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Interrogating the Incidence of Maternal and Child Mortality in Abia State: Assessment of how the Millennium Development Goals were attained

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ABSTRACT

Maternal and child mortality remains a nightmare in Nigeria. Nigeria has one of the highest rates of maternal and child mortality. The aim of the study is to examine the extent to which the MDGs were attained given the prevailing maternal and child mortality situation in Abia State with a view to recommending ways of significantly reducing maternal and child mortality in the State. The study was anchored on Thaddeus and Marine's Three Delays Mode, Functionalist Theory and Eco-Social theory. The study was be based on cross sectional survey of key facilities in the state that offer maternal and child health services and samples of women of child bearing age, as well as of different categories of health care-givers and administrators in the State. A sample size of 679 respondents was obtained with the following results: a majority of the respondents were above 34 years (27.54%), married(57.58%), farming (34.70%) within the monthly income bracket of N30,000 – N39,999 (34.02%), Christians (80.70%), rural residence (66.42%), age at death 31-34years (38.21%), age at first marriage 31-34 (38.80%) number of children ever born ≤2 (38.10%), spacing observed (60.24%), bio medical causes of death(85.88%), causes associated with human factor indicated negligence/carelessness of victims (25%), lack of finance for medication as a major cause of child mortality (60.62%) and age one year and below as the modal age of child mortality (40.76%). The study recommends early age at first marriage, sensitization of pregnant women to reduce negligence and carelessness, government and its agencies should make Medicare free for pregnant/ post-partum women and under five children.

Keywords: *Abia State, child mortality, maternal mortality, millennium development goals*

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INTRODUCTION

Maternal Mortality is defined by the World Health Organization as 'the death of women 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, 2004). The Millennium Development Goals (MDGs) 4 and 5 were concerned with reducing child mortality and improving maternal health respectively. Maternal mortality refers to the death of women due to pregnancy and childbirth complications within the first six weeks of delivery (Ogbuagu, 2004). Maternal mortality remains a nightmare in Nigeria (Dogbanya, 2025). According to WHO (2025) maternal mortality is unacceptably high. About 260,000 women died during and following pregnancy and childbirth in 2023.Approximately 92% of all maternal deaths occurred in low- and lower-middle income countries in 2023 and most could have been prevented (WHO,2025). Sub Saharan Africa alone accounted for around 70% of maternal deaths (182,000) (WHO, 2025). Nigeria has one of the highest rates of maternal mortality rates estimated at 1,047 deaths per 100,000 live births (WHO, 2023). Under five mortality rate refers to the probability that a new born will die before reaching exactly 5 years of age expressed per 1,000 live births. In 2023, 4.8 million children under 5 years of age died. This translates to 13,100 children under the age of 5 dying every day in 2023 (UNICEF, 2025). Nigeria's under 5 mortality rate was 104.9 deaths per 1000 live births in 2023 (UNICEF, 2025)

In Nigeria, the infant mortality rate as at 2008 was 96.2 per 1000 live births which is higher than what is obtainable in 37 out of 40 countries in the developing world surveyed (NPC and ICF Macro, 2009). Similarly, 54,000 Nigerian women die daily of complications arising from pregnancy and childbirth. In fact, maternal death in Nigeria was 100 per 100,000 women of childbearing age (NPC and ICF Macro, 2009). With the above information on maternal and child mortality in Nigeria, it is important to investigate into the dimensions of the twin phenomenon in Abia State within the context of meeting the 4th and 5th MDG goals. The aim of this research is to critically examine the extent to which the Millennium Development Goals (MDGs) relating to maternal and child health have been achieved in Abia State, Nigeria, by analyzing the underlying biomedical, socio-demographic, and non-biomedical determinants of maternal and child mortality. The study further seeks to generate evidence-based recommendations and strategic interventions that can significantly reduce maternal and child deaths, thereby contributing to sustainable health outcomes and informing policy frameworks in the post-MDG era.

Literature Review

The health indices of Nigeria show a maternal mortality ratio of 560/100,000; and infant mortality ratio of 69/1000 and an under five mortality rate of 128/1000 (FMH, 2015). Maternal mortality is defined, by the world health Organization (WHO) as the death of women while pregnant or within 42 days of termination of pregnancy irrespective of the duration and site of the pregnancy for any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (WHO, 2004)

On causes of maternal mortality, Oye-Adeniran (2014) identified five major killers namely: (i) severe bleeding (ii) Infections (iii) hypertension disorders in pregnancy (eclampsia) (iv) Obstructed labour (v) complications following unsafe abortion. The author noted that globally, about 1000 women die due to the above causes. Thaddeus and Maine (1994) had earlier identified obstacles to the provision and utilization of high quality timely obstetric care which alternatively lead to maternal deaths. Such factors include: i. socio economic and cultural factors ii. Perceived accessibility of facilities iii. Perceived quality of care.

Manandher (2004) noted that the availability of maternal and reproductive health medicines were critical factors in the prevention of maternal/child morbidity and mortality. Similarly, in a survey by UNFPA (2015), it was observed that among the two life-saving medicines, oxytocin was available at 84% of facilities, 95% available at tertiary facilities, 91% at secondary facilities and 74% of primary facilities. This is critical information given that women of child bearing age in the state are mainly in the rural areas and utilize mainly the primary health facilities.

In the view expressed by Allendorf (2010), when family members have high quality relationships, they will all prefer that the pregnant women be in good health. In other words, if a husband or mother in-law has positive feelings about his wife (her daughter in-law) it is as important to them as to the woman herself that she experience a safe pregnancy and delivery.

Berer (2007) had observed gross under funding of maternity services in developing countries. At the global level, according to Berer (2007), the trend in donor financing for maternal health services is falling. This is within the context where resource-starved countries have been grossly abused by so called global experts forcing them to do it "their way" (Berer, 2007).

In Abia State, as at 2014, there were 69 maternity hospitals 66 maternity homes and 499 maternal health centres. (Abia State Government, Nigeria, 2015). Maternal Mortality ratio in Abia State as at 2014 is 139.1 per 100,000 live births (ASGN, 2015) infant mortality rate in Abia is 11.9% per 1000 under 5 mortality rate (per 1000) is 6.90%. Jain (2011) observed that a "Safe motherhood" initiative is key to reduction in maternal mortality ratios globally. Such initiatives include: making childbirth safer, deliveries occurring in health facilities, when home delivery are attended by skilled birth attendants, the availability and

quality of comprehensive emergency obstetric care. On causes of maternal death, Jain (2011) identified four courses of about 60 % of maternal deaths in developing countries as: hemorrhage, sepsis, hypertensive disorder and obstructed labour. Jain further noted that some of these complications are difficult to predict in advance and some women develop them during a normal delivery. The above situation becomes more critical where a majority of births takes place at home or in primary health facilities where the personnel cannot easily recognize complications or paucity of equipment.

Theoretical Framework

In general, theories on maternal mortality lay emphasis on socioeconomic factors and the role of the health system that influence maternal death. Some of these theories include: Thaddeus and Marine's Three Delays Model (Sereen Thaddeus and Deborah Maine, 1994); Functionalist Theory and Eco-Social theory.

The Thaddeus and Marine's Three Delays include

Delay in seeking care. This happens where the decision to seek care is postponed. In this regard, victims who delay decisions on seeking care invariably face complications and eventual death. ii. Delay in reaching care. In this case, victims face difficulties in reaching the health facility. This happens often in poor resource settings with bad roads and poor transportation systems. Furthermore, the distance between the residence of the victims and the health facility may be so long that it cannot be covered within the shortest possible time hence the incidence of death. iii. Delay in receiving care. This happens where there is lack of skilled personnel or resources at the health facility. Low-income countries do not often have adequate medical personnel and the facilities may not have both equipment and medical resources to serve the pregnant women who assess the facility. In each of the above instances of delay, maternal and child mortality may occur.

The Functionalist Theory Talcott Parsons' AGIL-P Oti, 2013:66)

This theory lays emphasis on the optimal functioning of the reproductive process as well as a robust and efficient maternal health care system. Where these are not functional, the pregnancy outcomes are compromised and maternal mortality becomes inevitable. A robust maternal health care must, therefore, include not only care for the entire reproductive health system of the woman but more importantly the healthcare system to take care of pregnant women till six weeks after child delivery.

Eco social Theory Nancy Krieger, 1994

This theory lays emphasis on the interconnectedness of social, economic and environmental factors in determining maternal and child health. This means that preventing maternal and child mortality will not only emphasize medical issues but must consider other social, economic and environmental factors. The three theories are relevant in the present study because they interrogate both the biomedical and sociocultural factors associated with maternal and child mortality.

Significance of the Study

Our findings did not only deepen understanding of the issues surrounding maternal and child mortality in Abia State but also furnished new information on the socio-cultural and bio medical factors associated with the phenomena, which is a matter of renewed interest in some studies (Berer, 2007,2012; Ray et al 2012, Doctor et al 2012, Manandher 2004). The research provided data on maternal and child mortality incidence in Abia State which will enable the government and the health sector to provide policies and remedies to cases of maternal/child death. The study is a source of data for researchers on the issues of maternal and child mortality which will provide impetus for further research. Data from the research will be useful for assessing the theoretical relevance of the Thaddeus and Marine's Three Delaysmodel (1994); Functionalist Theory and Eco-Social theory with reference to the developing world in general and Abia State in particular.

METHODOLOGY

The Study Design

The study was be based on cross sectional survey of key facilities in the state that offer maternal and child health services and samples of women of child bearing age as well as of different categories of health care givers and administrators in the State. It involved a household survey of the households in the State.

Study Population

All the women of child bearing age (15 - 49 years) in the state. The total population of women in Abia State is 1,399, 805. Also to be interviewed will be adult males (18 years and above) who are partners in procreation and should be partners in the care for their wives and children. For the purpose of the study, we estimate that 40% of the women fall within the ages of 1 5- 49 years. This gives us an estimated population of 559, 922 (AHSD. 2011). All the primary health care centers that offer services on maternal and child health in Abia State. There are 384 government primary health care facilities in the state.

Sample and Sampling Technique

For the first target population 10% of the women aged 15-

49 years were sampled while for the second target population 2/3 of the centers were sampled which provides for 18 primary health care centers out of the 17 LGAs in Abia State. With respect to the household survey 1/3 of the LGAs were sampled (6 LGAs). One third of the enumeration areas in the sampled LGAs were selected for the study. Ten percent of the households in each enumeration area were selected for the study. For each selected household, a female 15 - 49 years were selected for the study. Where the selected household did not have a qualified respondent, a replacement was sought within the enumeration area. With respect to the PHCs three key officials of the centre were selected for the study. This included a Medical Doctor and two Nurses directly involved in offering services on maternal and child health. A sample size of 679 respondents was obtained using Yamane (1967:886).

Method of Data Collection

The data for the study was collected through the use of structured questionnaire. Section A of the questionnaire focused on socio demographic characteristics of the respondents, section B focused on variables associated with maternal mortality while section C focused on indices of child mortality.

Method of Data Presentation and Analyses

Data collected for the study were presented through simple percentage and frequency tables while the analyses were done through appropriate statistical tools. The software SPSS (version 27.0) was used for the analyses

RESULTS

The data on age distribution of the respondents (Table 1) showed that 9.2% were within 15 -19 years, 8.24% were within 20 -24 years, 9.13% were within 25 -29 years, 15.02% were within 30 -34 years, 27.54% were within 35 - 37 years, 11.19% were within 40- 45 years, 9.20% were within 46 - 49 years while 10.01% were within 50 and above. The general implication of this data is that all the age categories were represented though a majority of the respondents were above 34 years.

The data on (Table 2) shows the distribution of the respondents by marital status. The married category were 57.58%, the single were 9.27%, the separated were 10.45%, the widowed were 16.05%, divorced were 6.62%. The general implication of the data set for the study is that all the categories were represented though a majority of the respondents were married. The data on (Table 3) shows the distribution of the respondents by occupation. A majority of the respondents were farmers (34.70%), those involved in artisanship were 30.04%. Others were civil service 4.71%, Business (trading) 27.54% Unemployed 2.94%. The general implication of the data set is that all measured occupational categories were represented. Table 4 contains the data on religious background of the respondents. The data shows that a majority of the respondents were Christians (80.70%). Islam, 6.03%, African Traditional Religion, 8.68%, Others 4.56%. Table 5 contains data on monthly income of respondents. A majority of the respondents fall within the monthly income bracket of N30,000 – N39,999(34.02%) while the least was monthly income of less than N10,000(4.56%). Table 6 contains a distribution of the respondents by level of education. A majority of the respondents had primary education (66.42%), those with secondary education were13.25%, those with no formal education were 15.16% while the least was tertiary education 5.15%. The implication of this data for the study is that a majority of the respondents are literate enough to understand the instrument and respond accordingly. Table 7 contains a distribution of the respondents by residence or location. A majority of the respondents reside in the rural areas (66.42%) while 33.57 reside in the urban areas. In general, most of the population in the developing countries live in rural and semi urban areas.

Maternal Mortality

Data on (Table 8) represents responses on the age at death of women known to the respondents. According to the information provided by the respondents, a majority of the women died when they were between 31- 34 year (38.21%), other responses were: 15 -30(11.07), 35-38(14.28%), 39-42years (6.78%), 43-46 years (28.57%), 47-50 years (0.89%) and greater than 50 years (0.17%). It is important to note that majority of pregnancies occur within early 30s and middle 30s hence more occurrence of maternal mortality.

Table 9 contains data on age at first marriage of the victims of maternal mortality. A majority of the responses indicate that victims were 31-34 years at the time they got married (38.80%). This indicates late marriage. This is followed by 23-26 years (34.74%) which is near to early marriage. The distribution contains a surprising data of age at first marriage as 43-46(16.40%). This goes with the attendant challenges of late age at pregnancy and child birth. Table 10 contains data on number of boy children ever born by the victims of maternal mortality prior to death. A majority of the respondents reported at least two male children, others are: three male children (11.74%), four male children (4.69%), five male children and above (2.61%). This data show that the culture of male preference may be prevalent but not the only reason for pro natalist tendency.

Data on (Table 11) contains responses on number of female children ever born by victims of maternal mortality prior to death. A majority of the respondents reported that victims have had at least two female children prior to death

Table 1: Distribution of the Respondents by Age (in intervals).

S/N	Age in intervals	Frequency	Percentage
1	15 – 19	64	9.2
2	20 – 24	56	8.24
3	25 – 29	62	9.13
4	30 – 34	102	15.02
5	35 – 39	187	27.54
6	40 – 45	76	11.19
7	46 – 49	64	9.2
8	50 and above	68	10.01
Total		679	100

Table 2: Distribution of the Respondents by Marital Status.

Categories	Frequency	Percentage
Married	391	57.58
Single	63	9.27
Separated	71	10.45
Widowed	109	16.05
Divorced	45	6.62
Total	679	100

Table 3: Distribution of Respondents by Occupation.

Categories	Frequency	Percentage
Civil service	32	4.71
Business	187	27.54
Artisanship	204	30.04
Farming	236	34.70
Unemployed	20	2.94
Total	679	100

Table 4: Distribution of respondents by Religion.

Categories	Frequency	Percentage
Christianity	548	80.70
Islam	41	6.03
African traditional religion	59	8.68
Others	31	4.56
Total	679	100

Table 5: Distribution of Respondents by Income per month

Categories	Frequency	Percentage
Less than 10,000	31	4.56
10,000 – 19,999	87	12.81
20,000 – 29,000	209	30.78
30,000 – 39,999	231	34.02
40,000 – 49,999	76	11.19
≥50,000	45	6.62
Total	679	100

Table 6: Distribution of Respondents by Level of Education.

Categories	Frequency	Percentage
No formal Education	103	15.16
Primary	451	66.42
Secondary	90	13.25
Tertiary	35	5.15
Total	679	100

Table 7: Distribution of Respondents by Residence.

Categories	Frequency	Percentage
Rural	451	66.42
Urban	228	33.57
Total	679	100

Table 8: Responses on age at the death of women known to respondents.

Age in intervals	Frequency	Percentage
15-30	62	11.07
31-34	214	38.21
35-38	80	14.28
39-42	38	6.78
43-46	160	28.57
47-50	5	0.89
>50	1	0.17
Total	560	100

Table 9: Responses on age at first marriage of the women who were victims of maternal mortality.

Age in intervals	Frequency	Percent
15-18	40	7.72
19-22	1	0.19
23-26	180	34.74
27-30	1	0.19
31-34	201	38.80
35-38	10	1.93
43-46	85	16.40
Total	518	100

Table 10: Responses on Number of children ever born by the victims of Maternal Mortality (Boys).

Categories	Frequency	Percent
≤ 2	310	80.93
3 children	45	11.74
4 children	18	4.69
≥ 5 children	10	2.61
Total	383	100

Table 11: Responses on the Number of Children Ever Born by the Victims of Maternal Mortality (Girls).

Categories	Frequency	Percent
≤ 2	260	66.32
3 children	69	17.60
4 children	35	8.92
≥ 5 children	28	7.14
Total	392	100

(66.32%). Others are: three female children (17.60%), four female children (8.92%), five female children or more (7.14%). Data on (Table 12) showed that victims have had children before death. A majority reported that they have had at least two children (38.16%). Others are: three children (19.82%), four children (16.20%), five children and above (25.79%). The data on table 12 brought up a surprise where victims continued to have children even after five children. This demonstrates that the society indeed is pro natalist. Both (Table13 and Figure 1) contain data on whether spacing was observed by victims of maternal mortality. A majority of the respondents reported that spacing was observed (59%) while 41% reported that spacing was not observed.

Table 12: Responses on Number of Children Victims had before Death

Categories	Frequency	Percent
≤ 2	179	38.16
3 children	93	19.82
4 children	76	16.20
≥ 5 children	121	25.79
Total	469	100

Table 13: Responses on whether spacing was observed

Categories	Frequency	Percent
Yes	290	58.70
No	204	41.29
Total	494	100

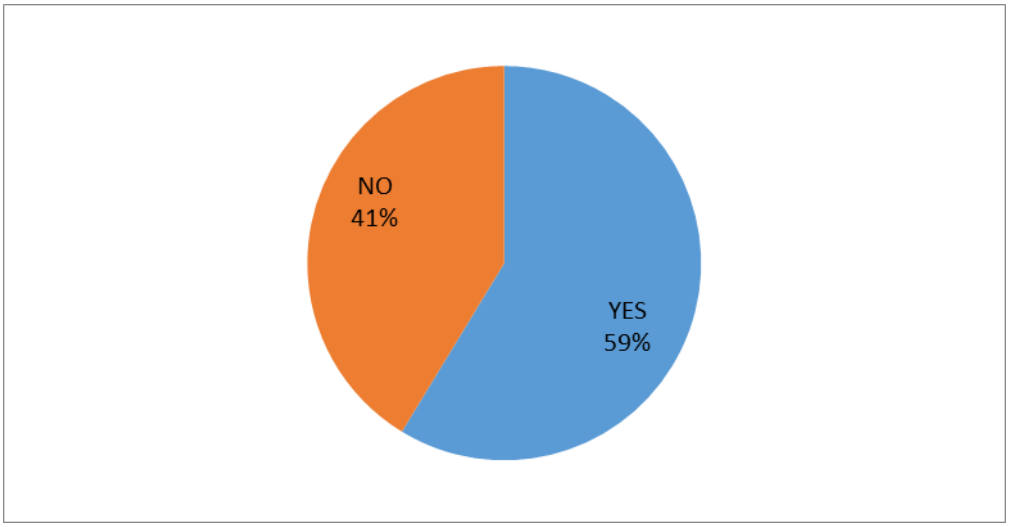

Figure 1: Responses on whether spacing was being observed by the victim of Maternal Mortality.

Table 14: Responses on whether spacing was observed in the pregnancy that resulted in Maternal Mortality.

Categories	Frequency	Percent
Yes	297	60.24
No	196	39.76
Total	493	100

Table 15: Responses on the possible Causes of Maternal Mortality.

Categories	Frequency	Percent
Socio-cultural	60	14.12
Bio-medical	365	85.88
Total	425	100

Note that child spacing is a major factor in making sure that mothers recuperate from earlier pregnancy before the next one hence better pregnancy outcomes. Table 14 contains responses on whether spacing was observed in the pregnancy that resulted in maternal mortality. A majority of the respondents were of the view that spacing was observed (60.24%) while others indicated that spacing was not observed (39.76%). Data on (Table 15) contains responses on possible causes of maternal mortality. A majority of the respondents attributed maternal mortality to

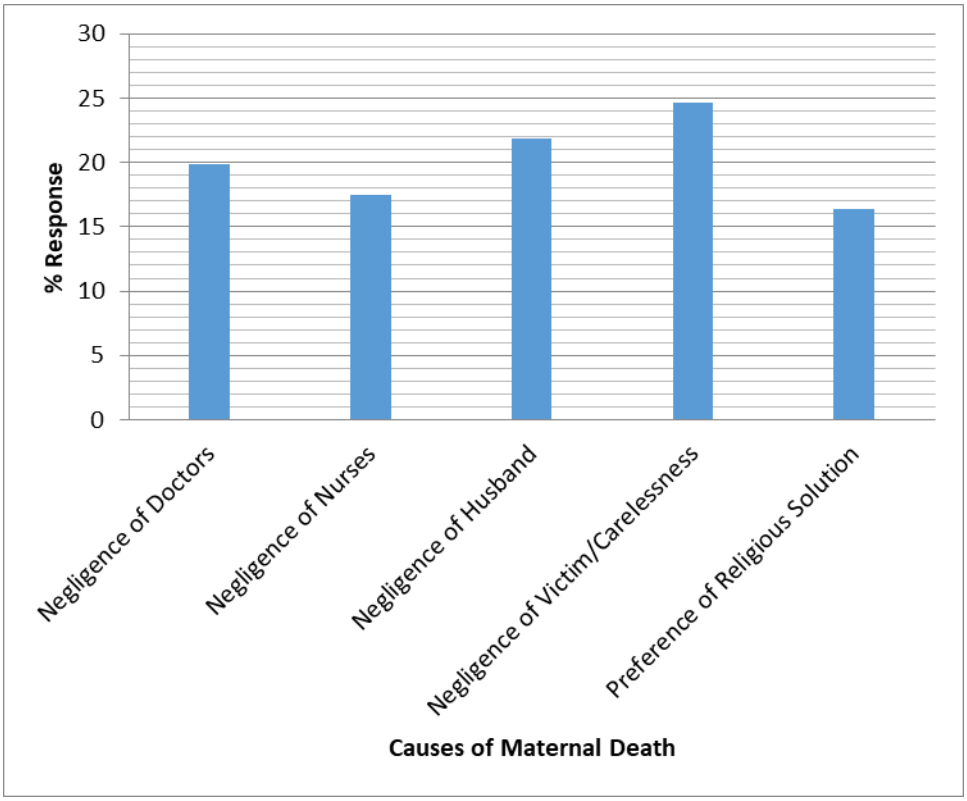

Figure 2: Responses on Possible Causes of Death Associated with Human Factor

Table 16: Responses on the causes of child mortality.

Categories	Frequency	Percent
Negligence of Doctors	32	5.6
Negligence of Nurses	10	1.8
Patronage of Quarks	45	7.9
Negligence from Mother	46	8.1
Reliance on Faith	9	1.6
Ignorance on the part of Parents/caregivers	31	5.4
Distance to medical facility	23	4.0
Lack of proper orientation from medical personnel	12	2.1
Non-disclosure of family medical history	3	0.5
Lack of Finance for medical care	346	60.6
Other reasons	14	2.5
Total	571	100

biomedical reasons such as pregnancy induced hypertension, bleeding, malaria, general complications, etc (85.88%) while others indicated socio cultural causes such as spiritual attacks, fear and ignorance (14.12%). Respondents also went further to identify other possible causes of maternal mortality associated with human factor (Figure 2). A majority of opinions implicated negligence of victims/carelessness (25%) followed by negligence of husband (22%), negligence of Doctors (20%). Others are: Negligence of nurses (19%), preference for religious solution (18%).

Responses on Child Mortality

Table 16 contains data on possible causes of child mortality. A majority opinion implicated lack of finance for medication as a cause of child mortality (60.6%). In resource poor settings, finance for medication is indeed a challenge in child health. Several other factors were identified by the respondents such as: negligence of doctors (5.6%), nurses (1.8%), mothers (8.1%), patronage of quarks (7.9%), reliance on faith (1.6%), ignorance on the part of parents/caregivers (5.4%), distance to medical

Table 17: Frequency Distribution of Child Mortality According to Age

Categories	Frequency	Percent
≤ 1	150	40.76
≤ 2	73	19.83
≤ 3	50	13.58
≤ 4	46	12.50
≤ 5	49	13.31
Total	368	100

Table 18: Responses on what can be done to improve maternal and child health.

Categories	Frequency	Percent
Availability of Drugs	370	75.5
Availability of Doctors	54	11.0
Availability of Nurses	10	2.0
Adequate time and resources	55	11.2
Others	1	0.2
Total	490	100

Facility (4.0%), lack of proper orientation from medical personnel (2.1%), non-disclosure of family medical history and other reasons (2.5%). Table 17 contains data on distribution of child mortality by age. Child mortality, according to the responses is highest among children of one year and below (40.76%). This is followed by children of two years (19.83%), children of three years (13.58%), four years (12.50%) and five years (13.31%). Table 18 contains opinions on what can be done to improve maternal and child health. The opinions are in four categories namely: availability of drugs (75.5%), Availability of Doctors (11.0%). Availability of Nurses (2.0%) and adequate time (attention) and resources (11.2%). A majority of the respondents gave top priority to availability of drugs which reflects the challenges faced by citizens in resource poor countries.

DISCUSSION

The present study interrogated the sociocultural and biomedical determinants of maternal and child mortality in Abia State, Nigeria, with the aim of contextualizing these deaths within broader health, cultural, and systemic frameworks. The findings were examined under three objectives: (1) identifying the social backgrounds of women who died due to pregnancy and childbirth complications, (2) investigating the biomedical and non-biomedical factors contributing to maternal mortality, and (3) identifying the key biomedical and non-biomedical causes of child mortality in the state. The discussion situates these findings within theoretical, national, and global contexts.

Social Backgrounds of Women Who Die Due to Pregnancy and Childbirth Complications

The study revealed that maternal mortality in Abia State occurs within a complex sociocultural milieu characterized by high fertility expectations, gendered reproductive pressures, and persistent male-preference ideologies. The Igbo cultural system, with its patrilineal inheritance and patrilocal residence patterns, sustains a fertility regime in which male children are valorized as heirs and custodians of lineage continuity (Isiugo-Abanihe, 1994; Ezeh et al., 2020). This creates a scenario where women, even after bearing several children including male offspring continue to face pressure to reproduce.

The persistence of pregnancies beyond five live births, as observed in the data (Table 12), significantly elevates the risk of maternal death. The biomedical literature emphasizes that high parity is associated with an exponential rise in obstetric complications such as postpartum hemorrhage, uterine rupture, hypertensive disorders, and maternal exhaustion (Say et al., 2014; Alkema et al., 2016). In addition, each successive pregnancy increases the risk of cumulative nutritional depletion, anemia, and other underlying health conditions that worsen maternal outcomes (Umar et al., 2019).

Interestingly, the findings indicated that a significant proportion of the women practiced child spacing (Tables 13 and 14, Figure 1). While birth spacing is globally recognized as a protective factor that allows maternal recovery and improves neonatal outcomes (WHO, 2025), its inability to prevent maternal death in these cases highlights the multifactorial nature of mortality. This suggests that spacing alone is insufficient when other structural issues such as inadequate emergency obstetric care, late referrals, and poor quality of intrapartum services remain unaddressed.

The observed fertility behavior also underscores the intersection of social determinants of health (SDH) with maternal mortality. According to the WHO's Commission on Social Determinants of Health (CSDH, 2008), health outcomes are shaped not merely by biological risk factors but by the conditions in which people are born, grow, live, and age. In Abia State, women's reproductive choices are

not entirely autonomous; they are mediated by patriarchal norms, community expectations, and household decision-making structures that limit agency. Thus, maternal deaths cannot be understood solely as clinical failures but must be analyzed as consequences of gendered power relations within a stratified health system. This aligns with global evidence showing that countries with entrenched gender inequality tend to record higher maternal mortality ratios (MMRs). For example, the WHO (2025) estimates that the lifetime risk of maternal death in sub-Saharan Africa is 1 in 66, compared to 1 in 7,933 in high-income countries. The disparity reflects not only differences in health infrastructure but also sociocultural determinants such as education, gender equity, and reproductive autonomy.

Biomedical and Non-Biomedical Factors Contributing to Maternal Mortality

The second objective established that biomedical factors accounted for the majority (85.88%) of maternal mortality cases, while socio-cultural factors accounted for 14.12% (Table 15). This finding corroborates previous Nigerian and global studies that have consistently identified direct obstetric complications hemorrhage, hypertensive disorders, sepsis, unsafe abortion, and obstructed labor as the leading causes of maternal death (Oye-Adeniran, 2014). However, while biomedical causes are proximate, non-biomedical determinants provide the underlying context that exacerbates their lethality. For instance, cultural taboos that restrict women from seeking care without male consent, religious prohibitions against caesarean sections, and reliance on traditional birth attendants (TBAs) contribute significantly to delays in accessing skilled care (Doctor et al., 2012). These dynamics are encapsulated in Thaddeus and Maine's (1994) Three Delays Model, which remains highly relevant in Abia State:

Delay in deciding to seek care: often rooted in sociocultural norms, poor awareness, and gendered decision-making.

Delay in reaching care: exacerbated by poor transport infrastructure, lack of ambulances, and geographical barriers.

Delay in receiving quality care: driven by weak health systems, shortages of skilled staff, inadequate supplies, and systemic inefficiencies.

The predominance of biomedical attributions (85.88%) in this study highlights the importance of strengthening emergency obstetric care systems. Yet, the persistence of sociocultural determinants (14.12%) indicates that even with improved clinical services, maternal mortality will remain high unless cultural and systemic barriers are addressed simultaneously.

This duality mirrors the argument by Campbell and Graham (2006), who contend that reducing maternal mortality requires a combined approach: (i) scaling up skilled attendance and emergency obstetric care, and (ii) addressing the broader socio-economic, cultural, and political contexts that condition health behaviors. The findings of this study reaffirm that maternal mortality in Abia State cannot be addressed by biomedical interventions alone; a multidimensional approach that integrates health system strengthening with sociocultural engagement is necessary.

Biomedical and Non-Biomedical Causes of Child Mortality

Child mortality in Abia State was found to disproportionately affect children under one year of age, with 40.76% of reported deaths occurring within this age group. This finding aligns with global evidence indicating that the neonatal and early infant period represents the most critical window of vulnerability. According to WHO (2024), approximately 47% of all under-five deaths occur in the neonatal period, with 2.3 million newborns dying in the first month of life in 2022. The biomedical determinants of infant death include prematurity, birth asphyxia, neonatal infections, and congenital anomalies. These conditions are largely preventable or treatable with timely and quality perinatal and neonatal care (Liu et al., 2019). However, in contexts like Abia State, weak health infrastructure, inadequate neonatal intensive care units (NICUs), shortages of trained personnel, and poor referral systems exacerbate mortality risks.

Non-biomedical causes also contribute significantly. Maternal education, household income, sanitation, and nutrition were recurrently cited as indirect determinants of child survival. For example, studies across Nigeria show that children born to mothers with secondary or higher education are significantly less likely to die before age five compared to those born to uneducated mothers (Ezeh et al., 2015). Similarly, poor sanitation, lack of exclusive breastfeeding, and inadequate immunization coverage contribute to high infant mortality. The findings thus reflect the intersectionality of structural deprivation with biomedical fragility. In Abia State, child mortality is not simply the outcome of poor clinical care but of systemic inequities that shape maternal and child health trajectories from pregnancy through infancy. This reinforces the view that reducing child mortality requires not only improved pediatric and neonatal health systems but also broader investments in women's empowerment, nutrition, and poverty alleviation.

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