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LIVELIHOOD CONTEXTS AND SOCIO-ECONOMIC DETERMINANTS OF DEATHS BY DISEASES IN ABIA STATE, NIGERIA, (2012-2017)

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Abstract
Explanations of diseases and deaths have gone beyond biomedical levels to people's livelihood status. However, the quality of people's livelihood can better be achieved when indices associated with their well-being measured by: good food, clean water supply, affordable housing, education, full employment, basic social amenities and participation in decision-making are enhanced especially with democratic good governance. This study investigated livelihoods and socio-economic factors influencing deaths by diseases with the dawn of democratic governance in Abia State, Nigeria. The sample size was 390. Data were generated using structured questionnaire and FGD. The data were analyzed using descriptive and inferential statistics while the hypotheses were tested using Chi-square. The findings show that low education level and poor basic social amenities affect livelihoods causing deaths by diseases in Abia. As a result, there is need to enhance good governance through free education and provision of basic social amenities.

Keywords: livelihood, diseases, deaths, socio-economic explanations, mortality rates, good governance.
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Introduction
It is on record that there is a global consensus that accurate information about the causes of death is critical to help inform efforts towards ending preventable deaths (Shittu & Kinney, 2017). For example, in 2004, the World Health Organization (WHO) recommended that all countries that have not established maternal death audit systems should do so as a matter of urgency to help reduce maternal deaths; and in 2016, the same WHO released guidance on conducting mortality audits for stillbirths and neonatal deaths alongside tools for adaptation at national, sub-national or facility level (WHO, 2004; WHO, 2016; Shittu & Kinney, 2017).

Besides, the universal consensus on the need for good governance is essentially linked to the growing thirst for an improved quality of living standard and secured environment for people. Thus, as part of the structural strategies to fulfill its growing concern, democratic practice promises to address the wellbeing of the people. In other words, the central concern of Democracy is the enhancement of people's livelihoods which underscores the growing demands for people-centred policies and programmes without which governance is worthless (Umar & Tifida, 2015). However, this notable objective of democratic governance tends not to have been realized in Nigeria. For example, and without a deliberate attempt to demean the achievements of the Millennium Development Goals (MDGs) in Nigeria, there is hardly much noticeable improvement in the quality of services provided by democratic government in the country with which the people's quality of life can be meaningfully assessed and appreciated since the dawn of democracy in 1999. The result is that life expectancy has not remarkably increased as a result of poor living standards, giving rise to increased deaths by diseases in Nigeria.

There is no gainsaying that death rates are very high in sub-Saharan Africa and West Africa (Adetunji & Bos, 2006) and Nigeria (National Population Commission & ORC Macro, 2004; World Health Organization, 2004; National Population Commission, 2009). NPC and ORC Macro (2004) reported an infant mortality rate (that is the probability of dying before the first birthday) of 100 per 1000 live births and under-five mortality rate (USMR) (that is, the probability of dying between birth and fifth birthday) of 201 per 1000 live births.

The trend of childhood mortality in Nigeria shows a downward trend but the rates are still high. NPC and ICF Macro (2009) report that neonatal mortality (that is, the probability of dying within the first month of life), decreased from 42 deaths per 1000 deaths in 2008. Post-natal mortality (the difference between infant and neo-natal mortality) decreased from 45 deaths per 1000 births in 1990 to 35 deaths per 1000 births in 2008; Infant Mortality from 27 per 1000 births in 1990 to 75 deaths in 2008. Child Mortality (the Probability of dying between first and fifth birthday) has decreased by 24 percent over the 18- year period (from 115 to 88 deaths). And under-five mortality has decreased by 18 percent over the same period (from 192 to 157 deaths).

Furthermore, according to NPC and ICF International (2014:117), "infant and under-5 mortality rates in the past five years are 69 and 128 deaths per 1000 live-births, respectively. At these mortality levels, one in every 15 Nigerian children die before reaching age 1, and one in every 8 do not survive to their fifth birthday". The same report also shows that infant mortality has declined by 26% over the last fifteen years, while under-5 mortality has reduced by 31% over the same time frame; childhood mortality are higher in the rural areas than urban areas; and that the neonatal mortality rate is 37 deaths per 1000 live-births, the post-neonatal mortality rates is 31 deaths per 1000 live-births, and the peri-natal is 41 per 1000 pregnancies. Similarly, according to Shittu and Kinney (2017:11), "in 2015 in Nigeria, over seven million babies were born; 240,000 of these babies died in their first month of life, an additional 314,000 were stillborn and 58,000 women died of pregnancy and childbirth related complications".

Researchers have shown that most deaths in Africa and Nigeria tend to be caused by diseases (Adetunji & Bos, 2006; Baingana & Bos, 2006; Richard, Kristle & Gary 2007). For example, Baingana and Bos (2006) reported that communicable diseases are responsive for the largest diseases burden and cause the highest number of deaths in sub- Saharan Africa as well as a major cause of chronic illness and disability. Richard et,al (2007) hold that infant mortality and infectious diseases are closely related.

The fact that death (mortality), is a component of population change, calls for investigation into its causes and consequences in specific locations. This is because the major events in people's life (death inclusive) have demographic consequences and implications. World Health Organization (1950) defined death as a permanent disappearance of all evidence of life at any time after birth has taken place (that is, post-natal cessation of vital functions without capability of resuscitation).

Many observations have associated diseases as a cause of mortality to certain socio-economic factors, that is, to certain social and economic explanations. Abia State Planning Commission (2005) states that poverty and ignorance affect the spread of HIV/AIDS, thereby increasing the rates of death. Richards, Kristle and Gary (2007) report that per capita income; literacy and absolute poverty significantly affect infant mortality. They further hold that place of residence has a relationship with infectious diseases. Baingana and Bos (2006) hold that income is an important determinant of access to good food, which in turn leads to low levels of malnutrition, a key risk factor for many childhood diseases. This study focused on the relationship between peoples livelihoods measured by the level of educational attainment, employment status, and provision of social amenities and rates of deaths by diseases in Abia State, Nigeria.

Conceptual Issues

Livelihood:

Livelihood simply means the living conditions of the people. In this context, livelihood refers to availability of certain indices that enhance the quality of life of a people. Such indices include: good food, clean water, affordable housing, education, full employment, quality basic social amenities such as good roads, regular electricity supply, accessible health facilities, etc; as well as access to participate in the decision-making that concerns them.

Good Governance:

This simply means the way of running the affairs of the people that enhances their quality of life. In other words, it is all about the system of administration that gives the people indiscriminate access to good food, clean water, basic social amenities, education, full employment, health facilities, and even the access to participate in the decision making in their own affairs.

Deaths:

Deaths as used in this work are in line with the WHO (1950) definition of death. It is a permanent disappearance of all evidence of life at any time after birth has taken place, that is, "Post-natal, cessation of vital functions without capability of resuscitation"

Diseases:

This simply means illnesses or disorders caused by infection or unnatural growth but not by an accident.

Mortality Rates:

These are ways of measuring deaths in a population. These measures include: neonatal mortality rate, post-natal mortality rate, infant mortality rate, child mortality rate, under-five mortality rate, etc. Neonatal mortality is the probability of dying within the first month of life; Post-natal Mortality is the difference between infant and neonatal mortality. Infant mortality is the probability of dying before the first birthday. Child mortality is the probability of dying between first and fifth birthdays. Under-five mortality is the probability of dying between birth and the fifth birthday (NPC & ICF International, 2014).

Socio-Economic Explanations:

This simply means the social and economic factors such as: education, employment status, and basic social amenities etc that cause diseases thereby affecting the quality of life of the people and which are capable of resulting in death.

Live birth:

This means the complete expulsion or extraction from its mother of a product of conception which after such separation breathes or shows any other evidence of life such as the beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached.

Objectives of the study

The objectives of this are to:

1. Determine the relationship between educational attainment and rates of death by diseases in Abia State, Nigeria.
2. Determine the relationship between employment status and rates of death by diseases in Abia State, Nigeria.
3. Examine the relationship between provision of social amenities and rates of death by diseases in Abia State, Nigeria.

Research Questions

The following research questions are posed for the study

1. What is the relationship between educational attainment and rates of death by diseases in Abia State, Nigeria?
2. What is the relationship between employment status and rates of death by diseases in Abia State, Nigeria?
3. What is the relationship between provision of social amenities and rates of death by diseases in Abia State, Nigeria?

Research Hypotheses

This study seeks to test the following hypotheses:

(1) There is a significant relationship between educational attainment and rates of death by diseases in Abia State, Nigeria.
(2) There is a significant relationship between employment status and rates of death by diseases in Abia State, Nigeria.
(3) There is a significant relationship between provision of social amenities and rates of death by diseases in Abia State, Nigeria

Brief Literature Review

The literature review is hereby done briefly to discuss the current levels of mortality in Nigeria and the perceived socioeconomic determinants of deaths by diseases (education, employment status and basic social amenities) under study as follows:

Current Mortality Levels

Despite the continuous declining trend in mortality levels as revealed by NPC and ICF International (2014), mortality rates in Nigeria are still relatively high. The same report also shows that twelve percent of women and men are likely to die between the exact ages of fifteen and twenty respectively. These probabilities, from NPC and ICF International's (2014) key findings, have decreased since by 23 percent for women and 27 percent for men. Maternal deaths account for 32 percent of all death among women age 15-49 years. The maternal mortality ratio was 576 maternal deaths per 100,000 live births for the seven years period preceding the 2013 NDHS. This ratio is not significantly different from the ratio reported in the 2008 NDHS. The lifetime risk of maternal death indicates that 1 in 30 women in Nigeria will have a death related to pregnancy or child bearing (NPC and ICF International, 2014).

Infant mortality has declined by 26 percent over the last 15 years, while under-5 mortality has declined by 31 percent over the same period. Child mortality rates are higher in rural areas than in urban areas. Also childhood mortality is highest in the North West. The neonatal mortality rate is 37 deaths per 1,000 live births. The post neonatal mortality rate is 31 deaths per 1,000 live births and pre-natal mortality rate is 41 per 1,000 pregnancies (NPC and ICF International, 2014). In fact, the issues of infant mortality, under-5 mortality, maternal mortality, low life expectancy and all other deaths resulting from various sources are still relatively common events in Nigeria despite a steady increase in efforts to reduce mortality rates in the country (ASPC, 2005; NPC, 2009; and CPED, 2010).

Education:

Education can never likely be ruled out as one of the socio-economic determinants of mortality by diseases since health of an individual is not affected by income or employment status alone (Serap 2008. Muller 2002 and Galea and Ahern, 2005). Serap (2008) holds that education is an important variable since a more literate society has greater awareness of affecting health and is therefore better placed to take preventive measure or seek medical assistance when ill. Similarly, the result of the empirical work of Galea and Ahern (2005) on the link between education distribution, income distribution and specific health indicators in New York City, show that there was an association between education distribution and health indicators more likely to be associated with long-term accumulation of behavioral and social stressors.

On the contrary, the result of the 2007 sentinel survey as provided by NPC (2009) demonstrates that education does not impact significantly on the level of awareness of most Nigerians. This explains the misconceptions that even the educated Nigerians have about certain diseases such as HIV/AIDS, Tuberculosis, Cholera, etc regarding their mode of transmission.

Employment status:

The link between employment status and deaths by diseases cannot be underestimated. Kim, Son, Park, Nam, Kim and Cho (2015) hold that mortality was higher among the

population that experienced a change in economic status from employed to unemployed than those who maintained employment. This agrees with the view of Lin, Rogot Johnson, Sorlie and Arias (2003) that there is a higher life expectancy for individuals who were employed than those that were either not employed or not in the labour force. Baingana and Bos (2006) highlight the findings of Wagstaft and Claeson (2004) on income, coverage of intervention related to health, and health outcomes which document that higher incomes (of course, it is a function of occupation status) lead to improved access to and use of preventive and curative interventions, such as antenatal care, immunizations, use of treated bed nets, and receipt of therapy for diarrhea and medicine for reducing fever.

Basic Social Amenities:

It is not wrong to talk about the link between basic social amenities and death by diseases. For example, WHO (2001) noted that safe water supply and adequate sanitation to protect health are among the basic human rights and ensuring their availability would contribute immeasurably to health and productivity for development. WHO (2001) added that the poor are most susceptible to ill-health than the well-off because they lack safe water supplies and safe methods of disposal of their wastes. Their observation further shows that where a community improves its water supply, hygiene and sanitation then health improves. For example, diarrhea can be reduced by 26% when basic water, hygiene and sanitation are supplied. Besides, poor medical attention and hygienic conditions during delivery (NPC and ICF International 2014; Van Lerberghe and De Brouwere, 2001; WHO, 2006); and hunger or lack of good food (World Bank Group, 2015), all affect people's quality of life. They are contributory factors to increasing rates of death by diseases.

Theoretical Framework

Demographic Transition theory, especially the first and second stages, was appropriate in the explanation socio-economic aspects of deaths by diseases in the area of study. The first stage of the transition involves high birth rates and death rates and the countries that fall into this category are found mainly in Africa, Asia and South America (Hughes, Koehler and Zanden, 2002). According to Davis in Hughes et al (2002), the high death rates are caused by diseases and undernourishment, famine, wars, epidemics, etcetera.

Applying this to the study of mortality in Nigeria, it is a common knowledge that Nigeria as the giant of Africa characterized by high birth and death rates. The high mortality rates in Nigeria just like in other developing countries are likely caused by diseases and chronic undernourishment, epidemics, famine, wars (i.e. crises, conflicts, military intervention s, terrorists' activities, etc), etcetera. In agreement to this view with reference to Nigeria, Fasan (2011) asks, "how can a civil servant who can't pay his daughter's medical bill for a disease caused by the very fact of their material poverty bear the ill-digested platitude of a state governor calling for cooperation between him and the mass of hungry people around"? This shows that hunger, famine, and material poverty occasioned by low level education, unemployment, underemployment and inadequate basic social amenities, are still common in Nigeria to the extent that many families are unable to pay hospital bills for their infected children and the outcome of this will definitely be high diseases and death rates.

Stage two of the Demographic Transition Theory is associated with high birth and low death rates. The causes of the rapid drop in death rates are improvement in food supply and sanitation, access to technology, improvement in healthcare and education, farming techniques, crop rotation and selective breeding (Hughes et al 2002; Caldwell, Bruce, Pat, Peter & Thomas, 2006). In Nigeria, there is an evidence of improvement in sensitization and diseases awareness, sanitation, etcetera. For example, the introduction of Sex Education and other disease awareness programmes into the school curriculum will definitely lead to a drop in death rates in Nigeria as reported by NPC and ICF Macro (2009). Death rates are, however; still high

despite their downward trend showing that ignorance is not the major issue but low quality of education is the issue.

Nigeria has not got to the third stage. Just like their counterparts in sub-Saharan Africa as its birth and death rates are still relatively high (Goliber, 1997). High birth and death rates here, doesn't mean that both birth and death are at the same rate, one may be higher or lower than the other but based on the world standard, they are relatively high. This agrees with Adetunji and Bos (2006) that sub-Saharan Africa is the region of the world with highest level of mortality (death) with the overall life expectancy at birth of 46 years.

Methodology

This study adopted a mixed research design. The design was critical to this study because it enabled the study of a large population at a relatively short period of time and also allowed the researcher to use both quantitative and qualitative methods to gather extensive data for the study. The study was conducted in Abia State, focusing on Umuahia-South, Umuahia-North and Osisioma Local Government Areas

The population comprises all the people in the three selected Local Government Areas in Abia State based on 2006 National Population and Housing Census as shown in table 1.

Table 1: Population of Selected Local Government Areas in Abia State.

Locality	Male	Female	Both Sexes
Umuahia North	112,595	110,539	223,134
Umuahia-South	68,900	70,108	139,058
Osisioma	110,790	109,872	220,662
Total	292,335	290,519	582,854

Source: National Population and Housing Census (2006)

The sample used for this work is 390. The study kept to a probability of 0.5 and 95% confidence interval. The z-score for this given confidence interval is 1.96. For z = 1.96, P=0.2, e = 0.04, N = 384 calculated using:

$$N = \frac{z^2[(p)(q)]}{e^2}$$ (Fisher, Long, Stoekel & Townsend, 1991)

Where: Z = Z-scores (confidence level), e = error margin, P=estimate of population proportion with study characteristics (20% in this case), q = 1-P.

$$N = \frac{(1.96)^2\ (0.2)\ (0.8)}{(0.04)^2} = 384.16$$

Although 384.16 was statistically adequate for this work, 390 was used. This is because the researcher avoided going below the statistically adequate sample size, since the 2006 population and housing census did not provide specific population of communities to allow the use of proportionate stratified sampling to determine the number of respondents to be selected from each community.

Multi-stage stratified cluster sampling is adopted. First, three out of the seventeen local government areas were selected. Next, ten (10) out of the average of 34 communities in each of the three selected local government areas were selected. Thirteen (13) households from each of the chosen communities were picked.

Questionnaire and focus group discussion were used to gather information for this study. The questionnaire was highly structured with only few unstructured questions to solicit the respondent's opinion while focus group discussion complimented the quantitative instrument.

The quantitative data collected through the questionnaire were processed with Statistical Package for Social Sciences (SPSS) Version 20.0. The socio-demographic characteristics of respondents and the substantive issues were analyzed using descriptive

statistics such as frequency distribution tables, and percentages. Inferential statistics, particularly, Chi-Square was used to test the stated hypotheses while multivariate analysis was used to determine the effect of the variables of education, employment status and inadequate basic social amenities on the rates of deaths by diseases in the study area. The qualitative data collected through Focus Group Discussion were analyzed using content analysis which is a thematic analysis in which the transcripts were edited and coded in line with the objectives of the study to compliment the quantitative data.

Results

Table 2: Socio-Demographic Distribution of Respondents

Variables	Frequency	Percentage (%)
Gender		
Male	191	49.0
Female	199	51.0
Age Bracket		
Below 21	34	8.7
21-30	156	40.0
31-40	109	28.0
41-50	54	13.8
51 and above	37	9.5
Educational Qualification		
FSLC		9.0
O' Level (SSCE, GCE, NECO, etc)		34.9
First Degree		46.9
Above First Degree		9.2
Marital Status		
Married	192	49.2
Single	175	44.9
Widowed	23	5.9
Divorced/separated	Nil	Nil

Data in Table 2 show that more females 199(51.0%) were sampled than males 191 (49.0%) in the area of the study. Data in Table 2 still show that 8.7% of the respondents were below 21 years of age, 156(40.0%) were 21 – 30 years, 109(28.0%) were aged 31-40 years, 54(13.8%) were aged 41-50 years, while 37 (9.5%) were within the age bracket of 51 years and above. This means that the larger proportion of respondents fall within the age bracket of 21-30 years.

Data in table 2 also reveals that 31 respondents representing just 9.0% of the total respondents were first school leaving certificate holders while 136 (34.9%) were ordinary level certificate holders. Similarly, while 183(46.9%) were first degree holders, 26(9.2%) were above first degree holders. This shows that close to 50% of the respondents had at least first degrees. The table also reveals that more married people were sampled (49.2%) than the rest in other categories such as single, widowed, divorced/separated.

Table 3: Distribution of Responses on Whether or not they were Bereaved in the Past One Year before the fieldwork

Bereaved in the Past One year (N=390)	Frequency	Percentage
Yes	342	87.7
No	48	12.3

Source: Questionnaire Data

Data in Table 3 above show that 342 (87.7%) out of the 390 respondents lost someone in the past one year before the field work of this study while 48(12.3%) did not. This shows that a larger proportion of the respondents in the area of study were bereaved in the past one year.

Table 4: Percentage Distribution of Responses on Reported Causes of Death

Cause of Death (N=342)	Frequency	Percentage
Malaria	109	31.9
Typhoid	101	29.5
Gastroenteritis	37	10.8
Tuberculosis	29	8.5
HIV/AIDS	31	9.1
Other causes	35	10.2

Table 4 shows that out of all the reported deaths (342 deaths) in the past one year before the field work in Abia State, 109(31.9%) were caused by Malaria; 101(29.5%) were caused by Typhoid; 37 (10.8%) were caused by Gastroenteritis (Cholera, Diarrhea, and Dysentery); 29(85%) were caused by Tuberculosis; 31(9.1%) were caused by HIV/AIDS while 35 (10.2%) result from other causes outside the aforementioned diseases. This shows that malaria is the major killer disease in Abia State. This was further supported by data from Focus Group Discussion in the area of study where majority of the participants said that Malaria is the leading cause of death in Abia State. For example a participant said:

> "Malaria is the major disease that kills people in Abia State. We hardly hear about people who died of HIV/AIDS, Tuberculosis, and Gastroenteritis especially in Olokoro. Sometimes people say Malaria and Typhoid but malaria is the killer-disease we know in Abia State because of the bushes and dirty environment" (53 years old female participant from Olokoro, Umuahia-South LGA).

Table 5: Percentage Distribution of Responses by Specific Cases of Gastroenteritis

Specific Cases of Gastro (N=37)	Frequency	Percentage
Cholera	27	73.0
Diarrhea	10	27.0
Dysentery	Nil	-

The above data show that out of all the deaths by Gastroenteritis, 27(73.0%) was caused by Cholera, 10(27.0%) was caused by Diarrhoea, while there was no victim of Dysentery. This shows that Cholera was more prevalent in the area of study than Diarrhoea and Dysentery.

Table 6: Percentage Distribution of Responses by whether or not they had any Idea of the Employment Status of the Deceased

Idea of the deceased Employment Status (N=307)	Frequency	Percentage
Yes	148	48.2
No	159	51.8

Table 6 shows that a larger proportion of the respondents 159(51.8%) knew nothing about the employment status of those that died by diseases in the area of study. Similarly, only 148(48.2%) were aware of the deceased employment status. This means that the larger proportion of the respondents in the area of study did not report the employment status of their lost ones.

Test of Hypotheses

Hypothesis I

H_o: There is no relationship between educational attainment and rates of death by diseases in Abia State, Nigeria.

H_1: There is a relationship between educational attainment and rates of death by diseases in Abia State, Nigeria.

Table 7: Relationship between Educational Attainment and Rates of Death by Diseases in Abia State, Nigeria

Educational Attainment	Rates of death by Diseases					
	Malaria	**Typhoid**	**Gastroenteritis**	**TB**	**HIV/AIDS**	**Total**
None	8	9	10	6	7	40
FSLC	11	20	6	5	6	48
O'Level	33	33	6	6	7	85
OND/ND	38	13	5	5	6	67
First Degree & Above	19	26	10	7	5	67
Total	109	101	37	29	31	307

The chi-square statistic was used in testing the hypothesis at 0.05 level of significance (α) and degree of freedom (df) equal to 16.

The calculated Chi-square value is 36.67 while the tabulated chi-square value is 26.30. This means that the calculated chi-square value (Cal x^2) is greater than the tabulated chi-square value (Tal x^2), we accept H_1 (that is, the alternative hypothesis). Therefore, there is a relationship between educational attainment and rates of death by diseases in Abia State, Nigeria. Data from Focus Group Discussion further strengthened the above finding. Majority of the participants in the Focus Group Discussion believe that the level of educational attainment affects rates of death by diseases in Abia State. For example, a participant said:

> "…educational attainment influences rates of deaths by diseases in Abia State in the sense that there are certain preventive measures people need to take against diseases. And when they are not educated they tend to overlook them and that may eventually result in death" (41 year old male participant from Ubakala, Umuahia-South LGA,).

Table 8: Multivariate Test on the Relationship between Educational Attainment and Rates of Death by Diseases in Abia State, Nigeria

Multivariate Tests[a]						
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.938	2293.020[b]	2.000	303.000	.000
	Wilks' Lambda	.062	2293.020[b]	2.000	303.000	.000
	Hotelling's Trace	15.135	2293.020[b]	2.000	303.000	.000
	Roy's Largest Root	15.135	2293.020[b]	2.000	303.000	.000
Level	Pillai's Trace	.790	99.137	4.000	608.000	.000
	Wilks' Lambda	.212	177.568[b]	4.000	606.000	.000
	Hotelling's Trace	3.711	280.179	4.000	604.000	.000
	Roy's Largest Root	3.709	563.785[c]	2.000	304.000	.000

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	Diseases	52.571[a]	2	26.286	14.586	.000
	Educational Level	737.683[b]	2	368.841	487.558	.000
Intercept	Diseases	1652.394	1	1652.394	916.926	.000
	Educational Level	2106.665	1	2106.665	2784.722	.000
Level	Diseases	52.571	2	26.286	14.586	.000
	Educational Level	737.683	2	368.841	487.558	.000
Error	Diseases	547.839	304	1.802		
	Educational Level	229.978	304	.757		
Total	Diseases	2341.000	307			
	Educational Level	2443.000	307			
Corrected Total	Diseases	600.410	306			
	Educational Level	967.661	306			
a. R Squared = .088 (Adjusted R Squared = .082)						
b. R Squared = .762 (Adjusted R Squared = .761)						

There was a statistically significant relationship between educational level on some selected diseases that cause death in Abia State. P-value (0.000) < 0.05. Since there is a significant relationship, further analysis was carried out (post-Hoc) to show the level of significance within the variables.

Table 9: Multiple Comparisons of the Statistically Significant Relationship between Educational Attainment and Some Selected Diseases that Cause Death in Abia State

Multiple Comparisons							
LSD							
Dependent Variable	(I) Educational Level	(J) Educational Level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Diseases	Lower	Intermediate	-.52*	.193	.007	-.90	-.14
		Higher	-1.01*	.193	.000	-1.39	-.63
	intermediate	Lower	.52*	.193	.007	.14	.90
		Higher	-.49*	.232	.035	-.95	-.04
	Higher	Lower	1.01*	.193	.000	.63	1.39
		Intermediate	.49*	.232	.035	.04	.95
Educational Level	Lower	Intermediate	-2.43*	.125	.000	-2.67	-2.18
		Higher	-3.62*	.125	.000	-3.87	-3.37
	intermediate	Lower	2.43*	.125	.000	2.18	2.67
		Higher	-1.19*	.150	.000	-1.49	-.90
	Higher	Lower	3.62*	.125	.000	3.37	3.87
		Intermediate	1.19*	.150	.000	.90	1.49
Based on observed means. The error term is Mean Square(Error) = .757.							
*. The mean difference is significant at the .05 level.							

The Table shows test between the variables under study which shows that there are significant relationship between educational attainment and some diseases that causes death in

Abia State. This implies that the level of education within the area of study can be a tool for the control of diseases.

Hypothesis 2

H_0: There is no relationship between employment status and rates of death by diseases in Abia State, Nigeria.

H_1: There is a relationship between employment status and rates of death by diseases in Abia State, Nigeria.

Table 10: Relationship between Employment Status and Rates of Death by Diseases in Abia State, Nigeria

Employment Status	Rates of death by Diseases					
	Malaria	Typhoid	Gastroenteritis	TB	HIV/AIDS	Total
Not Employed	7	6	6	5	5	29
Under Employed	12	12	10	11	11	56
Employed	15	14	13	10	11	63
Total	34	32	29	26	27	148

Source: Questionnaire Data

Chi-square statistic was used in testing the hypothesis at 0.05 level of significance (α) and at degree of freedom (df) equal to 8.

The calculated X_2 value is 0.585 while the tabulated X^2 is 15.51. This means that the calculated chi-square (X^2) value is less than the tabulated chi-square (X^2) value, we reject H_1 (the alternative hypothesis). Therefore, there is no relationship between employment status and rates of death by diseases in Abia State, Nigeria. However, data from Focus Group Discussion show that employment status influences death by diseases. This is because majority of the participants believe that rates of death by diseases is strongly influenced by employment status. In the words of one of the FGD participants:

> Employment status influences rates of death by diseases in Abia State. Somebody who does not have good job or full employment will always consider his pocket even when he is sick because there are some other things he spends money on. Such person may resort to self medication or prefer to visit a chemist store instead of a hospital and use unprescribed drugs from the chemist store might lead to the person's death (27 year old female participant from Afugiri, Ohuhu, Umuahia-North LGA)

Table 11: Multivariate Test on the Relationship between Employment Status and Rates of Deaths by Diseases in Abia State.

Multivariate Tests[a]						
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.783	524.338[b]	1.000	145.000	.000
	Wilks' Lambda	.217	524.338[b]	1.000	145.000	.000
	Hotelling's Trace	3.616	524.338[b]	1.000	145.000	.000
	Roy's Largest Root	3.616	524.338[b]	1.000	145.000	.000
Employment	Pillai's Trace	.002	.147[b]	2.000	145.000	.863
	Wilks' Lambda	.998	.147[b]	2.000	145.000	.863
	Hotelling's Trace	.002	.147[b]	2.000	145.000	.863

	Roy's Largest Root	.002	.147[b]	2.000	145.000	.863
a. Design: Intercept + Employment						
b. Exact statistic						

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	Level	84.189[a]	2	42.095	.	.
	Diseases	.606[b]	2	.303	.147	.863
Intercept	Level	527.759	1	527.759	.	.
	Diseases	1080.105	1	1080.105	524.338	.000
Employment	Level	84.189	2	42.095	.	.
	Diseases	.606	2	.303	.147	.863
Error	Level	.000	145	.000		
	Diseases	298.692	145	2.060		
Total	Level	820.000	148			
	Diseases	1514.000	148			
Corrected Total	Level	84.189	147			
	Diseases	299.297	147			
a. R Squared = 1.000 (Adjusted R Squared = 1.000)						
b. R Squared = .002 (Adjusted R Squared = -.012)						

There was no statistically significant relationship between employment level and some of the selected diseases that cause death in Abia state. P-value(0.863) > 0.05. Since there was no significant relationship no further analysis was carried out (post-Hoc)

Hypothesis 3

H_0: There is no significant relationship between inadequate basic social amenities and rates of death by diseases in Abia State, Nigeria.

H_1: There is a significant relationship between inadequate basic social amenities and rates of death by diseases in Abia State, Nigeria.

Table 12: Relationship between Inadequate Basic Social Amenities and Rates of Death by Diseases in Abia State.

Basic Social Amenities	**Rates of Death by Diseases**					
	Malaria	**Typhoid**	**Gastroenteritis**	**TB**	**HIV/AIDS**	**Total**
Water Supply	34	30	7	05	06	82
Electricity	25	13	10	07	06	61
Housing	22	32	09	06	08	77
Good Road	20	18	05	06	05	54
Health Facilities	08	08	06	05	06	33
Total	**109**	**101**	**37**	**29**	**31**	**307**

Source: Questionnaire Data

Chi-square statistic was used in testing the hypothesis at 0.05 level of significance (a) and at degree of freedom (df) equal to 16. The calculated chi-square value is 17.11 while tabulated chi-square value is 26.30. This means that the calculated chi-square value is less than the tabulated chi-square value. We therefore accept H_0. Therefore, there is no significant relationship between inadequate basic social amenities and rates of death by diseases in Abia State, Nigeria. However, multivariate test shows that data from Focus Group Discussion show a strong relationship between inadequate basic social amenities and rates of death by diseases

in Abia State. Almost all the Focus Group participants believe strongly that inadequate social amenities influence deaths by diseases in the area of study. According to one FGD participant:

> Inadequate basic social amenities such as housing, health facilities, water supply, etc contribute greatly to the deaths of children and adults in our community and other communities in Abia State. Many of us still live in thatch houses, mosquitoes bite us the way they like. Our public clinics are not well equipped. We use private clinics and their bills are expensive. Sometimes when we don't have money, we find ourselves in the Chemist shops. Again, we pay for the water we buy from the boreholes around and when we don't have money we use well water or stream or even water from rainfall. Tell me why people will not be sick or die?" (34 year old male participant from Amaise, Osisioma LGA)

Table 13: Multivariate Test on the Relationship between Inadequate Basic Social Amenities and Rates of Deaths by Diseases in Abia State

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.991	17275.007[b]	2.000	301.000	.000
	Wilks' Lambda	.009	17275.007[b]	2.000	301.000	.000
	Hotelling's Trace	114.784	17275.007[b]	2.000	301.000	.000
	Roy's Largest Root	114.784	17275.007[b]	2.000	301.000	.000
Basic	Pillai's Trace	1.014	77.702	8.000	604.000	.000
	Wilks' Lambda	.073	203.724[b]	8.000	602.000	.000
	Hotelling's Trace	11.546	432.993	8.000	600.000	.000
	Roy's Largest Root	11.442	863.857[c]	4.000	302.000	.000

a. Design: Intercept + Basic

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	Diseases	49.260[a]	4	12.315	7.943	.000
	Level	191.698[b]	4	47.924	618.252	.000
Intercept	Diseases	1475.289	1	1475.289	951.532	.000
	Level	1505.913	1	1505.913	19427.119	.000
Basic	Diseases	49.260	4	12.315	7.943	.000
	Level	191.698	4	47.924	618.252	.000
Error	Diseases	468.232	302	1.550		
	Level	23.410	302	.078		
Total	Diseases	2037.000	307			
	Level	1634.000	307			
Corrected Total	Diseases	517.492	306			
	Level	215.107	306			

a. R Squared = .095 (Adjusted R Squared = .083)

b. R Squared = .891 (Adjusted R Squared = .890)

There was a statistically significant relationship between basic amenities level on some selected diseases that cause death in Abia State P-value (0.000) < 0.05. Since there is a significant relationship further analysis was carried out (post-Hoc).

Table 14: Multiple Comparisons on the Effects of Inadequate Social Amenities and Rates of Deaths by Diseases in Abia State

Multiple Comparisons							
LSD							
Dependent Variable	(I) Basic Social Amenities	(J) Basic Social Amenities	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Diseases	Water Supply	Electricity	.80*	.211	.000	.38	1.21
		Housing	.54*	.199	.007	.15	.93
		Good Roads	.17	.222	.434	-.26	.61
		Health Facilities	-.46	.244	.061	-.94	.02
	Electricity	Water Supply	-.80*	.211	.000	-1.21	-.38
		Housing	-.26	.215	.230	-.68	.16
		Good Roads	-.63*	.236	.009	-1.09	-.16
		Health Facilities	-1.26*	.257	.000	-1.77	-.75
	Housing	Water Supply	-.54*	.199	.007	-.93	-.15
		Electricity	.26	.215	.230	-.16	.68
		Good Roads	-.37	.226	.105	-.81	.08
		Health Facilities	-1.00*	.248	.000	-1.49	-.51
	Good Roads	Water Supply	-.17	.222	.434	-.61	.26
		Electricity	.63*	.236	.009	.16	1.09
		Housing	.37	.226	.105	-.08	.81
		Health Facilities	-.63*	.267	.018	-1.16	-.11
	Health Facilities	Water Supply	.46	.244	.061	-.02	.94
		Electricity	1.26*	.257	.000	.75	1.77
		Housing	1.00*	.248	.000	.51	1.49
		Good Roads	.63*	.267	.018	.11	1.16
Level	Water Supply	Electricity	-.90*	.047	.000	-.99	-.81
		Housing	-1.60*	.044	.000	-1.69	-1.51
		Good Roads	-2.00*	.050	.000	-2.10	-1.90
		Health Facilities	-2.00*	.055	.000	-2.11	-1.89
	Electricity	Water Supply	.90*	.047	.000	.81	.99
		Housing	-.70*	.048	.000	-.79	-.60
		Good Roads	-1.10*	.053	.000	-1.20	-.99
		Health Facilities	-1.10*	.058	.000	-1.21	-.99
	Housing	Water Supply	1.60*	.044	.000	1.51	1.69
		Electricity	.70*	.048	.000	.60	.79
		Good Roads	-.40*	.051	.000	-.50	-.30
		Health Facilities	-.40*	.055	.000	-.51	-.29
	Good Roads	Water Supply	2.00*	.050	.000	1.90	2.10
		Electricity	1.10*	.053	.000	.99	1.20
		Housing	.40*	.051	.000	.30	.50

		Health Facilities	.00	.060	1.000	-.12	.12
	Health Facilities	Water Supply	2.00*	.055	.000	1.89	2.11
		Electricity	1.10*	.058	.000	.99	1.21
		Housing	.40*	.055	.000	.29	.51
		Good Roads	.00	.060	1.000	-.12	.12
Based on observed means. The error term is Mean Square (Error) = .078.							
*. The mean difference is significant at the .05 level.							

The table shows test between the variables under study which shows that majority of the variables are significantly related with some diseases that cause death in Abia State. This implies that the level of basic social amenities within the area of study can be a tool for the control of diseases.

Discussion of Findings

Table 4 revealed that Malaria is the major killer disease in Abia state, Nigeria. This is in agreement with the views of Adetunji and Bos (2006) and Richard et al (2007) that most deaths in Africa tend to be caused by diseases. This means that there are fewer cases of deaths caused by such factors as accidents, physical attacks, spiritual attacks, etcetera in Abia State. But to an extent, the finding is partially in contrast with the views of Baingana and Bos (2006) that communicable diseases are responsible for the largest diseases burden and cause the highest number of deaths in sub-Saharan Africa. This is because Malaria is not a communicable disease as such compared to Tuberculosis and Gastroenteritis (i.e Cholera, Diarrhea and Dysentery). Linking this finding to that of Richard et al (2007) that infant mortality and infectious diseases are closely related, agreement can be deduced. This is true because Malaria is an infectious disease caused by Plasmodium. The implication of this is that infectious diseases are the problem in the area of study that has a direct link to rates of death. This agrees with the argument provided by Hughes et'al (2002) that the first stage of the demographic transition theory, which involves high birth and death rates are mainly found in Africa, Asia and South America. It also strengthens Kingsley Davis's argument that high death rates were caused by diseases and undernourishment, famine, war, epidemics, etcetera.

Result of Hypothesis I shows that there is a relationship between educational attainment and rates of death by diseases in Abia Central Senatorial District, Nigeria at 0.05 level of significance (α) and df = 16. The multivariate test also shows that there is a statistically significant relationship between educational level and on some selected diseases (that is, Malaria, Typhoid, Gastroenteritis, Tuberculosis and HIV/AIDS) that cause death in Abia State at P-value(0.000) < 0.05.This agrees with the findings of ASPC (2005) and Richard et al (2007) that low level education affects the spread of diseases leading to a rise in rates of death. The point is that low level of education keeps people unaware of the modes of contacting the investigated diseases in Abia State. This agrees with the explanations of the causes of the rapid drop in death rates in stage two of the demographic transition provided by Hughes et,al (2002) and Caldwell, et,al (2006). The authors hold that improvement in food supply, sanitation, access to technology, improvement in health care and education, farming techniques, crop rotation and selective breeding are all factors in the causes of drop in death rates in stage two.

Hypothesis Two demonstrated at α = 0.05 and df = 8 that there is no relationship between employment status and rates of death by diseases in Abia State. This was supported by the multivariate test which shows even that there was no statistically significant relationship between employment level on some selected diseases that cause death in Abia state at P-value(0.863) > 0.05. Even though Baingana and Bos (2006) hold that income (a function of employment status) is an important determinant of access to good food, which in turn leads to

low levels of malnutrition which is a key risk factor for many childhood diseases, the quantitative finding of this study is still incompatible with it. This is because low income (usually caused by unemployment and underemployment) might hinder access to good food which might translate into certain diseases but not every case of disease or ailment results in death. However, the qualitative finding from Focus Group Discussion shows that employment status has a great influence on rates of death by diseases in Abia State, Nigeria. This agrees with the view of Kim, Son, Park, Nam, Kim and Cho (2015) that mortality was higher among the population that experienced a change in economic status from employed to unemployed than those who maintained employment. The implication is that in a state where the majority of the workforce lack full employment status, or are unemployed or underemployed, hunger is inevitable and such a state cannot be said to be industrialized and it remains perpetually in Stage One of the Demographic Transition Theory where the peoples livelihood remains low and rates of death by diseases increase.

Hypothesis 3 also revealed at $\alpha = 0.05$ and df =16 that there is no significant relationship between inadequate basic social amenities and the rate of death by diseases in Abia State. But the multivariate test shows that there are significant relationship between educational attainment and some diseases that cause death in Abia State. This is further supported by the data from the qualitative instrument (Focus Group Discussion) which shows that inadequate basic social amenities influence rates of death by diseases greatly. This agrees with the report of NPC and ICF international (2014) that poor medical attention and hygienic conditions during delivery and World Bank Group (2015) that hunger or lack of good food affect quality of life and increase morbidity and death rates. The implication of this finding is that Abia State has not taken advantage of the Demographic Transition Theory just like Nigeria in which the state is located. The government is still influenced by the culture of corruption, negligence of responsibilities and other primordial sentiments and values that hinder the provision of basic social amenities that have still kept Abia State and to an extent Nigeria at Stage One of the Demographic Transition Theory.

Conclusion

In view of the profound relationship between livelihood contexts and rates of death by diseases in Abia State, Nigeria, reduction of deaths resulting from diseases in the state may become complicated in future. This is because of the increasing deterioration in the people's livelihoods giving rise to high level of poverty and misery contrary to the expected dividends of democratic governance in the state. However, reduction in the rate of death by diseases can be achieved if good governance can be enthroned to enhance people's livelihoods in the state.

Recommendations

The following recommendations are made based on what the researchers met during fieldwork:

1. Monthly Inspection of the Communities by the Public Health units should be intensified to ensure that people live in clean environments. This will reduce the prevalence of Malaria in Abia State, Nigeria.
2. Government should improve on the quality of education through free and compulsory education. This will not only enhance good governance but also improve the livelihood of the people and reduce deaths by diseases.
3. Government should enhance the people's employment status by increasing their efforts towards creating job opportunities and a conducive atmosphere for foreign investors. This will reduce unemployment and underemployment, thereby improving the livelihood of the people and reducing deaths by diseases in Abia State, Nigeria.

4. The provision of basic social amenities by the government should be intensified in Abia State. This will also enhance people's livelihood and reduce the incidence of deaths by diseases in Abia State, Nigeria.

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