International Journal of Innovation and Research in Educational Sciences
Volume 2, Issue 4, ISSN (Online): 2349–5219

# Determinants of Childhood Survival in South-Western Nigeria

**Fadeyi, Adebayo O.; Ph.D.**
Department of Sociology, Faculty of Social Sciences,
Lagos State University, Ojo, Lagos State, Nigeria
Email: fadeyi2@yahoo.com

***Abstract* – This research study examined the forms of household environmental characteristics in Southwestern Nigeria; it examined the association between household sanitation facilities and prevalence of childhood diseases. The study made used of secondary source of data collection. Secondary data for the study was extracted from Nigeria Demographic and Health Survey (NDHS). The result shows that the prevalence of childhood diseases has varying degree of causes based on several casual-factors: environmental characteristics, sanitation facilities, age of child bearing mothers, level of educational attainment and economic status of the mothers. Poor environmental condition and low social-economic status are the staging barriers to child health in South-Western Nigeria. Therefore, the strongest thrust of the study is that seen women as the pivotal in the house-holds; they should be more empowered through better access to education and information on child and maternal health.**

***Keywords* – Childhood, Diseases, Education Maternal-Health, Morbidity.**

## I. INTRODUCTION

Childhood indisposition has been a foremost health issues since the beginning of twentieth Century[1].The topmost deadly major diseases affecting children under five years are acute respiratory infections (from indoor air pollution); diarrhea disease (mostly from poor water, sanitation and hygiene); and malaria (from inadequate environmental management and vector control) has been seen to be significantly high in developing countries most especially in sub-Sahara Africa.

Globally, diarrhea diseases is the second leading cause of death in children under five years old with a statistics of 1.7 billion case of diarrhea disease yearly while in sub-Sahara Africa a total of 760,000 children under five years die of diarrhea disease[2]. In addition, the statistics of under-five children with malaria disease in developing countries reveals that over half a million (627,000) people mostly children die of malaria disease, this staging statistics implies that developing countries are still experiencing high rate of childhood mortality [2]. The statistics by WHO[2], reveals that 7.6 million children under five years old every year worldwide and more than half of this early deaths are due to conditions that could have been averted.

In an attempt to ameliorate this plaque, the millennium development goal as tagged and ushered in the year 2000 by United Nations, in which one of the goals is to reduce under five mortality by two-third between 1990 and 2015 and others are to combat HIV/AIDS, malaria and other diseases and also to ensure environmental sustainability, and by year 2015 the proportion of people without sustainable access to safe drinking water, using improved sanitation facilities must have been reduced.

Despite, all efforts to find a lasting solution to this impasse regarding child health; findings revealed that developing countries still experience high childhood death due to diseases associated with poor water supply, sanitation, personal and household hygiene [3].

Child survival is a field of public health; an aspect in Demography studies, primarily concerned with reducing child mortality. Child survival interventions are designed to address the most common causes of child deaths that occur, which includes diarrhea, pneumonia, malaria, and neonatal conditions [4]. In the light of this, a significant number of reports have shown that household environmental factors are still very deficient in developing countries. One of the reports, by United Nations Children's Fund [4]reveals that over 100 million people in Nigeria do not have access to improved toilet facilities, out of which over 45 million Nigerians defecate in the open. This same body also reported that no fewer than 68 million Nigerians lacked access to safe drinking water and attributes it to the causes of death in thousands of children [4].

Against this backdrop, the paper felt the need to address environmental issues at household level, a number of studies have examined environmental factors as predictor of childhood disease at the community level using just on childhood disease as the outcome variable. One of such studies by Mesike and Mojekwu [5] found that household environmental characteristics do have significant impact on child mortality as lower mortality rates were experienced in households that had access to immunization, sanitation facilities, good and proper refuse and solid waste disposal facilities, good healthy roofing and flooring materials as well as those using low polluting fuels as their main source of cooking.

Equally, it has been observed in Literatures that environmental, material and socio-economic factors were revealed as important determinants of child survival. [6] affirmed that incidence of childhood morbidity and mortality stems most often from traditional problems that have long been averted in the developed countries, such as portable water, good sanitation, adequate housing, just to mentioned a few.

This shows that without appropriate intervention to halt the incidence of morbidity and mortality in Nigeria, more child will become vulnerable with varying consequences of childhood survival and population extinction. It is on the basis of the fore-going that the following research question is posed:

*What is the pattern of household environmental Characteristics in South West Nigeria?*

Therefore, to answer the above research question, the principal objective of the paper is to examine the determinants of childhood survival in South Western Nigeria. This is with the view to providing additional information on how household environmental characteristics affect the prevalence of childhood diseases. Data collection for the study would be guided by the following null hypothesis:

H01: There is no significant relationship between pattern of household environmental characteristics and prevalence of childhood diseases (survival). Hence, this study is in response to the clarion call on determinants of childhood survival in the country. This paper is structured in five sections. Section one provides a general overview of the subject matter of the paper. Section two presents conceptual issues, literature review and theoretical foundation. Section three deals with methodology and techniques of data collection, while section four presents, analysis's and interprets the results of the study. Section five summarizes the paper and provides conclusion and recommendations based on the findings of the study.

## II. Conceptual Clarification

Child survival is a field of public health embedded in demography concerned with plummeting child mortality [4]. Child survival involvement are designed to discourse the fundamental causes of child deaths that occur, which the state of the home environmental (physical structures, water source, sanitation facilities and household amenities), morbidity and other proximate determinant of childhood diseases.

The environment in which man habituates is surrounded by air and water which naturally has been set up to assist man achieving his/her sojourn in this terrestrial world. The topographical nature of the earth and its surrounding has been designed in a manner that the endowed resources to man for his/her usage often has adverse consequences, due to careless handling by man in his/her relationship with the environment. In relation to this, has to do with the pattern of household physical structure in term of space – ventilation, type of utilities, type of fuel for cooking, electricity, waste disposal methods among others. The use of pit latrine, the use of wood or open fire/store without a chimmey or hood in the house has been linked to poor health outcome[6].

On the other hand, morbidity has been defined as departure from a state of physical or psychological well-being, resulting from disease, illness injury or sickness, especially where the affected individual is aware of his or her condition [2].

The state of child health and child mortality globally shows a substantial progress, reducing the under-five mortality rate over the successive years. In Nigeria for instance, the state of child health and child mortality compared to the previous survey though there is disparity in the decline among the six-geo-political zones of the country.

The South West Zone has the lowest rates for all five childhood mortality estimates compared with the other zones. Infant mortality is lowest in South West (59 deaths per 1000 births) and highest in North East (109 deaths per 1000 births).

Inspite of geographical locations – urban and rural dwellers compared, and level of educational attainment are generally associated with lower mortality rates. Child mortality rate still remains unacceptably high in sub-Saharan Africa countries as approximately half of under five deaths take place in sub-Saharan Africa despite the region having only one fifth of the World's Children Population (Smith, 2010). For instance, in sub-Saharan African, 1 child in 8 dies before age five nearly 20 times the average of 1 in 167 in developed parts of the World [1].

## III. Literature Review

*Links between Childhood Morbidity and Mortality*

The environment of man is complex, resulting in numerous diseases affecting man as products of his own environment [1]gave a broad taxonomy of the environment as the physical, biological, disposable income, behaviour and the availability of quality health care services. In tropical Africa, for instance, the main causes of infant and child deaths are more or less the same in most countries.

These have been identified as infections, protein-calorie malnutrition, and birth trauma, neonatal tetanus, diarrhea, respiratory infections, measles, and malaria. Conditions which exacerbates the above causes of death include low birth weight, poor sanitation and water supply, poverty, inadequate food supplies, lack of education and information and inadequate health care [3].

… [5] develop a flexible parametric framework for analyzing infant and child mortality. This framework is based on widely used hazard rate models, in which they extend with two features. First, the model allows individual characteristics and household's socio-economic and environmental characteristics to have different impacts on infant and child mortality at different ages. Second, they allow for frailty at multiple levels, which can be correlated with each other. The first feature seems to be particularly relevant in describing infant and child mortality, child specific and household's socio-economic and environmental characteristics have significantly different impacts on mortality rates at different ages of the child. They also use the estimated model to perform a number of policy experiments. The policy experiments show that infant and child mortality rates can be reduced substantially by improving the household's socio-economic and environmental characteristics. Their model predicts that a significant number of under-five year's deaths can be averted by providing access to electricity, improving the education of women, providing sanitation facilities and reducing indoor air pollution. In particular, reducing indoor air pollution and increasing the educational level of women might have substantia impacts on child mortality.

*Linkages between Household Environmental Factors and Childhood Morbidity*

Environmental health is defined as those health outcomes that are a result of environmental risk factors. It addresses all the physical, chemical, and biological factors external to a person, and all the related factors impacting behaviours. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments [2]. Interest in environmental health has mounted in recent years, spurred by concern that the most vulnerable groups including children under-five years of age are disproportionately exposed to and affected by health risks from environmental hazards. More than 40 percent of the global burden of disease attributed to environmental factors falls on children below five years of age, who account for only about 10 percent of the world's population [2].

These environmental health relates to human activity or environmental factors that have an impact on socioeconomic and environmental conditions with the potential to reduce human disease, injury and death, especially among vulnerable groups-mainly the poor, women and children under five[5]. The top killers of children under five are acute respiratory infections (from indoor air pollution); diarrheal diseases (mostly from poor water, sanitation, and hygiene); and malaria (from inadequate environmental management and vector control). This report concentrates on three specific environmental risk factors that influence a child's health: poor water, sanitation, and hygiene; indoor air pollution; and inadequate malaria vector control.

## IV. THEORETICAL FRAMEWORK

Social ecological models are thus applicable to the processes and conditions that govern the lifelong course of human development in the actual environment in which human beings live[3]. Ecological systems theory considers a child's development within the context of the systems of relationship that form his or her environment. The model helps to understand factors affecting behaviour and also provides guidance for developing successful programs through social environments. The models emphasize multiple levels of influence (such as individual, interpersonal, organizational, community and public policy) and the idea that behaviours both shape and are shaped by the social environment. The principles of social ecological models are consistent with social cognitive theory concepts which suggest that creating an environment conducive to change is important to making it easier to adopt healthy behaviours. The model recognizes the interwoven relationship that exists between the individual and their environment. While individuals are responsible for instituting and maintaining the lifestyle changes necessary to reduce risk and improve health, individual behavior is determined to a large extent by social environment, e.g. community norms and values, regulations and policies.

The relationship in this context is such that the impact of human on the environment causes discomfort to themselves and other organisms in the environment in the short and long run. This discomfort could be in form of childhood morbidity and mortality. The theory stressed that the physical environment where children live affect their well-being and that of their mother. It then follows from the fact that the household environmental characteristics denoted by the type of housing, toilet, cooking facilities, source of water, cultural and socioeconomic factors act together to impact positively or negatively on the inhabitants of the environment.

## V. METHODOLOGY

The data for the study was obtained from Nigeria Demographic and Health Survey (NDHS) data set of [8], the sample for the [8] was designed to provide population and health indicators at National, Zonal and state levels. Administratively, Nigeria was divided into states. Each state was subdivided into local government areas (LGAs), and each LGA was divided into localities. Summarily, the study utilized information based on total number of 33,385 women of reproductive aged 15-49 interviewed in [8]. Equally, the study utilized information on the 6,790 women age 15-49 who has given birth to at least one child in the last five years preceding the survey sampled in South Western Nigeria. The extracted sample size was weighted by applying the weighting factors (1 weight = v005 / 1000000) in the Stata 12.

This research study based on its major objective and hypotheses raised. The study succinctly summarizes its analysis, discussions, findings and recommendations as follows.

The figure 1 Bar chart corresponding table 1 portrays the environmental characteristics of the households. Highest proportion (64.6%) of the respondents surveyed have unimproved toilet facilities while three-tenth (35.6%) have improved facilities. Also, majority (77.5%) of the respondent reported that they adopt unsanitary methods to dispose child faeces while a little above one-fifth (22.5%) reported that they dispose child faeces using sanitary methods. Results of the analysis of the house physical structure shows that slightly above four-fifths (82.8%) of the houses use carpet/cement for their flooring materials, however, highest proportion uses cement/blocks/bricks for their wall materials while majority (88.8%) have unfinished (bamboo, metal and planks) roof materials. Furthermore, the result shows that majority (97.7%) of the household surveyed utilize biomass cooking while less than two percent uses non-biomass cooking fuel. Also, more than half of the households have access to electricity while more than one-quarter (68.8%) reported that they drink water from borehole/well while approximately one-fifth drink water from spring/rain.

International Journal of Innovation and Research in Educational Sciences
Volume 2, Issue 4, ISSN (Online): 2349–5219

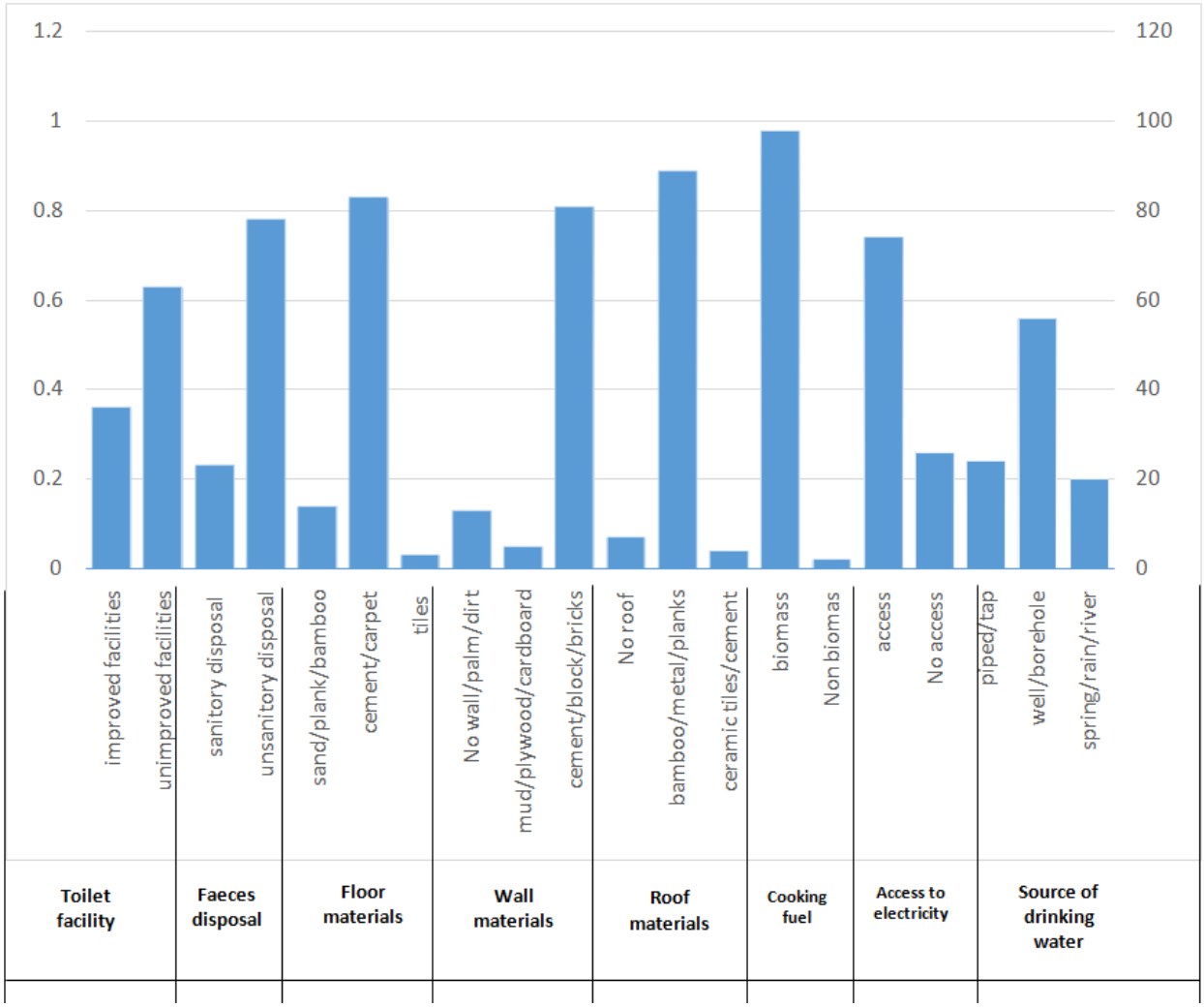


Fig.1. Household Environmental Characteristics

Table 1

| | Frequency (6789) | Percentage (100) |
|---|---|---|
| **Toilet Facilities** | | |
| Improved facility | 2415 | 35.6 |
| Unimproved facility | 4374 | 63.4 |
| | | |
| **Disposal of Child Faeces** | | |
| Sanitary disposal | 1526 | 22.5 |
| Unsanitary disposal | 5263 | 77.5 |
| | | |
| **Flooring Materials** | | |
| Sand/planks/bamboo | 978 | 14.4 |
| Cement/carpet | 5621 | 82.8 |
| Tiles | 190 | 2.8 |
| | | |
| **Wall Materials** | | |
| No wall/Palm/dirt | 908 | 13.4 |
| Mud/plywood/cardboard | 355 | 5.2 |
| Cement/blocks/bricks | 5525 | 81.4 |
| | | |
| **Roof Materials** | | |
| No roof | 480 | 7.1 |
| Bamboo/metal/planks | 6027 | 88.8 |
| Ceramic tiles/cement | 282 | 4.2 |
| | | |
| **Cooking Fuel** | | |
| Biomass | 6632 | 97.7 |
| Non-biomass | 157 | 2.3 |
| | | |
| **Access to Electricity** | | |
| Access | 5043 | 74.3 |
| No access | 1746 | 25.7 |
| | | |
| **Source of Drinking Water** | | |
| Piped/tap | 1648 | 24.3 |
| Well/borehole | 3785 | 55.7 |
| Spring/rain/river | 1357 | 20.0 |

*Source:* Computed from NDHS [8]

## VI. Results and Discussion

Based on the paramount objective and hypothesis raised in this study. Binary logistics regression was used to analyses the effect of independent variable and intervening variables on child health comes. There is significant relationship between mothers' educational status, mother's age, children of women better (highest) wealth status, access to health care facilities. The study shows a strong relationship regarding variables mentioned above. Children from mothers whose educational status are better off (high); for instance, tertiary education, fairly older (Age of mothers) and wealth play crucial role in child(ren) care. Simply because, better exposure, experience, and fund to attend to child(ren) needs compare to mothers' of lower status as mentioned suffer childhood diseases, high morbidity.

## VII. Conclusion

The findings of this study have been able to justify the relationship between household environmental characteristics and occurrence of childhood diseases in Southwestern Nigeria. Basically, the study revealed that there is a significant association between some household physical structure and incidence of childhood diseases. The state of the house structure, the age of mothers compared to teenage mothers that lack child-care experience, educational status of the mothers, economic (finance) strength to seek access to health care facilities, just to mentioned a few, are strong determinants to childhood survival against diseases in the study area. Presumably, this can be generalized in the whole country as prevalence to a large extent.

## Recommendations

From the study, observed differentials exist in household environmental characteristics in Southwestern Nigeria which can be explained within the context of variations in demographic and social-economic characteristics.

Therefore, the study strongest thrust is that the government should ensure, encourage and enhance educational advancement (literacy) of mothers generally. In addition, health care facilities and accessibility to all cadres of the citizens of the country. And lastly but not the least, most especially the teenage mothers should be discourage by all means. The study reveals that children of teenage mothers have high prevalence of childhood diseases compared to older women. Therefore, women as the pivotal in the households should be more empowered through better access to education and information on child and maternal health.

## References

[1] J.H Oyefara, "*Sexual behaviour, HIV/AIDS epidemic and sustainable development in Nigeria: A Gender Perspective*", Journal of Sociological Research, Macro think Institute, 2013vol. 4. No 1. P. 1 – 14.

[2] World Health Organisation, "*The Physical School Environment: An Essential Element of a Health Promoting School"*. The World Health Organisations's Information Series on School Health 2011.

[3] S.O Rutstein, "*Infant and Child Mortality: Levels, Trends, and Demographic Differentials*". World Fertility Surveys.Comparative Studies No.43.VoorburgNetherlands: International Statistical Institute, 2000

[4] United Nations Children Education Fund (UNICHEF),*Facts on children*': retrieved online: http://www.childsurvival.net.2014

[5] C.G Mesikeand J.N Mojekwu, "*Environmental Determinants of Child Mortality in Nigeria"*.Department of Actuarial Science & Insurance, University of Lagos, Nigeria. 2012

[6] P.O Ogunjuyigbe, *"Under Five Mortality in Nigeria: Perception and Attitude of the Yoruba towards the Existence of Abiku"*.Demographic Research, 2004.11(2)

[7] G. Woidemical, *"Effects of Water Supply and Sanitation on Childhood Mortality in Urban"*.Eritrea Journal of Bio Social Science. 2000. 32: 207 – 227

[8] National Development Economic Research (NDHS), *Nigeria Demographic and Health Survey*, 2008.