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Pattern of Under-Five Deaths in Lagos State, Nigeria

Rasheed Kola Ojikutu [1]

1: University of Lagos, Faculty of Business Administration, Lagos, Nigeria.

Abstract

Examination of the trend in U5MR in Nigeria shows that the projection of 55 per 1000 for 2015 may be unattainable because of the unabating increase recorded in the past five years. The secondary data show that about 73.8 per cent of the children die before their first birthday while 37 per cent die before the end of their first month. The most common killers of the under five children are found to be Bronco pneumonia, Sepsis, Anaemia and Malaria).Under five mortality are found to be related to mothers education and income. However, age of mothers and their occupation are not significant contributors to U5MR. Traditional beliefs are found to be important in the treatment of diseases of children as mothers who see their sick children as spiritually afflicted will rather seek for spiritual assistance than take them to hospital for treatment.

Background:

In Sub-Saharan Africa, there are considerable inter and intra countries variations in under-five mortality (Graham and Root, 1998).According to the Millennium Development Goals (2002), almost one in six children in Africa will not see their fifth birthday, an indication that improvement in child survival in Sub-Saharan Africa is quite poor (Fosto et al, 2007). It is worthy of note that despite general global decline in under-five mortality between 1960 and year 2000, (On average worldwide under –five mortality rates (U5MR) fell by 65%), many African countries such as Ivory-Coast, Namibia and Nigeria have recorded increase greater than 10 per cent during this period (http//ucatlas.ucsc.edu/health/under_5/under_5.html).

The Global Health Council (2007) while examining the places where child death occurs submitted that:

- Of the deaths of children under five, 90 per cent occur in 42 countries and 95 per cent occur in 75 countries
- 42 per cent of all child deaths occur in sub-Saharan Africa
- About 50 per cent of fewer than five deaths occur in six-countries with large populations, namely: Nigeria, China, India, Democratic Republic of Congo, Ethiopia and Pakistan.
- Child mortality rates in Western and Central Africa, Eastern and Southern Africa and South East Asia are all higher than the global rate.
- One in four of the world's 600 million children under the age of five live in a country where the risk of deaths is at least 200 times higher than that in the United States of America.

A UNICEF (2001) report on U5MR shows that about 11 million under five deaths occurred all over the world in year 2000, one percent of them in the industrialized countries, 4 percent in Latin America/Caribbean, 6 per cent in the Middle East and North Africa, 13 per cent of them in East Asia/pacific, 34 per cent in South Asia, CEE/CIS recorded only 2 per cent and forty percent in Sub-Saharan Africa. The report further explained that Sub-African recorded its lowest U5MR between 1990 and 2000, that is, 181/1000 in 1990 and

175/1000 in 2000. This is compared to the other regions of the world as shown in Table 1 below.

Table 1
DIFFERENCES IN U5MR BETWEEN 1990 AND 2000

Region	Year	
	1990	2000
South Asia	128	100
Middle east/North Africa	80	64
East Asia/Pacific	58	44
Latin America/Caribbean	53	37
CEE/CIS (Basic States)	45	38
Industrialized Countries	9	6

(Note: CEE/CIS by UNICEF definition includes countries such as Czech Republic, Croatia, Hungary, Slovakia, Poland, Bulgaria, Bosnia and Herzegovina, Belarus, Yugoslavia, Estonia, Latvia, Lithuania, Ukraine, Romania, Russian Federation, TFYR Macedonia, Georgia, Armenia, Albania, and Moldova Republic).

In conclusion, the UNICEF (2001) report shows that though between 1960 and 2000, global under five mortality rate dropped by half but it doubled in Sub-Saharan Africa because in 1960, 18.1 million under five deaths were recorded globally and there were only 6.4 million such deaths in 2000.Whereas Africa recorded 2.3 million under five deaths in 1960 and 4.5 million in 2000.

Trends in Under-Five Mortality in Nigeria

Nigeria with a population of 133.9 million people, 58.3 million of whom are children below the age of 15 years is estimated by UNICEF to have an U5MR of about 183 deaths per thousand live births in 2001(USAID, 2003) and rated in the 15th position in the world amongst countries with high U5MR (UNICEF (2001) in USAID, 2002). According to Ogunjuyigbe (2004) , infant and child mortality have been unabatedly high in the developing countries, including Nigeria ,despite general decline of it in the developed world. Quoting FOS (1992) in the Nigeria Demographic and Health Survey (1990), he explained that 87 of the 1000 infants born in Nigeria would die before their first year birthday and 115 out of 1000 of them would die before their fifth birthday. Table 2 shows the U5MR for Nigeria from 1960 to 2000

Table 2
UNDER FIVE MORTALITY RATE FOR NIGERIA (1960 – 2000)

Year	-60	-65	-70	-75	-80	-85	-90	-95	2000
U5MR	279	255	234	214	196	179	165	153	143

Source: The World Bank (2006)

The above data show general decline in mortality over the period of 40 years (1960 - 2000). Will this declining trend be sustained till the year 2020? A simple method of ascertaining the veracity of a claim of general 'decline' is to assume that U5MR =f(t), where t is in years, then we can fit a line of the form

U5MR = a + bt,

1980 =0

This gives U5MR = 202-17.05t. ……………………………………………(1)

with r2 = 0.984.

Using equation (1), we obtain a general estimate for U5MR for Nigeria for the 60 years starting from 1960. The essence of the estimates for 1960 -2000 is to show the closeness between the model estimate and the actual value which further confirms the possible accuracy of the estimates for 2005 to 2020.

Table 3
ESTIMATES OF UNDER-FIVE MORTALITY RATE FOR NIGERIA (1960-2020)

Year	U5MR
1960	270
1965	253
1970	236
1975	219
1980	202
1985	185

Original Article

1990	167
1995	151
2000	134
2005	117
2010	100
2015	83
2020	66

Table 3 shows that if the emerging trend is sustained, then Nigeria should be close to achieving the expected millennium goal of a U5MR of 55 that is projected for 2015 (MDGs, 2002).However, the actual U5MRs for 2001 – 2005 shown in the Table 4 do not agree with the above projection

Table 4
ACTUAL UNDER FIVE MORTALITY RATES /1000 BIRTHS FOR NIGERIA (1999-2005)

Year	1999	2000	2001	2004	2005
U5MR	140	143	183	197	194

As there seems to be a general new pattern of increase. Compared to its West African Neighbors, the 2004 U5MR does not give any hope that the Millennium goal will be achieved, particularly in view of the global average of 76 per 1000 births

A look at the general percentage in U5MR in Nigeria does not give an encouraging result when compared to countries in the West African Neighborhood. For Instance, Benin recorded a percentage reduction of about 51 per cent in U5MR between 1960 and 2004 while Cameroon has 48 percent, Ghana 48 percent, Togo 19 percent, Niger 19 percent and Nigeria only 3 percent during the same period. (Laoye, 2007).

Studies considering the contribution of the various constituents (States) in Nigeria to the general under-five mortality situation are none-existent. The cultural diversity of the country and its religious heterogeneity make a study of the contribution of the various constituents to U5MR imperative believing that understanding the pattern of under-five mortality in the states will enhance a clearer appreciation of continued increase in U5MR in Nigeria since 1960.

The paper is divided into seven sections. Section 1 is on introduction, Section 2 focuses on the trend in the U5MR situation in Nigeria, Section 3 is the study area, Section 4 discusses the cultural perspective, Section 5 is on methodology and Section 6 discusses the data analysis techniques while Section 7 is on conclusion, policy implications and recommendation.

The Study Area

Lagos State was created on May 27, 1967, through Decree Number 14, by the Federal Government. What was then the Federal Capital of Nigeria was merged with the old colony province of the defunct Western Region of Nigeria to form the new state. The state lies approximately between longitude 2042' East and 3042' East and latitude 6022' North and 6052' North. It is bounded in the South by the Guinea Coast of the 180km Atlantic Coastline, in the West by the Republic of Benin and in the North and East by Ogun State (Odumosu, Balogun and Ojo, 1999).

It has a total area of 3,577 square kilometer about 22 percent of which is water. (Oke et al., 2000). Despite its position as the smallest State in the Federation in terms of land mass, occupying only 0.4 percent of the area of Nigeria, it has gone through series of administrative transformation to metamorphose into a frontline position amongst the thirty-six states making up the federation of modern day Nigeria.

Lagos State with a population of over 13 million is the most urbanized state in Nigeria. (WHO, 2004). . Oke et al (2001) observed that the state accommodates about 6.2 percent of the total population of Nigeria accommodates one of the most heterogeneous concentration of people in the country with many linguistic and cultural groups such as Yoruba, Igbo, Hausa, Ibibio, Efik, Nupe, Urhobo, Ijaw Ebira,

Isoko, Tiv and many other Nigerians and none-Nigerians living side by side.

The Cultural Perspective

Researchers have agreed that the management of childhood diseases by parents, particularly mothers may be a good indicator in the determination of the general health of the child. Feyisetan et al. (1997), explained that though substantial blame is placed on the inadequate availability of health care services, not many studies focus on the cultural beliefs and health seeking behavior of the people for whom these health infrastructures are designed. According to them, failure to imbibe modern medicine may not necessarily be due to poverty since the costs of preventive and curative health care measures are not exorbitant in most of the countries. They advised researchers to seriously consider the socio-cultural determinants of behavior in such matters as child care and disease management. Odebiti and Ekong (1982) in Ogunjuyigbe (2004) explained that knowledge of measles and diarrhea is quite pertinent in in an understanding of the role of cultural beliefs in health seeking among the Yoruba, as mothers in the traditional Yoruba setting attribute measles attack to a variety of causes which has no link with the concept of virus. They explained further that Measles attack is traditionally attributed to the breaking of family taboos or an attack from witches and enemies. Diarrhea on the other hand is often associated with causes other than infection. Most mothers belief that diarrhea is a manifestation of further growth by the child or a reaction to the consumption of excessive sugary or sweet items. This position is supported by Asakitikpi (2007) who while quoting statistics obtained from UNICEF (2003) and WHO (2001), explained that diarrhea alone killed about three million children below the age of five annually. According to him, the campaign against this great killer disease may be a wide goose chase in Nigeria if there is no effort to understand the problem from the perspective of the indigenous population who see the disease which they call igbe gbuuru as a milestone in the development of children below the age of five.

It is not uncommon to find most diseases of children been associated to attack by witches or enemies. In a polygamous setting, the other wives are fingered as the reason for the ailment. If a child becomes ill too frequently, he is assumed by the society to be an Abiku or 'oro inu igi" sent from the spirit world. The Abiku concept assumes that all such children are bound to die eventually irrespective of the efforts of the parents in protecting them. Many of the children are regarded as a special spiritual affliction on the parents. They are believed to have been sent by the spirit world to drain the purse of the parents, through constant medical expenses. The depth of this belief could be seen from the funeral ceremonies of such children when they die and the christening of the children born after their demise. While the corpses of Abiku are mutilated to keep a tag on their movement in and out of the spirit world, new born babies who are suspected to be their incarnates are regarded with suspicion until they are old enough to vend for themselves. With the advent of Pentecostal Christian religion, this old belief is been replaced by those that are more refined but equally devastating to the health of children.

Citing Oke (1989), Odebiyi (1998), Jegede (2002), Odebiyi (1977), Jegede (1998) and Ajala (2002), Jegede et al (2006) explained that the relationship between culture and health has been established and that research has discovered that some of these traditional practices lead to ill health in children and generally have negative effect on health. Jegede et al (2002) further highlighted the effect of forced feeding, a common practice in Yoruba land to the general well- being of children. According to them, health problems such as diarrhea, cholera, respiratory tract infection, kwashiorkor and so on have been found to be associated with forced feeding (Oni et al, 1991; Oke and Yoder, 1989; Oke,

Original Article

1989, 1982; Escobar et al. 1983; Ekanem et al., 1991, Jegede et al., 2002a, in Jegede et al (2006)).

Research Methodology

Data for the study were obtained from both secondary and primary sources. Records of eight thousand two hundred and ninety one (8291) patients, whose ages were five years and below were taken from children hospitals in Lagos State and filled into questionnaires designed for that purpose with the records of all the under five patients extracted for analysis. The study period is 1997 to 2002. Lagos State was chosen for the study because, though, it is the smallest state in Nigeria, yet, it has the highest population which is about 6.2 percent of the national estimate (that is about 1 in 16 Nigerians live in the state) and its annual population growth is over 9 per cent (Oke et al, 2001).

In addition to the secondary data, a sample of one hundred and twenty mothers was interviewed using judgment sampling. The reason for the choice of a none-random sampling technique is because of the unavailability of a sampling frame from which a random sample could be drawn. More over, the sample elements are not necessarily related to those children in the secondary source. The respondents are required to answer questions that will assist in the understanding of the death patterns amongst the under five children in Lagos State.

The variables considered in the secondary source include: Year of death, Age of child at death, Cause of death, Sex. From the primary source, questions on Marital status of mother, Occupation, Educational qualification, Income, Number of births, Number of Under five deaths, Intervals between births, Attendance at ante-natal, Place of delivery, Opinion of mothers about frequently sick children, Initial reaction of mothers to her child's sickness, and Cause of death were obtained.

The aim of the study is not to obtain the U5MR for Lagos State, but it is desirable to have a clear understanding of those factors that are contributory to unabaiting high under five mortality rates in Nigeria through the examination of the Lagos State situation. This is because about 1 in 20 Nigerians live in the state and there is no tribe or ethnic group that is not represented in the state.

THE RESEARCH HYPOTHESES

With respect to the primary data, the following hypotheses were tested:

H01: Under-five mortality in Lagos State is not dependent on the education of the mother.
H02: Under-five mortality in Lagos State is not dependent on the Income of the mother
H03: Under-five mortality in Lagos State does not depend on the current age of the mother
H04: Under-five mortality in Lagos State does not depend on the occupation of the mother.
H05: Opinion about frequently sick children does not depend on initial reaction of mothers to child sickness.
H06: Preference for Hospital or Spiritual Treatment does not affect the opinion about frequently sick children.
Since the data are largely categorical, we use the χ^2 statistics to test H_{01}, H_{02}, H_{03} and H_{04}

RESULTS

The primary and secondary data were separately analyzed with emphasis on the salient features.

ANALYISIS OF SECONDARY DATA

DISTRIBUTION OF AGE

Table 5

Age Of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than one month	3068	37.0	37.0	37.0
	1month and under 3months	441	5.3	5.3	42.3
	3months and under 6months	564	6.8	6.8	49.1
	6months and under on year	1245	15.0	15.0	64.1
	1 year and under 1 1/2 years	784	9.5	9.5	73.6
	1 1/2 and under 2years	638	7.7	7.7	81.3
	2 years and under 3 ye	662	8.0	8.0	89.3
	3 years and under 4 ye	379	4.6	4.6	93.8
	4 years and under five years	510	6.2	6.2	100.0
	Total	8291	100.0	100.0	

Source: Survey

Table 5 shows that all the 8291 patients whose records were retrieved from the hospitals are aged five years and below with 37 percent of them less than one month, 73.8 per cent under one year, an indication of high contribution of infant mortality to under five mortality rate. Also, 58 percent of the under five children are male while 42 per cent are females.

CAUSE OF DEATH

Table 6

Diagnosis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sepsis	1026	12.4	12.4	12.4
	Neo Natal Jaundice	598	7.2	7.2	19.6
	Broncho Pneumonia	1117	13.5	13.5	33.1
	Anaemia	670	8.1	8.1	41.1
	Neo Natal Tetanus	484	5.8	5.8	47.0
	Gastro-enteritis	622	7.5	7.5	54.5
	meningitis	92	1.1	1.1	55.6
	septicaemia	149	1.8	1.8	57.4
	dehydration	253	3.1	3.1	60.4
	Malaria	652	7.9	7.9	68.3
	Aspiration Pnemonia	24	.3	.3	68.6
	Acute Asthma Attack	47	.6	.6	69.2
	KOCH'S	44	.5	.5	69.7
	Measles	253	3.1	3.1	72.7
	Febrile Convulsion	123	1.5	1.5	74.2
	Neo Natal Haemorrhage	13	.2	.2	74.4
	Tuberculosis	29	.3	.3	74.7
	Sickle Cell Anaemia	26	.3	.3	75.0
	Bronchitis	159	1.9	1.9	77.0
	Burns	102	1.2	1.2	78.2
	Kwashiokor	15	.2	.2	78.4
	Intestinal Obstruction	12	.1	.1	78.5
	Prematurity	273	3.3	3.3	81.8
	Encephalopathy	13	.2	.2	82.0
	Marasmus	36	.4	.4	82.4
	Plasmodiasis	472	5.7	5.7	88.1
	Severe Malnutrition	81	1.0	1.0	89.1
	P.E.M	31	.4	.4	89.4
	Hernia	13	.2	.2	89.6
	Birth Asphyxia	338	4.1	4.1	93.7
	others	524	6.3	6.3	100.0
	Total	8291	100.0	100.0	

Source: Survey.

Table 6 shows the distribution of the cause of death. Out of the causes of death listed, eight are noted from the table to record high number of causalities. These are: Bronco Pneumonia (13.5 percent), Sepsis (12.4 percent), Anaemia (8.1 per cent), Malaria (7.9 percent), Gastro Enteritis (7.5 percent),Jaundice (7.2 per cent) Tetanus (5.8 percent) and Plasmodiasis (5.7 percent) . These eight causes are jointly responsible for over 68 per cent of deaths while several other causes together are accountable for less than 32 per cent. However, in a follow up survey on 120 women, mothers identified Sepsis, Jaundice, Measles as leading causes of death.

An examination of the within causes of death situation shows that amongst those who died of sepsis, 94.2 percent of them are less than one month and amongst those who died of jaundice, 97 percent belong to the same age category (less than one month) while amongst those who died of Tetanus, 87.6 percent are below one month. The general pattern is that many of the children die before attaining the age of one month.

The chi-square test in Table 7 shows that there is significant relationship between age at death and cause of death ($\chi2$ = 7591.608, $p<0.05$).

Table 7

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7591.608^a	240	.000
Likelihood Ratio	8213.611	240	.000
Linear-by-Linear Association	168.462	1	.000
N of Valid Cases	8291		

a. 103 cells (36.9%) have expected count less than 5. The minimum expected count is .55.

ANALYSIS OF PRIMARY DATA

The responses of the 120 randomly selected mothers were also analyzed using SPSS 11 with the following results.

UNDER FIVE DEATHS AND EDUCATION OF MOTHERS

Original Article

67.5 percent of the mothers interviewed have never experienced under-five deaths. Amongst those whose education has not gone beyond secondary school, about 59 percent have experienced under-five deaths while this is just about 17.78 amongst those who have university degrees. The result of the χ^2 test shows that there is significant relationship between the education of mothers and their experience of under-five deaths. (χ^2 = 11.88, p< 0.05).

Table 8

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.880[a]	4	.018
Likelihood Ratio	11.821	4	.019
Linear-by-Linear Association	9.897	1	.002
N of Valid Cases	120		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is .98.

UNDER FIVE DEATHS AND INCOME

The distribution of experience of the mothers in relation to their income shows that amongst those who earn less that N20,000.00 ($153.85) per month, over 54 percent have experienced under five deaths. Generally there is inverse correlation between income and mother's experience of under five deaths. As income increases, there is noticeable decrease in experience of under five deaths.

The χ^2 test in Table 9 shows that there is significant relationship between experience of under five deaths and income of mothers (χ^2 = 11.679, p<0.05).

Table 9

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.679[a]	4	.020
Likelihood Ratio	11.511	4	.021
Linear-by-Linear Association	10.575	1	.001
N of Valid Cases	120		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 3.58.

UNDER FIVE MORTALITY AND OCCUPATION

Occupation of mothers is found not to be generally related to U5MR (χ^2 = 3.384, p>0.05), though, the distribution shows that over 42 per cent of women engaged in menial trade experienced under-five mortality, compared to about 21 percent of Civil Servants, about 21 percent of workers in private sectors and over 26 percent of self employed people.

UNDER FIVE MORTALITY AND AGE OF MOTHER

The survey data do not show significant difference in the distribution of under five mortality across ages, thereby leading to the rejection of hypotheses H03 (χ^2 = 6.813, p>0.05). Moreover, while only 20 per cent of mothers aged 15 -24 years have ever experienced under five mortality , compared to about 31 per cent between the ages of 25 years and 34 years, 45 per cent in the age bracket 35 – 44 years and just over 8.3 per cent in the group of those aged over 45 years.

UNDER FIVE MORTALITY AND NUMBER OF BIRTHS

The number of children born to a woman is examined in relation to under-five mortality. It was discovered that only about 28 percent of women who had two children or less have ever experienced under-five deaths while over 31 per cent of those with four children or less have lost children before the fifth birthday. Contrary to widespread belief in demographic studies, the current study shows that there is no relationship between U5MR and number of births by a woman (χ^2 = 0.273, p>0.05).

INITIAL REACTION OF MOTHERS TO SICKNESS OF CHILREN

Table 10

INITIAL REACTION OF MOTHERS TO CHILD SICKNESS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	take him to hospital	42	35.0	36.5	36.5
	take him to church or muslim alfa or babalawo for spiritual cleansing	53	44.2	46.1	82.6
	give him home treatment with local herbs/Agbo	13	10.8	11.3	93.9
	give him home treatment using known and previously prescribed drugs by the hospital	7	5.8	6.1	100.0
	Total	115	95.8	100.0	
Missing	System	5	4.2		
Total		120	100.0		

Table 10 shows that over sixty per cent of the mothers will not make hospital their first choice of treatment when the children are sick. It was discovered that the relationship between the initial reaction of mothers to their child's sickness and opinion of frequently sick children is significant ((χ^2 = 81.253, p<0.05).

OPINION ABOUT FREQUENTLY SICK CHILDREN

Table 11

OPINION ABOUT FREQUENTLY SICK CHILDREN

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	They are Abiku and spiritually posessed children	68	56.7	58.6	58.6
	they are like any other children who needs care and attention	33	27.5	28.4	87.1
	dont know	15	12.5	12.9	100.0
	Total	116	96.7	100.0	
Missing	System	4	3.3		
Total		120	100.0		

Table 11 shows that over fifty six per cent of mothers regard frequently sick children as spiritually possessed while only about twenty-seven percent think they are normal children and should be treated as such. The hypotheses tests show that opinion about frequently sick children cuts across ages (χ^2 = 4.516, p>0.05) as its has no significant relationship with mother's age and also, education does not have significant effect on it (χ^2 = 3.723, p>0.05). The result shows that the choice of hospital or spiritual treatment depends on opinion of mothers about frequently sick children (χ^2 = 40.007, p<0.05).

DISCUSSION

The primary aim of this paper is not to calculate U5MR for Lagos State but to examine those factors that may be contributory to lack of projected decline in mortality rate in Nigeria. The expectation is that U5MR will continue to drop and may even plummet to a moderate figure of 55/1000 by the year 2015. However, the steep decline over the years from the very high rate of 279/1000 in 1960 to 143/1000 in 2000 gives hope, though such decrease is not in consonance with the expectation of the world on under five mortality. The consequent increase from the 143/1000 in 2000 to 183/1000 in 2001, 197/1000 in 2004 are indications that all is not well with child health in Nigeria.

As shown in this study, mother's education, income, occupation ,previous births, age and some other factors were considered to see if appropriate intervention in that direction will assist in the general reduction of U5MR in Lagos State and consequently in Nigeria. Unfortunately, these factors are hampered by cultural and traditional believes in which mothers would rather see sick children as spiritually afflicted, than giving them prompt medical attention.

The Nigerian Village Square (2007) quoting UNICEF report (2007) explained that trends in Under-Five Mortality Rate reduction in Nigeria shows essentially a stagnation and at best only marginal reduction, and about half of infant deaths occur in the neonatal period, most of them in the first week. This conclusion is fully supported by our survey as shown in Table 5 which shows that at least 37 percent of Under Five deaths occur before the end of the first month of birth.

The effect of mother's education on U5MR is confirmed in this study and it is also supported by previous research studies but the traditional belief that on child's health

which generally runs counter to scientific perception on the subject matter cuts across the education of mothers which in turn may also hamper effective treatment of sick children.

Sastry (2004) in his examination of child mortality in Sao Paulo, Brazil observe a decline in U5MR even as the levels of education for mothers increased. Similarly, in a study, Weng and Wang (1993) discovered that mortality rate was substantially higher amongst children whose mothers were illiterates than those whose mothers were high school graduates. The position of Hao(1990) was not different from these, as he agreed that the higher the educational level of the parents, particularly the mother, the lower the child mortality level. He concluded that of all the variables studied by him, mother's education had the greatest effect on reducing child mortality.

In our study, the effect of age of mother on U5MR is found not to be significant. This is in contrast to previous research results. For instance, Weng and Wang (1993) discovered mortality rate was lowest amongst children whose mothers gave birth at the age of 25 – 29, followed by those whose mothers gave birth at age 20-24 and 30- 34.

As shown in Tables 10 and 11, the opinion and reaction of mothers to diseases afflicting children is a function of their traditional and religious beliefs. Okeke et al.(2005) submits that traditional healers play prominent role in the treatment of children in Nigeria. They discovered that though, most traditional healers are familiar with the symptoms and signs of malaria but they perceive malaria as been caused by heat from scorching sun rather than mosquito and convulsion is seen by them as hereditary while some see it as an affliction of evil spirit.

CONCLUSION

The finding of this study poses considerable challenges to policy makers, particularly on the health of children. According to Nigerian National Planning Commission (2000), Child survival in Nigeria is threatened by nutritional deficiencies and illnesses, such as malaria, diarrhea, acute respiratory infection, and vaccine preventable diseases. According to them, in 1999, malaria was responsible for 30 percent of fewer than five deaths and 41 per cent of morbidity, Diarrhea accounted for 19 per cent of mortality and 24 per cent of morbidity. Continuous informal education of mothers about childhood diseases and consequences of neglect will go a long way in reducing mortality in this area.

The Local Government which is the third tier of government in Nigeria is saddled with the provision of primary health care delivery and been close to the tradition should develop intervention programs on child health care. There is no doubt that the unyielding traditional perception of health is not helping the reduction of under five mortality. The refusal of mothers to embrace modern medicine may not be due to lack of formal education but because of the over-riding influence of culture.

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