KNOWLEDGE OF CAUSES AND PREVENTIVE MEASURES OF MATERNAL AND INFANT MORTALITY AMONG MOTHERS IN ONUIMO LOCAL GOVERNMENT AREA, IMO STATE.

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Abstract

This study empirically investigated the knowledge of causes and preventive measures of infant and maternal mortality among mothers in Onuimo Local Government Area. The descriptive survey research design was adopted for the study. Four research questions guided the study. A sample of 414 respondents was obtained through proportionate random sampling technique from the population of 9741 registered members of mother's union in Onuimo Local Government Area. A 39 –item questionnaire was used to collect data. Descriptive statistic of frequency and percentage were used in analyzing the data. The result showed that majority of the respondents were knowledgeable of the causes and preventive measures of infant and maternal mortality. Some of the causes of infant mortality indicated by majority of the respondents include among others, pneumonia, tetanus, drinking contaminated water or eating contaminated food, diarrhoea, micronutrient deficiency and malaria. Preventive include infant mortality indicated by majority of the respondents include among others immunization,, intake of vitamin A supplement, exclusive breastfeeding. Abortion, bleeding, eclampsia, sepsis anaemia, prolonged labour and obstructed labour were causes of maternal mortality indicated by majority of the respondents. Based on the findings, the researchers recommend that Health educators should educate mothers on the consequences of infant and maternal mortality. Health workers, educators and community leaders should encourage mothers to put their knowledge of causes and preventive measures of infant and maternal mortality into practice so as to reduce the intake of infant and maternal mortality.

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Introduction

Reducing infant mortality and improving maternal health are the fourth and fifth Millennium Development Goals (MDGs). The targets set for the actualization of these goals are to reduce by two- thirds between 1990 and 2015 the under–four mortality rate; and to reduce maternal mortality rate by three quarters between 1990 and 2015. Maternal mortality ratio is a measure of the obstetric risk faced by a woman each time she becomes pregnant. Nigeria is one of the member nations that agreed to achieve the MDGs.

Maternal mortality is the death of a woman while pregnant or between 42 days of termination of pregnancy; regardless of the site, duration or outcome of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from incidental or accidental causes (United Nations, 2007). On the other hand, World Health Organization (2012), defined infant mortality as the death of a child before the first birthday. The above definitions reveal that the death of a woman not related to pregnancy is out of the context of maternal death and the death of a child after the first birthday is no longer considered as infant mortality. Maternal mortality is subdivided into direct and indirect mortality. Direct maternal mortality results from complications either attributed to pregnancy or labour, or associated with the postpartum period. According to Yamin and Maine (1999), direct obstetric deaths are usually due to one of five major causes. These five major causes are sepsis, eclampsia, obstructed labour, haemorrhage, and complications of unsafe abortion. Interventions, omissions, incorrect treatment, or events resulting from any of these five major causes of direct obstetric death can also lead to maternal mortality. Indirect maternal mortality results from pre-existing medical problems or illness that develop during pregnancy and are worsened by the physiological changes of pregnancy (WHO, 2008). Infant mortality also comprises of neonatal and post neonatal mortality. Neonatal mortality is the death of an infant within 28 days (0-28 days). Post neonatal death is the death of an infant on or before 28 days but less than 12 months (Australian Bureau of Statistics, 2013).

Nigeria (Onuimo Local Government Area inclusive), the most populous country in Africa has one of the highest infant and maternal mortality ratio in the world (Ujah, 2005). The newly revised estimates of the World Health Organization indicated that there are 1,100 maternal deaths for every 100,000 live births in Nigeria (WHO, 2011). The organization further estimates that every year 59,000 Nigerian women die in childbirth. According to the Society of Gynaecology and Obstetrics of Nigeria (2013), no fewer than 11,600 maternal deaths were recorded

between January and March 2013 in Nigeria. This high rate of maternal mortality may be due certain factors. For instance, many gravid women in rural areas receive assistance during delivery from traditional birth attendants who may not have the skill and expertise. More so, the low social status of women in Nigeria limits their access to economic resources and basic education. This limitation indirectly influences women's ability to take decision related to their health and nutrition. Certain cultural obligations or practices may hinder women access to health care services when it is needed. This greatly increases the chances of maternal mortality since it is an established fact that lack of access to, and use of essential maternal health services contribute immensely to high maternal mortality. Parity is another factor that increases maternal mortality. Having many pregnancies heighten the risk of maternal mortality. Therefore, training and providing skilled birth attendants able to prevent, detect, and manage the major obstetric complications, as well as, addressing other factors that contribute to causes of maternal mortality are very important in preventing maternal mortality.

Most causes of maternal mortality are preventable and the remedy is simple, cheap and affordable, and does not require any high technology (Okorochukwu & Ezem, 2010). The major direct causes of maternal mortality are severe bleeding, infection, unsafe abortion, eclampsia, obstructed labour, and other direct causes. Maternal mortality also results from indirect (WHO, 2005). These deaths from indirect causes result from diseases (present before or during pregnancy) such as malaria, anaemia, hepatitis, heart diseases and HIV/ AIDS that are not complications of pregnancy but are aggravated by it. Abeodu (2010) and Abdullahi (2012) added eclampsia, abortion, ectopic pregnancy, retained placenta, rupture of the uterus, heart failure due to heart disease, prolonged labour, sepsis, and pre-eclampsia as other causes of maternal mortality. The findings of a ten year retrospective study carried out by Omo-Aghoja, Aisien, Akuse, Bergstorm and Okorofua(2010) at the Central Hospital, Benin City, revealed the direct causes of maternal mortality to include among others sepsis, heamorrhage, obstructed labour, eclampsia and preeclampsia while indirect causes are institutional difficulties and anaemia.

According to Adedokun (2013), causes of infant mortality include among others low birth weight, preterm delivery, inadequate prenatal care, lack of access to health care, close spacing between pregnancies, infection, malformation, sudden infant death syndrome (SIDS), malnutrition, and micronutrient deficiency. Preventive measures of infant mortality as enumerated by World Health Organization (2011) include among others

immunization, use of insecticide treated mosquito nets, exclusive breastfeeding, vitamin A supplementation, improved hygiene, adequate sanitation facilities, and portable drinking water source, as well as promoting supplementation and vaccination against retrovirus. Centre for Disease Control and Prevention (2010) grouped preventive measures of maternal mortality into three. They are preventive measures before conception (e.g., prevention of unwanted pregnancy and spacing of births, screening for health risks, and treatment of pre-existing chronic conditions such as diabetes, sexually transmitted infections, high blood pressure, and regular exercise); preventive measures during pregnancy (e.g., early access to high-quality medical care throughout pregnancy, labour, and delivery, adequate nutrition, and physical exercise); and preventive measures during postpartum period (e.g., improved sanitation and adequate nutrition). Checkmating the factors that predispose infants to infant mortality and mothers to maternal mortality, as well as, preventing the causes of infant and maternal mortality calls for knowledge.

Knowledge is referred to as information, skill, and understanding gained through learning and experience. According to Omoregbe (1998), knowledge is the awareness of factors associated with something. The knowledge of these factors when appreciated through practice plays a great role in averting danger or negative consequences. In this study, knowledge is conceptualized to mean the awareness or comprehension of views, facts and concept about causes and preventive measures of infant and maternal mortality. Therefore, knowledge of the causes and preventive measures of infant and maternal mortality possessed by mothers will contribute immensely to the attainment of MDGs 4 and 5 when applied. Studies have revealed that women with higher level of education are less likely to give birth to an infant who dies within the first year (Din-Dziethem & Hertz-Picciotto, 2008; Omo-Aghoja et al. 2008; & Akpan 2003). This may be because education is often a pathway to better knowledge, employment opportunities and higher income, so it may indirectly affect health status through knowledge and income. Parity is another factor that influences knowledge, stated Omo-Aggoja et al.; Adamu (2003); and Abdullah (2012). Therefore, this study considered level of education as independent variable that may likely influence knowledge of causes of infant and maternal mortality among mothers. Mothers in this study constitute women of reproductive ages (15-49 years). Mothers were considered for this study because they are the only vulnerable group to maternal mortality, as well as infants' care givers.

Therefore, mothers have great role to play in the attainment of MDGs 4 and 5.

Statement of the Problem

According to Shah and Say (2007) and Mairiga (2008) annual decline of 5.5 per cent between 1990 and 2015 is required to achieve MDG 5, but figures revealed by WHO, UNICEF,UNFPA and World Bank show an annual decline of 1 per cent. In spite of all the efforts, policies, declarations and equipment in hospitals and training of skilled birth attendants aimed at reducing infant and maternal mortality in Nigeria as well as in Onuimo Local Government Area. Thus, it seems much has not been achieved as revealed by literature. For instance, the year 2006 was set as the target year that infant and maternal mortality would be reduced by 50 per cent. However, according to Ujah (2011) not only were these targets not achieved but also the infant and maternal health situation in Nigeria as well as in Onuimo Local Government Area is now much worse than in previous years. More so, the year 2015 is just a year and few months away from now.

The problem then is, do mothers in Onuimo Local Government Area not have adequate knowledge of the causes and preventive measures of infant and maternal mortality? From the reviewed literature, it seems no empirical study has been carried out in Onuimo Local Government Area on this. Therefore, it is against the above scenario and the background of healthy living that the researchers were motivated to carry out this study.

Research Questions

1. What causes of infant mortality are known by mothers in Onuimo Local Government Area?
2. What preventive measures of infant mortality are known by mothers in Onuimo Local Government Area?
3. What causes of maternal mortality are known by mothers in Onuimo Local Government Area?
4 What preventive measures of maternal mortality are known by mothers in Onuimo Local Government Area?

Methods

The descriptive survey was adopted for the study. The population comprised all the 9741 registered members of the mother's organization of the four major towns that make up Onuimo L.G.A. Proportionate stratified random sampling was used to draw 487 respondents which represented 5% of the entire population. From the population of 2300 registered members in Umuduru-Egbeaguru, 115 respondents were drawn. Out of the 3408 registered members in Okwe, 170 respondents were drawn. Ninety-five and

107 respondents were drawn from the population of 1876 and 2137 registered members from Umuna and Okwelle respectively.

The researcher used self- structured questionnaire of 39 items for data collection. The questionnaire was developed in line with the objectives of the study based on reviewed literature. The instrument had three sections. Section A solicited information on parity and educational background of the respondents while Section B and C illicit information on the knowledge of the causes of maternal mortality respectively. Descriptive statistics of frequencies and percentages were used to answer the research questions while chi-square statistic was used to test the hypotheses of significant association between dependent and independent variables at .05 level of significance. The administration and collection of the instrument was done by the researcher and four trained assistance. Out of the 487 copies of the instrument distributed and collected back, 73 were not properly completed and were therefore discarded. Four hundred and fourteen copies were used for the analysis. Modified Ashur-scale was used as a criterion for deciding the knowledge of the respondents. Items with less than 45% were regarded as poor knowledge (PK), 45% – 60% fair knowledge (FK) and 60% - 100% good knowledge (GK).

Results

Table 1: Knowledge of Causes of Infant Mortality

S/N	Causes of Infant Mortality	f	%
1	Low birth weight at birth	174	42
2	Tetanus	333	80
3	Pnuemonia	348	84
4	Contaminated water and food	315	76
5	Micronutrient deficiency (lack of vitamins and minerals)	291	70
6	Diarrhoea	302	73
7	Hepatitis B	219	53
8	Malaria	255	62
	Total	**2237**	**540**
	Mean x	**280**	**68**

Data in table 1 show that majority of the respondents indicated that pneumonia (84%), tetanus (80%), contaminated water and food (76%), diarrhoea (73%) micronutrient deficiency (70%), malaria (62%) were causes of infant mortality. The table also reveals that slightly more than one half of the respondents indicated that infant mortality can be caused by hepatitis B (53%). Low birth weight (42%) is revealed by the table as the only item indicated by less than one half of the respondents as one of the causes of infant mortality.

Table 2

Knowledge of Preventive Measure of Infant Mortality

S/N	Causes of Infant Mortality	f	%
1	Use of insecticide treated mosquito nets by the mother and child	212	51
2	Immunization of the baby	358	86
3	Exclusive breastfeeding of the baby	261	63
4	Intake of vitamins A supplement by the baby	339	82
5	Intake of Zinc supplement by the baby	193	47
6	Vaccination of the baby against rotavirus	186	45
7	Feeding the baby with uncontaminated water and food	257	62
8.	Proper hand-washing with soap and water after defecation and before feeding	294	71
	Total	**2100**	**507**
	Mean x	**263**	**63**

Table 2 reveals that majority of the respondents indicated that immunization of the baby (86%), intake of vitamin A supplement by the baby (82%), proper hand-washing with soap and water after defecation and before feeding (71%), exclusive breastfeeding of the baby (63%) and feeding the baby with uncontaminated water and food (62%) and use of insecticide treated mosquito nets by the mother and child were preventive measures of infant mortality. The table further reveals that slightly less than one half indicated that infant mortality can be prevented by intake of vitamin A supplement by the baby (47%) and vaccination of the baby against retrovirus (45%)

Table 3

Knowledge of Causes of Maternal Mortality

S/N	Causes of Maternal Mortality	f	%
1	Abortion	357	86
2	Heamorrhage/Bleeding	357	86
3	Eclampoeia (Fit/convulsion during labour)	333	80
4	Prolonged labour	309	75
5	Malnutrition	204	49
6	Pre-eclampoeia (Hypertensive disease of pregnancy)	249	60
7	Malaria	195	47
8	Obstructed labour	255	54
9	Sepsis(Post delivery infection)	325	79
10	Anaemia (Shortage of blood)	318	77
11	Retained placenta	311	75
12	Delivery by unskilled birth attendant	267	64
13	Close spacing between pregnancies	302	73
	Total	**3752**	**905**
	Mean $\bar{x}$	**289**	**70**

Table 3 reveals that majority of the respondents indicated that abortion (86%), hemorrhage or bleeding (86%), eclampsia (80%), sepsis (79%), anaemia (77%), prolonged labour (75%), retained placenta (75%), close spacing between pregnancy (73%), delivery by unskilled birth attendant (64%), pre-eclampsia (60%), and obstructed labour (54%) were causes of maternal mortality. The table also reveals that slightly less than one half of the respondents indicated that maternal mortality can be caused by malaria (47%) and malnutrition (49%).

Table 4

Knowledge of the Preventive Measures of Maternal Mortality

S/N	Preventive measures of maternal mortality	f	%
1	Prevention of unwanted pregnancy	234	57
2	Spacing of births	266	64
3	Access to high quality prenatal care	306	74
4	Treatment of pre-existing chronic condition including STIs	309	75
5	Adequate nutrition	312	75
6	Physical exercise	243	59
7	Improved sanitation and personal hygiene	303	73
8	Access to portable drinking water	261	63
9	Avoidance of alcohol, tobacco and illicit drugs	276	67
10	Vaccination against tetanus	275	66
	Total	**2787**	**673**
	Mean x	**276**	**67**

Data in table 4 revealed that majority of the respondents indicated that treatment of pre-existing chronic condition (75%), adequate nutrition (75%), access to high quality care (74%), improved sanitation and personal hygiene (73%), avoidance of alcohol, tobacco and illicit drugs (67%), vaccination against tetanus (66%), spacing of births (64%) were preventive measures for maternal mortality. The table further shows that slightly more than one half indicated that maternal mortality can the prevented by avoidance of unwanted pregnancy (57%) and physical exercise (59%).

Discussion

Data in table 1 showed that majority (>50%) of the respondents have knowledge of all the causes of infant mortality except low birth weight (42%). The table show that majority of the respondents indicated that pneumonia (84%), tetanus (80%), contaminated water and food (76%), diarrhoea (73%), micronutrient deficiency (70%), malaria (62%) and hepatitis B were causes of infant mortality.

The findings of the study from table 2 showed that majority (>50%) of the respondents have knowledge of immunization and intake of vitamin A supplement by the baby, proper

hand-washing with soap and water after defecation and before feeding the baby, exclusive breastfeeding of the baby, feeding of the baby with uncontaminated water and food as preventive measures of infant mortality. The data in table 2 further showed that less than 50% of the respondents 47% and 45% have knowledge of intake of zinc supplement and vaccination of the baby against retrovirus as preventive measures of infant mortality respectively.

Table 3 showed that 86% of mothers indicated abortion and bleeding respectively, 80% indicated eclampsia, 79% indicated sepsis, 77% indicated anaemia, 75% indicated prolonged labour and retained placenta respectively, 73% indicated close spacing between pregnancies, 64% indicated delivery by unskilled birth attendant, 60% indicated pre-eclampsia, 54% indicated obstructed level as causes of maternal mortality. This showed that majority (>50%) of the respondents have knowledge of the above as causes of maternal mortality. The table further shows that less than 50%, (49% and 47%) have knowledge of malnutrition and malaria as causes of maternal mortality respectively.

Table 4 revealed that majority (>50%) of the respondents have knowledge of adequate nutrition and treatment of pre-existing chronic condition 75% respectively as preventive measures of maternal mortality. The table also showed that majority (>50%) of the respondents indicated that maternal mortality can be prevented by having access to high quality prenatal care (74%), improved sanitation (73%) avoiding alcohol, tobacco and illicit drys (67%), vaccination against tetanus (66%), spacing of births (64%), physical exercise (59%), and prevented unwanted pregnancy.

The study findings corroborate Lawoyin (2007) and Adedokun (2013) who revealed that mothers are knowledgeable about the causes of infant and maternal mortality and that these causes are preventable. Since literature revealed very slow reduction of infant and maternal mortality, the problem then may not be on knowledge but attitude.

Though the study was carried out in a semi- urban area, the presence of electricity, social networks, televisions, and radio explain the increase in knowledge of causes and preventive measures of infant and maternal mortality among mothers. Similarly, mothers are taught during ante-natal visits. Therefore, the problem of high rate of infant and maternal mortality may not really be as a result of lack of knowledge but possibly wrong attitude towards implementing the preventive measures. Therefore, there is high need to work on the attitude and behaviour of mothers in Onuimo Local Government Area towards

the preventive measures of infant and maternal mortality.

Conclusion

The researchers investigated knowledge of causes and preventive measures of infant and maternal mortality among mothers in Onuimo Local Government Area. From the analysed data and the discussions that followed, the conclusion therefore is that mothers in Onuimo Local Government Area have good knowledge of the causes and preventive measures of infant and maternal mortality.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Health educators working in hospitals should educate mothers on the consequences of wrong attitude towards the implementation of preventive measures of infant and maternal mortality to curb ignorance of these consequences.
2. Health workers, educators and community leaders should encourage mothers through home visitation and supervision to put their knowledge of causes and preventive measures of maternal mortality into practice.
3. The government should go beyond awareness creation to building and equipping hospitals with both human and material resources in rural areas to increase accessibility and affordability of service.
4. Health centres and hospitals should re-plan to include competitions and baby shows for healthy infants and mothers especially pregnant mothers.

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