliefs. However, Idowu, *et al*., (2014) argued that while clture and religion can influence the mortality, most of the participants in their research study who manifested more complications in pregnancy and eventually deaths were women above the age of 40 years, hence, age is an important factor which determines the rate of maternal mortality. In addition, Cheptum *et al*., (2014) also revealed that some women declined visiting the health facilities due to the belief that they may be tested for HIV and if they test positive, which might lead to stigmatisation from their co-residents. This attitude adds to the increase in rate of maternal mortality based on the fact that if women do not visit health facilities it may increase their risks of developing complications which may eventually result to death (Idowu, *et al*., 2014). Idowu *et al*., (2014) also emphasised that some housewives who are solely engrossed with basically house chores were found to exhibit good maternal health, women who are business owners also recorded good maternal health, whereas, those working within government parastatals and combining it with household chores reported bad maternal health compared to the aforementioned category.

Transport and financial difficulty

About half of the studies (n=4) reported evidence related to transport and financial challenges (Cheptum *et al*., 2014; Tsawe and Susuman, 2014; Orcutt, 2012, Idowu, *et al*., 2014). Tsawe and Susuman (2014) opined that only few percentages of women can access hospital in less than 20km radius, while others had to travel far distance to get basic health care services. It was also reported that women who engage in long distance travel and those using public transport were significantly associated with poor maternal complications, which could eventually lead to maternal death (Idowu *et al*., 2014). Similarly, study by Orcutt (2012) revealed that in the rural areas, the mode of transportation (Bicycles, Ox-Carts, bicycle ambulance) is not usually convenient for the women and put them at greater risk. On the contrary, the more comfortable means of transportation such as buses, cars are few and more expensive than the aforementioned ones (Orcutt, 2012). It was also argued that many of the mothers refused to go to the health facilities based on the fact that some drugs which were usually free were sold to the mothers at high prices (Cheptum *et al*., 2014). In addition, it was also pointed out by Idowu *et al*., (2014) that a significant number of the women were either widows, single mothers or divorced, hence take care of their children alone without any financial back up. Similarly, poverty makes it difficult for the mothers to maintain a good health care, hence influence maternal mortality.

Poor awareness/educational status

About two-third of the studies (n=5) provided evidence relating to poor awareness aand/or low educational status as challenges towards high maternal mortality (Tsawe and Susuman, 2014; Olayinka *et al*., 2013; Mlambo *et al*., 2013; Idowu *et al.,* 2014; Pierre-Marie *et al.,* 2015). Tsawe and Susuman (2014) indicated poor awareness of available health service as the major barrier for women to access health care services. It specifically stated that in certain cases, high number of women are ignorant of the complications that may arise due to failure to utilise the available health services, thus many women die of pregnancy complications that could be avoided with utilisation of the available services. Olayinka *et al*., (2013) continued that about 94.8% of the participants claimed to have heard about the available maternal health services but did not understand the fundamentals of the services. Mlambo *et al*., (2013) on the other hand indicated educational status as an important factor in determining the rate of maternal mortality. It was revealed that women who never went to school recorded the highest rate of maternal deaths which is followed by those with only primary education, while those with secondary/college educational level recorded lower rate of mortality. Similarly Idowu *et al*., (2014) indicated no and low level of education as a contributing factor to maternal mortality associated with poor access to healthcare services. Furthermore, Pierre-Marie *et al.,* (2015) noted that poor awareness about the importance of antenatal care lead to high maternal mortality in Cameroun (OR=78.33: CI 8.66 – 1802.51).

Other risk factors of maternal mortality

About half of the studies (n=4) indicated other predisposing risk factors contributing to the challenge of maternal deaths (Pierre-Marie *et al*., 2015; Garenne *et al*., 2013; Mlambo *et al*., 2013; Orcutt, 2012). Pierre-

Marie *et al.*, (2015) opined that some of the risk factors include; direct and indirect causes such as haemorrhage, abortion complications (sepsis, anaemia), ectopic pregnancy, hypertension in pregnancy, malaria, heart disease and pneumonia. Similarly, Garenne *et al.*, (2013) in their investigation into pregnancy related death, identified sepsis, hypertension, HIV/AIDS and TB as the major risk factors of maternal death. It was also indicated that percentage of the risk factors responsible for maternal mortality in different communities varies and usually haemorrhage has been found to be the major cause of the mortality (Pierre-Marie *et al.*, 2015). Similarly, it was also argued by Mlambo *et al.*, (2013) that haemorrhage has been found to be the leading cause of maternal mortality with abortion being the second, while hypertension was ranked as the third leading cause of the deaths. In addition, Orcutt (2012) argued that the rate of maternal mortality is usually high in the rural areas of most African countries based on the strong link associated between rural system of life and high maternal mortality, especially lack of basic amenities needed to sustain women's health. Another significant risk factor that increases the rate of maternal mortality is poor infrastructures in health facilities and bad communication system (Orcutt, 2012). As a result, most of the women get to the health facilities late and some even die along the way.

DISCUSSION

This review aimed at identifying and assessing the challenges involved in decreasing maternal mortality in Africa which ultimately led to failure to achieve the Millennium development goal five of improving maternal health through reducing maternal mortality ratio by at least three-quarter. To the knowledge of the researcher, this is the first systematic review in this field that covers the whole of Africa in relation to the MDGs. A similar review which was not related to MDGs was conducted by Peason *et al.*, (2009) on review of maternal deaths in Africa. However, the review use a prepared questionnaire and collect data directly from Ministries of health of 46 sub-Saharan African countries, which concentrate on getting data related to maternal death rate and policies. This study on the other hand uses primary research studies, which fill the gap of assessing challenges leading to failure to reduce maternal mortality in Africa. Four major themes exist from the review studies, which relate to challenges of health personnel shortage/attitude, transportation/financial difficulty, social/religious/cultural factors, poor awareness/low level of education, and notable risk factors like haemorrhage and infection. These challenges were found to interconnect and are particularly driven by the health system of a particular nation. Various African countries like Nigeria have introduced other programmes to complement the MDGs, in order to ensure the achievement of reducing maternal mortality.

For instance, in Nigeria, the Midwives service scheme was introduce in 2009 to complement midwives shortage in rural areas (Abimbola et al., 2012), which was successful in reducing the maternal death rate in the country. However lack of proper monitoring is drastically affecting the system.

Although, this review attempted to cover the whole of Africa, but the eligible studies found were concentrated in certain countries such South Africa, Nigeria and Zimbabwe among others, hence this serves as a shortcoming to the study which can affect its general is ability to all African countries.

CONCLUSION

The challenges of reducing maternal mortality in Africa with respect to MGDs are modifiable with proper commitment. It is therefore recommended that the health systems of the various African countries be strengthened in order to established country's specific strategies to curtail the maternal mortality rate. Unless these challenges are fully addressed the maternal mortality rate cannot be brought under control in Africa.

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