**Assessment of Maternal Mortality and Contributing Factors in Some Rural Communities of Bayelsa State, Nigeria"**


## Abstract :

**Aim:** This study assess the implicated causes of maternal mortality in some rural communities in Bayelsa state. Communities visited having health facilities with existing records of maternal mortality from 2018-2023 include both public and private health / hospitals including TBAs centres within Ogbia LGA. Using a purposive sampling technique. The data were derived from a sproform used to record the date of maternal death during or after pregnancy within the stipulated years of study. The TBAs were asked orally the number of deaths that have occurred in their centres within the previous years. **Results:** The results from this study showed a highest peak of 43.48% prevalence rate of maternal mortality after 42 days of delivery in 2019, followed by 41.43% in 2018 and 29.01% in 2023.However maternal mortality during delivery was higher in 2021 (38.78%), 2020 (37.21%) compared with 2019 (15.22%) and 2023 of 30.69%. The main causes of maternal death observed was the development of anemia during pregnancy and uncontrolled bleeding within the study years considered. Other factors contributing to maternal mortality identified are delay in seeking medical care and inadequate access to quality health care. Errors from TBAs was also a factor in 2018(23.05%), 2020(20.52%), 2022(18.32%) compared with 2023 (16.04%). **Conclusion:** Findings from this study indicate a lack of awareness to the importance of engaging regularly in healthy balanced dietary foods intake during pregnancy, delay in seeking health care at the appropriate time and errors from inexperienced TBAs was the foremost cause of maternal mortality. We therefore recommend that the government should create an awareness campaign strategy to inform rural dwellers about the importance of early registration for safe delivery in health facilities located in their respective communities from the onset of pregnancy and after delivery.



**Keywords: Care, Health, Maternal, Mortality, Records**


## INTRODUCTION

Maternal death refer to a woman's death during pregnancy or within 42 days after abortion or delivery, irrespective of the duration and place of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or unintentional causes (Ujah *et al.,* 2005;Khama *et al.,* 2006; Owolobi *et al.,* 2019; Nivin, 2019; Oghenetega *et al.,* 2020). The growing concern on improving reproductive health at the global level has created a demand for research especially in the area of maternal health. Maternal health which is the physical wellbeing of a woman during pregnancy, childbirth and postpartum period.However reports from WHO in 2020 showed an estimated death of 1047 in every 100,000 in every

livebirth (Alkema *et al.,* 2015; Fadeji, 2017; Solomon *et al.,*2021; WHO, 2021; Hamilton *et al.,* 2023)

It is within this conceptual framework that the millennium development goal target 5A, calls for a reduction in maternal mortality ratio by three-quarters by 2015. At its present rate, the world will fall short of the target for maternal mortality reduction because the data collated suggest that to reach the target, the global maternal mortality rate would have had to be reduced by an average of 5.5. % between 1990 and 2015 (Khama, 2006; Ogunjuyigbe and Liasu, 2007; NDHS).

Nigeria constitute only two percent of the world's population but account for over 10% of the world maternal deaths, and ranks second globally only to (Okonofua, 2007). The status of maternal health is poor in Nigeria, defined by maternal mortality of 59,000 per annum due to pregnancy related causes. This has identified as the leading cause or determinant of death among women of reproductive age in Nigeria. Although opinion differ on the determinants of maternal mortality. Herfon (2006), noted that the causes of maternal mortality is an outcome of nexus interaction of a variety of factors namely; the distant factors (socio-economic, income level and illiteracy act through the proximate or intermediate factors (health and reproductive behavior, access to health services) and in turn influence outcome of pregnancy complication mortality.further identified other factors responsible for maternal mortality as socio-cultural factors which includes; traditional practices, norms, beliefs, education and religion. Several attempts have been made in the past aimed at reducing maternal mortality in Nigeria, such attempts, especially by the federal and state governments; have generally not proved very successful in achieving the desired results. Some promising results however have recently began to be recorded through some policy initiatives by a few state governments (Ogunjuyigbe and Liasu, 2013; Fabio *et al.,* 2015, 2016).

The introduction of the safe motherhood program in 1995, midewife service scheme in 2011 and subsidy reinvestment program (SURE-P) in 2012 introduced a range of intervention which included antenatal, postnatal care, family planning prevention and management of unsafe abortions, and health education but still maternal mortality rate has not been encouraging over the years and improvement are so low. Maternal Mortality remains a key issue affecting women of reproductive age across the African Region. Despite the global decline in the maternal

mortality ratio to 34.2% between 2000 and 2020, MMR continue to be a disaster in the Africa region. With more than two-thirds (69%) of maternal deaths occurring in the African Region.

From recent estimates, the number of deaths each year from maternal causes worldwide decreased from 536,000 in 2005 to an estimated 358,000 in 2008 and 273,500 in 2011. For every woman that dies approximately 20 more suffers injuries and infections associated with disabilities in pregnancy or childbirth (Hamilton, 1949; Jochen *et al.,* 2011;Grindheim, 2015) Solomon *et al.,* 2022). The situation is even more alarming in Nigeria for example, in the year 2000, the maternal mortality ratio per 100,000 live births was 800 compared to 540 for Ghana and 240 for South Africa.

Consequently, the chances of a Nigerian woman dying from Reproductive health disorders and complications was put at 1 in 10 in 2002 Population Reference Bureau, 1 in 5 in 2005, and 1 in 23 in 2008 placing the Nigerian women at far greater risk than her counterpart in developed world where the risk is estimated to be 1 in 17,800 and 1 in 10,000 in countries such as the republic of Ireland and Singapore respectively (Charles *et al.,*1990,1998; World Bank, 2011;Eric *et al.,*2013; Ovuakporaye*et al.,*2016;Blessing *et l.,* 2023). Some of the implications of these estimates are the depletion of the country's workforce and the overall stifling of rapid development.

There are no studies to inform the populace in the current study area, hence, this study focuses on maternal mortality and causes in Ogbia L.G.A in Bayelsa State.

## MATERIALS AND METHODS

### Study Design

Retrospective research design was employed in this study

**Area of the study**

The study area lies within the saltwater and freshwater swamp geographic units of the Niger Delta.It includes Otuabagi, Oloibiri, Otuakeme, kolo, Otuasega, Elebele, otueke, Emeyal , Opume, and TBAs centres.The inhabitants of Ogbia land are mainly fishermen and farmers

**Study population**

The population of this study consist of all the existing records of maternal mortality cases from the health facilities (both private and public) within the study area.

**Sample Size**

The sample size include all the existing records of maternal mortality in the various health facilities from 2018 to 2023.

**Sampling Technique**

A purposive sampling technique was used to obtain samples from 2018 - 2023.

**Nature/Source of Data**

The study derive its data from secondary source through the use of a preform used to record all date retrieved from the records

**Instrument for data collection**

The instrument for data collection was sproform used to record all data retrieved from the records

**Data Collection:** The researchers recruited some assistants during the collection process to carefully check files and record of all maternal mortality cases and causes from the stipulated years

**Data Analysis:** Data analysis was done using SPSS software Version 24.0 with results presented in tables, charts expressed as frequencies and percentages.

**Ethical Consideration**

Institutional ethical approval was obtained from the Research Ethics Committee and permission from the management of the health facilities visited for easy access to the medical records of maternal morbidity was also sorted.

## RESULTS

**Table 1: Prevalence of Maternal mortality in 2018-2023**

| **Mortality** | **2018 (n=70)** | **2019 (n=46)** | **2020 (n=43)** | **2021 (n=49)** | **2022 (n=41)** | **2023 n =62** | |
|---|---|---|---|---|---|---|---|
| | **F (%)** | **F (%)** | **F (%)** | **F (%)** | **F (%)** | **F (%)** | |
| **During pregnancy** | **25(35.71 )** | **19(41.30 )** | **12(27.91)** | **17(34.69)** | **16(39.02 )** | **25(40.32 )** | |
| **During child birth** | **16( 22.86)** | **7(15.22)** | **16(37.21)** | **19(38.78% )** | **10(24.39 )** | **19(30.65 )** | **2023 (n=62 )** |
| **Within 42 days of delivery** | **29( 41.43)** | **20(43.48 )** | **15((34.88 )** | **13(26.53)** | **15(36.59 )** | **18(29.03 )** | |
| **otal (%)** | **100** | **100** | **100** | **100** | **100** | **100** | |

**The above table** shows the prevalence of maternal mortality; in 2018 with 41.43% of maternal mortality within 42 days of delivery, in 2019, 43.48% of maternal mortality within 42 days of delivery, in 2020, 37.21% of maternal mortality during childbirth, in 2021, 38.78% of maternal mortality during childbirth, in 2022 39.02% of maternal mortality while pregnant, in 2023 40.32% of maternal mortality while pregnant.

## Table 2: Causes of Maternal Mortality in the Study Area

| Variables | 2018 (n=252) | 2019 (n=175) | 2020 (n=166) | 2021 (n=164) | 2022 (n=173) | 2023 (n=192) |
|---|---|---|---|---|---|---|
| Bleeding after delivery | 60(23.81) | 42(24) | 32(19.28) | 36(21.95) | 23(13.29) | 41(21.35) |
| Pre-eclampsia/ Eclampsia during pregnancy | 34(13.49) | 27(15.43) | 11(6.63) | 17(10.37) | 25(14.45) | 21(10.94) |
| Anemia during pregnancy | 95(37.69) | 65(37.14) | 73(43.97) | 60(36.59) | 74(42.78) | 82(42.71) |
| Poor Maternal health care | 43(17.07) | 26(14.86) | 28(16.87) | 26(15.85) | 29(16.76) | 23(11.98) |
| Educational status | 20(7.94) | 15(8.57) | 22(13.25) | 25(15.24) | 22(12.72) | 25(13.02) |

***Source: Field survey, 2024***

Table 2 showing causes of maternal mortality; in 2018, 37.69% agreed on anemia during pregnancy, in 2019, 37.14% agreed on anemia during pregnancy, in 2020, 43.97% also agreed on

anemia during pregnancy, in 2021, 36.59% agreed on anemia during pregnancy, in 2022, 42.78% agreed on anemia during pregnancy, in 2023, 42.71% also consented to anemia during pregnancy being the cause of maternal mortality.

## Table3: Factors Contributing to Maternal Mortality in the Study Area

| Variable | 2018 n= 308 | | 2019 n= 209 | | 2020 n=190 | | 2021 n= 171 | | 2022 n=191 | | 2023 n=212 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F | % | F | % | F | % | F | % | F | % | F | % |
| Inadequate human resource for health | 20 | 6.49 | 23 | 11.01 | 16 | 8.42 | 13 | 7.60 | 23 | 12.04 | 19 | 8.96 |
| Delay in seeking care | 81 | 26.29 | 46 | 22.01 | 36 | 18.95 | 21 | 12.28 | 37 | 19.37 | 28 | 13.21 |
| Lack of access to quality care | 29 | 9.42 | 17 | 8.13 | 20 | 10.53 | 18 | 10.53 | 19 | 9.95 | 27 | 12.74 |
| Inadequate equipment | 20 | 6.49 | 17 | 8.13 | 18 | 9.47 | 19 | 11.11 | 14 | 7.33 | 23 | 10.85 |
| Lack of ambulance transportation | 17 | 5.52 | 8 | 3.83 | 12 | 6.32 | 16 | 9.36 | 13 | 6.81 | 16 | 7.54 |
| Delay in referral services | 37 | 12.02 | 21 | 10.05 | 14 | 7.37 | 26 | 15.21 | 21 | 10.9 | 22 | 10.38 |
| Errors from traditional birth attendants | 71 | 23.05 | 40 | 19.14 | 39 | 20.53 | 28 | 16.37 | 35 | 18.32 | 34 | 16.04 |
| Errors from prayer or mission houses | 23 | 7.47 | 21 | 10.05 | 18 | 9.47 | 15 | 8.77 | 14 | 7.33 | 22 | 10.38 |
| Diarrheal related death e.g. poor access to water, sanitation and hygiene | 10 | 3.25 | 16 | 7.66 | 17 | 8.95 | 15 | 8.77 | 15 | 7.85 | 21 | 9.91 |

***Source: Field survey, 2024***

Table 3 showing the contributory factors to maternal mortality; in 2018, 26.29% consented to delay in seeking medical care, in 2019, 22.01 believed in delay to seek care, in 2020, 20.53% agreed on errors from traditional birth attendants, in 2021, 16.37% believed on errors from traditional birth attendants, in 2022, 19.37% agreed on delay in seeking care, in 2023, 16.04%

agreed that errors from traditional birth attendants was a contributory factor to maternal mortality.

## DISCUSSION

Concerning the causes of Maternal mortality, the study showed that bleeding after delivery (23.81%) was the leading cause of mortality in 2018, pre-eclampsia or eclampsia during pregnancy (13.49%) was the highest percentage in 2019, bleeding after delivery (19.27%) in 2020, bleeding after delivery (21.95%) in 2021 while anemia during pregnancy result in 42.78% as the major causes of mortality in 2022. However anemia account for mortality peak rate of (42.71%) in 2023.

Concerning contributing factors to maternal mortality, this study observed that delay in seeking care was the most causes of maternal mortality with 26.29%, while results from 2019 shows that delay in seeking care was at 22.01% maternal mortality rate, and errors from traditional birth attendant (20.53%) was the highest causes of maternal mortality in 2020.However 16.37% mortality was due to errors from traditional birth attendant in 2021 and 19.37% as the leading cause of maternal mortality in 2022 while 16.04% was observed from errors from traditional birth attendants in 2023.

## CONCLUSION

Maternal mortality remains a challenge in global health, with well-known disparities across countries. However this study showed errors from prayers without doing the needful medically at the appropriate time, lack of ambulance to transport pregnant women in critical condition, and poor management of pregnancy induced anemia are some of the causes of maternal mortally identify among pregnant women in Ogbia local government area of Bayelsa state.

Disclaimer (Artificial intelligence)

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Details of the AI usage are given below:

1.

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