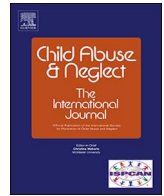


Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Child Abuse & Neglect

journal homepage: www.elsevier.com/locate/chiabuneg

Empirical evidence of child poverty and deprivation in Nigeria

Fidelis O. Ogwumike^a, Uche M. Ozughalu^{b,*}^a Department of Economics, Faculty of the Social Sciences, University of Ibadan, Ibadan, Nigeria^b Department of Economics, Faculty of the Social Sciences, University of Nigeria, Nsukka, Nigeria

ARTICLE INFO

Keywords:

Child poverty
Deprivation
Poverty headcount
Poverty depth
Poverty severity
Nigeria

ABSTRACT

Development economists and policy makers have in recent times focused attention on child poverty as a crucial aspect of poverty. The importance of the analysis of child poverty partly lies in the fact that children are the most vulnerable group in every society. This study used two poverty lines and the Foster-Greer-Thorbecke index to analyze extreme and overall child poverty headcount, depth and severity in Nigeria. The study also used the headcount ratio to analyze the extent of child deprivation in education, health, nutrition, child protection, water and sanitation. The study was based on the 2010 Harmonized Nigeria Living Standard Survey (HNLSS) and the 2011 Multiple Indicator Cluster Survey (MICS), obtained from the National Bureau of Statistics (NBS), Abuja, Nigeria. The study revealed that 23.22% of children in Nigeria were in extreme child poverty while 70.31% of children in the country were in overall child poverty. The study further showed that there was pronounced child deprivation in education, health, nutrition, child protection, water and sanitation. Both child poverty and child deprivation were more pronounced in the rural sector than in the urban sector and in Northern Nigeria than in Southern Nigeria. Therefore, the Nigerian government should take adequate steps to eradicate child poverty and obliterate all forms of child deprivation in Nigeria – particularly deprivation in basic needs. In taking such steps, more attention should be focused on rural areas and Northern Nigeria.

1. Introduction

A major socio-economic problem afflicting many countries of the world, particularly the developing regions of the globe, is poverty. Interestingly, with the rapid and unprecedented increase in globalization, poverty has reduced significantly in the world both in number and in proportion (World Bank, 2016). Unfortunately, not all regions have made remarkable progress in reducing poverty. Sub-Saharan Africa has lagged behind other regions with regard to poverty reduction (World Bank, 2016). In Nigeria, poverty has increased over the years – for instance, from 27.2% to 69% between 1980 and 2010 (National Bureau of Statistics, 2012).

A crucial aspect of poverty that has attracted the attention of development experts, researchers and policy makers is child poverty. As observed in Chen and Corak (2008), child poverty has continued to increase in its dominance in discussions and analyses of poverty. Several reasons have been given for the crucial importance of a child-focused approach in poverty analysis. These reasons include the following. First, poverty makes it impossible for children to have their fundamental human rights. Severe or extreme poverty which occurs over a prolonged period can stunt and distort children's development and destroy their opportunities for optimum fulfillment in life including the roles they are expected to successively play as they grow older in the family, community and society (Gordon, Nandy, Pantazis, Pemberton, & Townsend, 2003). Second, children are at a higher risk of poverty irrespective of

* Corresponding author.

E-mail addresses: foogwumike@yahoo.com (F.O. Ogwumike), uchemord@yahoo.com (U.M. Ozughalu).

place and time; children largely depend on their direct environment for the provision of their basic needs. Given that they are not independent economic actors by themselves, they fully depend on the distribution of resources by their parents or guardians within the framework of household and community arrangement (Roelen & Gassmann, 2008). Third, as children grow up in poverty, they become trapped in the web of the phenomenon, and are most likely to remain in the poverty trap as they become adults; thus, it is said that poverty often presents itself as a vicious cycle, causing children to be trapped in it from birth onwards (Roelen, Gassmann, & de Neubourg, 2010). Fourth, children are affected differently from poverty and deprivation when compared to adults. The basic needs of children are different from those of adults; for instance, the dietary requirements of children are different from those of adults. (Roelen & Gassmann, 2008; Roelen et al., 2010); also the educational requirements as well as other requirements for protection of children are different from those of adults. Thus, children-specific approach in poverty and deprivation analyses can highlight and emphasize those basic needs that are particularly very important for children and their development (Roelen & Gassmann, 2008).

The right to a decent standard of living is recognized globally as an inalienable right of every child irrespective of where he/she resides. The United Nations Convention on the Rights of the Child contains various articles that address virtually all aspects of the rights and well being of children. One of the articles states that governments recognize the right of every child to a standard of living that is sufficient for the child's physical, mental, moral, spiritual and social development (Corak, 2005). When children are shielded from experiencing poverty and various forms of deprivation they are most likely to grow and develop optimally, and maximize their full potentials.

Since Nigeria returned to democratic rule in 1999, a major action taken by the country's government that has direct bearing on children's poverty and deprivation was the adoption of the Child Rights Act in 2003; this was done to domesticate the International Convention on the Rights of the Child as designed by the United Nations. The Child Rights Act was intended to guarantee desirable welfare and standard of living for children in Nigeria; it attempted to provide adequate security for children in Nigeria from poverty and various forms of deprivation.

It is regrettable to observe here that despite the adoption of the Child Rights Act in Nigeria, there are indicators that show that many children in the country still wallow in poverty and suffer various forms of deprivation. For instance, the rates of infant and under-five mortality as well as the levels of stunting, wasting and underweight among children have remained high over the years (National Bureau of Statistics, 2005; UNDP, 2015, 2016; UNICEF, 2015, 2016; World Bank, 2016). Thus, there is need for a more concerted effort and paradigm shift to ensure that child poverty and child deprivation are vigorously tackled and tremendously reduced or even eliminated. To pave the way for the country to achieve this, there is urgent need for adequate child-focused approach in the analysis of poverty and deprivation.

Conceptually, it is pertinent to note that child poverty is usually associated with household poverty. This is largely because children live mostly in households and depend mainly on the conditions in the households (Lewit, Terman, & Behrman, 1997). Child poverty is popularly defined as all persons below a certain age, usually 18 years, living in low income, low consumption or low expenditure households as a proportion of all children below the stated age living in various households (Roelen & Gassmann, 2008; UNICEF, 2012). Child poverty may also be defined at individual level. A person below a certain age, usually 18 years, whose individual-equivalent income, consumption or expenditure is less than a predetermined minimum acceptable level is said to be in child poverty (Chen & Corak, 2008; Corak, 2005; Gordon et al., 2003; Roelen & Gassmann, 2008). It is worth noting that given the fact that little is known about the income, consumption or expenditure needs of children in most developing countries and that these needs may vary by age, gender and location, it then follows that any income, consumption or expenditure threshold for children would have to be set at an arbitrary level (Gordon et al., 2003). Gordon et al. (2003) further noted that household-based income, consumption or expenditure poverty analyses are usually based on the assumption that there is equal sharing of resources within a household. But this assumption is most unlikely to be correct for many poor and non-poor households with children. In many poor households, parents usually sacrifice their own needs in order to ensure that their children have some of the things they (the children) need; thus, in such households, children are usually allocated a higher or disproportionate share of household resources. On the contrary, in many non-poor households, parents may spend less than expected on their children in order not to corrupt the children (Gordon et al., 2003). Despite the shortcomings associated with child poverty analyses based on money-metric approach, such approach has remained very popular (Chen & Corak, 2008; Corak, 2005; Roelen & Gassmann, 2008; UNICEF, 2012). In measuring child poverty, it is popular to set the poverty line as 50% of median real income per capita or per adult equivalence or individual equivalence income, consumption or expenditure for all persons in a country (Chen & Corak, 2008; UNICEF, 2012). The poverty line in child poverty measurement can also be made to coincide with the official poverty line of a country (Dickens & Ellwood, 2003; UNICEF, 2005). Child poverty can also be assessed by considering the extent of children's deprivation in basic needs such as food, shelter, safe drinking water, sanitation facilities, health, education, information and other basic social services (Gordon et al., 2003; Minujin, Delamonica, Davidziuk, & Gonzalez, 2006; Roelen & Gassmann, 2008).

It is instructive to state here that the concepts of poverty and deprivation are tightly linked. However, there appears to be a consensus among scholars that the concept of deprivation covers the various conditions – independent of income – experienced by people who are poor, while the concept of poverty refers to lack of income and other resources which make those conditions inescapable or at least highly likely (Gordon et al., 2003).

Studies on Nigeria that relate to child poverty and child deprivation are very scanty. They include Bamiduro and Ogwumike (2009), Aliyu and Garba (2012); Adetola and Olufemi (2012). Bamiduro and Ogwumike used a deprivation based approach in analyzing child poverty in Nigeria; the study focused on children's access to nutrition, education, shelter, information, water and sanitation. The study utilized various data sets such as Nigeria Demographic and Health Survey (NDHS) of 1990 and 2003, and Multiple Indicator Cluster Survey (MICS) of 1999 and 2007. The study revealed that there were pronounced deprivation in the various basic needs for children in Nigeria. Aliyu and Garba (2012) analyzed children's deprivation in various basic needs associated

with their well-being namely nutrition, education, health, shelter, sanitation, water and information. The study used MICS of 2007 and data taken from [Gordon et al. \(2003\)](#) as well as simple ratio technique in its analysis. The study found, among other things, that Nigerian children suffered high extent of deprivation in the various basic needs; and the magnitude of deprivation increased in all the basic needs considered except water and information (that reduced) between 2000 and 2007. [Adetola and Olufemi \(2012\)](#) analyzed determinants of child poverty in rural Nigeria using a multidimensional approach. The study used the Nigeria Demographic and Health Survey of 2008 and the Alkire-Foster counting approach to multidimensional poverty analysis as well as logistic regression technique; the dimension used in the study included safe drinking water, sanitation, housing, health and nutrition. The study found, among other things, that a large proportion of children in Nigeria suffered pronounced deprivation in the various basic needs considered; and the determinants of child poverty and deprivation included parental education, household size, gender of household head, age of household head and occupation of household head.

It is evident from all that has been reviewed that there is a dearth of studies that combined both money-metric and non-money-metric approaches in the analysis of child poverty and deprivation. The combination of the two approaches will pave the way for more comprehensive and robust analysis of child poverty and deprivation.

Given that child-focused approach in the analysis of poverty and deprivation has not been adequately utilized in Nigeria and that there has been a dearth of studies that combined both money-metric and non-money-metric approaches in the analysis of child poverty and deprivation, this study analyzed child poverty in Nigeria as well as the magnitudes of child deprivation in education, health, nutrition, child protection, water and sanitation. The rest of the paper is organized as follows. Section 2 contains the methods of investigation while Section 3 contains results and discussion. Section 4 is devoted to recommendations and conclusion.

2. Methods

The literature reveals that there are basically four methods used in setting poverty lines. These methods are: Direct Calorie Intake (DCI), Food-Energy-Intake (FEI), Cost-of- Basic-Needs (CBN) and Arbitrary-Choice-of-Index (ACI) methods ([Asra & Santos-Francisco, 2001](#); [Onah, 1996](#); [Ravallion, 1998](#)). The FEI and CBN methods are widely used because they are more scientific and robust, though more complex. The National Bureau of Statistics (NBS) – the apex statistical institution in Nigeria- has used both FEI and CBN methods to obtain both absolute and relative poverty lines for Nigeria. The FEI method requires that first we obtain the food basket of the poorest 40 percent of the population (using quintiles). Thereafter, we compute the food expenditure that can give 3,000 calories per day based on the national food basket for the poorest 40 percent. With the application of adult equivalence per capita expenditure, we compute the amount in Naira that can be used to purchase food that will meet 3,000 calories. The addition of non-food component is done by using average non-food expenditure of those households (that is, plus or minus 100 households) around the core poverty line to derive the absolute poverty line of ₦54, 401.16 for 2010. The relative poverty line was based on a modified CBN method. An attempt was made in summing the expenditure of the household. This household expenditure was deflated using the Consumer Price Index (CPI). The aim of deflating the figures obtained was to correct for seasonal and regional variations of the expenditure data. The relative poverty line was set at two-thirds of the total household per capita expenditure in regionally deflated prices; and this amounted to ₦66, 802.20.

This study used two poverty lines to analyze child poverty in Nigeria. The first was a modified version of the absolute poverty line which was obtained by computing the weighted median household food and non-food consumption expenditure per adult equivalence in regionally deflated prices. This amounted to ₦55, 236.90, which was very close to the absolute poverty line of ₦54, 401.16 shown earlier. However, drawing from UNICEF (2012), we set the extreme child poverty line at 50% of the weighted median expenditure, which was ₦27, 618.45. Thus, children who were in households whose per adult equivalence total household expenditure on food and non-food consumption in regionally deflated prices fell below ₦27, 618.45 were regarded as being in extreme child poverty. The second poverty line was the official relative poverty line for Nigeria which was based on two-thirds of mean per capita total household food and non-food expenditure in regionally deflated prices. This amounted to ₦66, 802.20. This was referred to as overall child poverty line. Thus, children that were in households whose per capita total food and non-food expenditure in regionally deflated prices was less than ₦66,802.20 were regarded as being in overall child poverty. Children were taken as all persons below the age of 18 years.

The Foster-Greer-Thorbecke (FGT) index was used in this study to capture the headcount, depth and severity of child poverty in Nigeria. The index provides a good summary of the poor; and apart from satisfying the major axioms for a desirable poverty measure, it has an added advantage of being additively decomposable among population subgroups (such as poverty by urban/rural and poverty by zones). The FGT index is a distributionally sensitive measure based on poverty aversion parameter, α ([Foster, Greer, & Thorbecke, 1984](#)).

The FGT poverty index ($P_{\alpha c}$) is given as follows:

$$P_{\alpha c} = \frac{1}{N} \sum_{i=1}^{cp} \left(\frac{Z - E_i}{Z} \right)^{\alpha c} \quad (1)$$

where N is total number of children in the data set; Z is the child poverty line used; E_i is the total consumption expenditure of i^{th} poor child; cp is the number of children below the child poverty line used; αc is the child poverty aversion parameter which was set at 0, 1, and 2 to capture child poverty headcount, child poverty depth and child poverty severity respectively.

Child poverty headcount indicates the proportion of children that are in child poverty. Child poverty depth indicates how far, on the average, those in child poverty are from the child poverty line; it measures the extent to which poor children on average fall

below the child poverty line as a proportion of the child poverty line. Child poverty severity indicates the extent of inequality in the distribution of total consumption expenditure among the poor children.

In addition to the money-metric approach used in this study, child deprivations in non-monetary indicators of child wellbeing were also used in this study. The indicators used were associated with the basic needs for optimal child functioning, growth and development; and they included education, health, nutrition, child protection, water and sanitation. The headcount ratio was used to capture the extent of child deprivation in each of these basic needs. The formula is given as:

$$H_i = \frac{q_i}{n} \quad (2)$$

where H_i is the headcount ratio for basic need i in the sample or data set; q_i is the number of children in the sample or data set deprived in the basic need; and n is the total number of children in the sample or data set. Thus, the number of children deprived in a particular basic need as a proportion of total number of children would reveal the extent of child deprivation in that basic need.

Data were drawn from two nationally representative surveys that focus adequately on children namely the 2010 Harmonized Nigeria Living Standard Survey (HNLSS) and the 2011 Multiple Indicator Cluster Survey (MICS), obtained from the National Bureau of Statistics (NBS), Abuja, Nigeria. These are among the most recent surveys in Nigeria. The next round of HNLSS was yet to be carried out while MICS 2016/2017 was on-going when this study was carried out. Besides, all the relevant variables for analysis of child poverty and child deprivation are contained in the 2010 HNLSS and 2011 MICS; and the closeness of the two surveys which complement each other makes for better comparison of both the consumption indicators of poverty and the deprivation indicators. The NBS designed appropriate sample weights and applied them to the surveys.

The 2010 HNLSS was national in coverage; it covered the 36 states of the federation and the Federal Capital Territory (FCT). It was designed to investigate both the urban and rural areas of all the 774 Local Government Areas (LGAs) of Nigeria. There were two components of the survey: Part A – which covered multidimensional issues such as household characteristics, demographics, education, health, employment, household utilities and assets – was conducted in 77,400 households which was an average of one hundred households per Local Government Area while Part B – the consumption/expenditure component – covered 50 households in each Local Government Area. Both components were linked together in the HNLSS data set used for this study. The 2011 MICS also covered the 36 states of the federation and the Federal Capital Territory as well as urban and rural areas. A total of 29,077 households were successfully interviewed and the household response rate was approximately 100%.

3. Results and discussion

3.1. Child poverty headcount, depth and severity

Table 1 shows extreme child poverty headcount, depth and severity in Nigeria (National, by Urban/Rural and by Zones). This was based on the extreme child poverty line of 50% of the weighted median household food and non-food consumption expenditure per adult equivalence in regionally deflated prices (the value was ₦27, 618.45). As shown in Table 1, the national extreme child poverty headcount in Nigeria was 23.22% while the depth and severity were 0.0855 and 0.0441 respectively. The headcount figure implies that over 23 per cent of children in Nigeria were in extreme child poverty. The depth value of 0.0855 indicates that, on average, the extreme poor children had a total consumption expenditure shortfall of about 9 per cent of the extreme child poverty line; and the severity figure of 0.0441 implies that the extent of inequality in the distribution of total consumption expenditure among the extreme poor children was over 4 per cent, thus, a sizeable proportion of the extreme poor children population in Nigeria was very poor. The foregoing indicates that extreme child poverty was relatively high in Nigeria. The rural sector had higher headcount, depth and severity of extreme child poverty (25.63, 0.0965 and 0.0505 respectively) than the urban sector (15.68, 0.0513 and 0.0239

Table 1;
Extreme Child Poverty Headcount, Depth and Severity in Nigeria: National, by Urban/Rural and by Zones.
Source: Authors' computations from 2010 HNLSS.

	Headcount (%)	t-statistic/F-statistic for Equality of Means with respect to Headcount	Depth	t-statistic/F-statistic for Equality of Means with respect to Depth	Severity	t-statistic/F-statistic for Equality of Means with respect to Severity
National Sector	23.22		0.0855		0.0441	
Urban	15.68	–31.506 ^a	0.0513	–33.822 ^a	0.0239	–32.090 ^a
Rural	25.63		0.0965		0.0505	
Zone						
North Central	19.36	286.984 ^a	0.0684	232.808 ^a	0.0341	162.516 ^a
North East	24.97		0.0956		0.0496	
North West	30.58		0.1144		0.0597	
South East	19.55		0.0752		0.0407	
South South	21.24		0.0757		0.0385	
South West	14.27		0.0473		0.0229	

^a Statistically significant at 1%; equal variances are not assumed based on the Levene's test.

Table 2

Overall Child Poverty Headcount, Depth and Severity in Nigeria: National, by Urban/Rural and by Zones.

Source: Authors' computations from 2010 HNLSS.

	Headcount (%)	t-statistic/F-statistic for Equality of Means with respect to Headcount	Depth	t-statistic/F-statistic for Equality of Means with respect to Depth	Severity	t-statistic/F-statistic for Equality of Means with respect to Severity
National Sector	70.31		0.3792		0.2464	
Urban	62.61	– 25.932 ^a	0.3036	– 39.211 ^a	0.1843	– 40.879 ^a
Rural	72.78		0.4034		0.2662	
Zone						
North Central	67.37	425.140 ^a	0.3462	604.956 ^a	0.2170	540.597 ^a
North East	76.18		0.4198		0.2738	
North West	78.35		0.4511		0.3045	
South East	66.37		0.3421		0.2180	
South South	64.05		0.3392		0.2194	
South West	57.64		0.2759		0.1668	

^a Statistically significant at 1%; equal variances are not assumed based on the Levene's test.

respectively). The headcount values show that the rural sector had higher proportion of children in extreme poverty than the urban sector; the depth values show that it would be easier to lift the average extreme poor child out of extreme child poverty in the urban sector than in the rural sector; and the severity figures show that the distribution of total consumption expenditure among the extreme poor children was worse in the rural sector than in the urban sector. The foregoing results are consistent with the findings of earlier studies (Roelen et al., 2010; Schaefer, Mattingly, & Johnson, 2016; Streak, Yu, & Van der Berg, 2009). Table 1 further shows that the South West geo-political zone had the least extreme child poverty headcount, depth and severity in Nigeria whereas the North West zone had the highest extreme child poverty headcount, depth and severity in the country. In general, it can be seen from the table that the problem of extreme child poverty was more pronounced in Northern Nigeria than in Southern Nigeria.

Table 2 shows the headcount, depth and severity of overall child poverty (National, by Urban/Rural and by Zones). This was based on the official relative poverty line for Nigeria which was set at two-thirds of mean per capita household expenditure in regionally deflated prices (the value was ₦66, 802.20). As indicated in the table, the national overall child poverty headcount for Nigeria was 70.31% while the depth and severity of overall child poverty for the country were 0.3792 and 0.2464 respectively. This shows that overall child poverty was pervasive in Nigeria. The rural sector had higher overall child poverty headcount, depth and severity (72.78, 0.4034 and 0.2662 respectively) than the urban sector (62.61, 0.3036 and 0.1843 respectively). Also, the South West zone had the lowest headcount, depth and severity of overall child poverty whereas the North West zone had the highest. And overall child poverty was generally more pronounced in Northern Nigeria than in Southern Nigeria. The headcount figure shows that over 70 per cent of children in Nigeria were in overall child poverty; the depth figure indicates that, on average, children in overall child poverty had a total consumption expenditure shortfall of almost 38 per cent of overall child poverty line; the severity figure indicates that the extent of inequality in the distribution of total consumption expenditure among children in overall child poverty was over 24 per cent.

With regard to tests of statistical significance, Tables 1 and 2 show that there were significant differences in extreme child poverty headcount, depth and severity as well as in overall child poverty headcount, depth and severity between the urban and rural sectors, and across the geo-political zones in Nigeria. These are shown by the values of t-statistics and F-statistics for equality of means which were all statistically significant at 1%.

The prevalence of child poverty in Nigeria revealed by this study (based on the money-metric approach) indicated that many children in the country experienced low expenditure on food and non-food items. This implies that such children did not consume adequate food and did not have sufficient non-food commodities that would have guaranteed sound health and satisfactory quality of life. Inadequate food consumption, for instance, can cause serious health problems as well as many growth and development challenges in children. Also, not having sufficient non-food commodities can adversely affect the growth and development of children. Empirical evidences show that expenditure poverty can be highly associated with non-monetary deprivations in some cases (Roelen, 2017).

It is instructive to state here that a major limitation of the money-metric approach used in this study is that it was based on uniform poverty lines; it was not based on sector-specific and zone-specific poverty lines. Sector-specific and zone-specific poverty lines would have adequately catered for variations/differences in prices, needs, tastes and preferences between the urban and rural sectors, and across the various geo-political zones in Nigeria (Mogstad, Langorgen, & Aaberge, 2007; Ozughalu & Ogwumike, 2015; Wodon, 1999).

3.2. Child deprivation

3.2.1. Child deprivation in education

Table 3 shows the extent of child deprivation in education in Nigeria (national, by urban/rural and by zones). The table shows the proportion of children that attended early childhood education and the proportion of children of primary school age that were in

Table 3

Proportion of Children that Attended Early Childhood Education and the Proportion of Children of Primary School Age that were in Primary School: National, by Urban/Rural and by Zones.

Source: Authors' computations from 2011 MICS.

	Proportion of Children that Attended Early Childhood Education (%)	Proportion of Children of Primary School Age that were in Primary School (%)
National	38	56.49
Sector		
Urban	64.51	72.05
Rural	31.43	52.00
Zone		
North Central	41.72	65.13
North East	12.94	38.88
North West	14.89	40.31
South East	70.54	80.71
South South	65.67	78.51
South West	80.83	77.64

primary school.

As shown in Table 3, the proportion of children that attended early childhood education in Nigeria was 38%; this was very low. Also, the proportion of children of primary school age that were in primary school in Nigeria was 56.49%; this was low. The foregoing shows clearly that there was high magnitude of child deprivation in education in Nigeria. This corroborates the findings in Bamiduro and Ogwumike(2009) which indicated high magnitude of child deprivation in education as well as in other basic needs such as water, shelter, health, nutrition and sanitation. The urban sector performed better than the rural sector with respect to child deprivation in education; and Northern Nigeria in general performed worse than Southern Nigeria in terms of child deprivation in education. Child deprivation in education is a major form of child neglect. When children are deprived in education it will grossly limit their abilities to function optimally in life. Education is a major avenue for human capital development; and human capital development is the surest means of overcoming poverty, various forms of deprivation and various forms of child abuse and neglect.

3.2.2. Child deprivation in health

Table 4 shows the proportions of children that were given basic vaccinations (BCG, Polio, DPT, Hepatitis B, Measles or MMR and Yellow Fever)[national, by urban/rural and by zones]. The table indicates that in general the proportions of children that received basic vaccinations were very low in Nigeria. It is evident that many children in Nigeria were deprived in health. The rural sector had worse picture than the urban sector while Southern Nigeria in general had better picture than Northern Nigeria. Child deprivation in health is another major form of child neglect. When children are deprived in health it is highly probable that they will not develop well and such children are most likely to have serious health challenges.

3.2.3. Child deprivation in nutrition

Table 5 shows the proportions of children that suffered from stunting, underweight and wasting. The table shows figures for national, by urban/rural and by zones.

As can be seen from Table 5, many children in Nigeria were afflicted with stunting, underweight and wasting. The rural sector presented a worse picture than the urban sector; and Southern Nigeria, in general, presented a better picture than Northern Nigeria. The stunting, underweight and wasting figures indicate that many children in Nigeria were deprived in nutrition. Child deprivation in nutrition is yet another major form of child neglect; such deprivation is most likely to lead to cognitive deficiency, poor physical

Table 4

Proportions of Children that Received Basic Vaccinations (BCG, Polio, DPT, Hepatitis B, Measles or MMR and Yellow Fever): National, by Urban/Rural and by Zones.

Source: Authors' computations from 2011 MICS.

	BCG	Polio	DPT	Hepatitis B	Measles or MMR	Yellow Fever
National	62.69	95.68	58.40	51.88	54.71	46.72
Sector						
Urban	79.88	98.64	76.38	71.08	71.34	66.07
Rural	58.41	94.95	53.85	47.03	50.57	41.84
Zone						
NC	77.83	97.25	73.41	67.05	65.08	58.57
NE	44.50	94.40	41.73	35.38	42.54	34.15
NW	38.99	94.63	30.69	22.24	32.49	23.31
SE	94.74	96.68	91.35	82.91	78.16	66.50
SS	82.95	96.41	82.06	77.08	76.72	68.12
SW	91.23	96.84	89.29	87.46	79.29	77.09

Note: NC = North Central, NE = North East, NW = North West, SE = South East, SS = South South, SW = South West, BCG = Bacillus Calmette-Guerin, DPT = Diphtheria, Pertussis and Tetanus, MMR = Measles, Mumps and Rubella.

Table 5

Proportions of Children that Suffered from Stunting, Underweight and Wasting in Nigeria: National, by Urban/Rural and by Zones.
Source: Authors' computations from 2011 MICS.

	Stunting (%)	Underweight (%)	Wasting (%)
National	33.95	28.89	8.93
Sector			
Urban	23.44	21.6	8.32
Rural	36.66	30.77	9.08
Zone			
North Central	28.76	22.48	7.27
North East	46.35	38.89	9.38
North West	49.43	42.13	12.63
South East	13.91	14.11	6.18
South South	17.89	16.83	6.21
South West	18.6	16.14	7.29

growth, poor health status and other problems.

3.2.4. Child deprivation in child protection

Table 6 shows the proportion of children less than 5 years whose births were registered as well as the proportions of women of reproductive age (15–49 years) that got married before 15 years and before 18 years. As shown in the table, only 41.5% of children less than 5 years in Nigeria had their births registered. As pointed out in National Bureau of Statistics (2013), the International Convention on the Rights of the Child states that every child has the right to a name and a nationality and the right to protection from being deprived of his/her identity. Birth registration is a major way of securing these rights for children. The table shows that the urban sector performed better than the rural sector with regard to birth registration; and Northern Nigeria in general performed worse than Southern Nigeria in terms of birth registration. The table further shows that many female children in Nigeria were not protected from child marriage; the rural sector presented a worse picture than the urban sector while Northern Nigeria, in general, presented a worse picture than Southern Nigeria with respect to child marriage. Not registering the birth of a child is a form of child neglect and child marriage is a major form of child abuse and neglect. Children whose births are not registered have been denied their right to identity, and there is high probability that such children will experience psychological torment when they grow up and this in turn will most probably make them not to function optimally in life. Child marriage, on the other hand, is most likely to make the affected children have various health challenges and not reach their full potentials in life.

3.2.5. Child deprivation in water and sanitation

Table 7 shows the percentage of children in Nigeria that had access to safe drinking water and decent toilet facility. As can be seen from the table, only 44.37% and 16.32% of children in Nigeria had access to safe drinking water and decent toilet facility respectively. The rural sector had worse picture than the urban sector while Northern Nigeria in general had worse picture than Southern Nigeria. The foregoing clearly indicates that most children in Nigeria suffered deprivation in safe drinking water and sanitation. Deprivation in safe drinking water and sanitation implies some forms of child neglect. Such deprivation can lead to low levels of development as well as many health challenges.

Table 6

Proportion of Children under 5 Years whose Births were Registered and Proportions of Women of Reproductive Age (15–49 Years) that got Married before 15 Years and before 18 Years: National, by Urban/Rural and by Zones.

Sources: National Bureau of Statistics (2013) and authors' computations from 2011 MICS.

	Proportion of Children Under 5 Years whose Births were Registered (%)	Proportion of Women of Reproductive Age that got Married before 15 Years (%)	Proportion of Women of Reproductive Age that got Married before 18 Years (%)
National	41.5	17.6	36.9
Sector			
Urban	62.8	8.8	22.0
Rural	32.2	20.5	41.7
Zone			
North Central	40.7	11.9	29.4
North East	21.9	26.1	51.5
North West	26.3	38.4	68.2
South East	62.2	5.0	14.3
South South	51.2	8.7	24.2
South West	64.8	3.4	13.4

Table 7

Proportions of Children that had Access to Safe Drinking Water and Decent Toilet Facility: National, by Urban/Rural and by Zones.

Source: Authors' computations from 2011 MICS.

	Proportion of Children that had Access to Safe Drinking Water (%)	Proportion of Children that had Access to Decent Toilet Facility (%)
National	44.37	16.32
Sector		
Urban	69.76	42.29
Rural	37.18	8.96
Zone		
North Central	37.66	18.23
North East	37.58	3.39
North West	30.6	7.32
South East	64.87	25.91
South South	54.02	22.0
South West	64.32	36.05

4. Recommendations and conclusion

This study has revealed that household poverty and child poverty were highly related in Nigeria. For example, the overall child poverty headcount (70.31%) was very close to household poverty headcount (69.0%), based on the official relative poverty line for the country (National Bureau of Statistics, 2012). The 2010 Harmonized Nigeria Living Standard Survey (HNLSS) and the 2011 Multiple Indicator Cluster Survey (MICS) utilized in this study, though relatively old, are still the most recent of such surveys readily available in Nigeria. The next round of HNLSS is overdue and yet to be carried out while MICS 2016/2017 survey was on-going when this study was carried out. Besides, all the relevant variables for analysis of child poverty and child deprivation are contained in the 2010 HNLSS and 2011 MICS; and the closeness of the two surveys which complement each other makes for better comparison of both the consumption indicators of poverty derived from the 2010 HNLSS and the deprivation indicators derived from the 2011 MICS. This study has shown that the level of child poverty in Nigeria was very high; and that many children in Nigeria were deprived in education, health, nutrition, child protection, water and sanitation. It is evident that many children in Nigeria are apparently neglected and abused; they are deprived of various basic needs and this puts them in precarious situations. Also, the study has shown that areas with less socio-economic infrastructure are more likely to have higher levels of child poverty and child deprivation in various basic needs. For instance, the rural areas that are known to experience greater deficiency in basic socio-economic infrastructure than the urban areas experienced higher levels of child poverty and child deprivation than the urban areas. Similarly, the northern region with less socio-economic infrastructure relative to the southern region had higher levels of child poverty and deprivation. Therefore, provision of basic socio-economic infrastructure could augment other efforts aimed at redressing the problems of child poverty and child deprivation including child abuse and neglect in the country. Based on the findings of this study it is recommended that the Nigerian government should take adequate steps to tremendously reduce or even eradicate child poverty as well as child deprivation in basic needs such as education, health, nutrition, child protection, safe drinking water and sanitation. The purchasing power of households should be sufficiently boosted so that they will be able to adequately cater for privately provided consumption needs of the children. It is instructive to point out here that there are some households in Nigeria that are evidently highly vulnerable to both extreme and overall child poverty. The earning capacities of such households are very low and cannot bring them out of child poverty. For such households, the government should use targeted transfers and social safety nets to adequately increase their standards of living and bring them out of child poverty so that the children in the households can have a bright future. Sufficient steps should be taken to ensure that all children in Nigeria have adequate education-beginning with early childhood education; all children in the country should be made to receive basic vaccinations and should not be allowed to suffer malnutrition; all children in the country should be made to have their births registered as well as have adequate safe drinking water and decent toilet facilities. The Nigerian government should provide adequate educational and healthcare facilities for children; and basic education (from pre-nursery to secondary school level) and basic healthcare (such as basic vaccinations) should be made accessible/available to all children in the country. Furthermore, adequate steps should be taken to ensure that children are not given out to early marriage. Appropriate and adequate legislation that prohibits child marriage should be put in place and strictly enforced in Nigeria. In tackling child poverty and deprivation in Nigeria, more attention should be focused on the rural sector and on Northern Nigeria. Further to the foregoing, data on child welfare should be collected more regularly and used for proper monitoring and evaluation.

In addition to efforts by government, the supports of various non-governmental organizations (NGOs), civil society organizations (CSOs) and international development partners are required in providing basic needs for children and adequate socio-economic empowerment for households in order to optimally address the problems of child poverty and child deprivation in Nigeria. Child poverty and child deprivation in various basic needs are major obstacles to development. Nigeria aims to become one of the world's most developed economies within a short time. There is no way this can materialize when the levels of child poverty and child deprivation in various basic needs are pronounced in the country. That basic needs were not provided for many children in the country was evident in the failure of the country to meet both poverty and child related millennium development goals (MDGs) as at 2015. The failure to adjust our understanding of poverty in general and child poverty in particular and ways of addressing the problem(of poverty) in the country even portends greater danger for the future of children as efforts to meet the sustainable development goals (SDGs) may be thwarted due to not paying adequate attention to child poverty and deprivation. The collaboration

and cooperation of all stakeholders (government and non-state actors) is urgently needed to sufficiently address the plight of the poor and deprived children.

Furthermore, the study has revealed that when child poverty based on money-metric approach is pronounced in a country, child deprivation in various basic needs based on non-money-metric approach is most likely to be pronounced. Many studies have shown that poverty is a major predictor of child abuse and neglect (Amato, 2005; Berger, 2005, 2007; Bower, 2003; Faulkner & Faulkner, 2004; Ram & Hou, 2003). Indeed, various forms of child abuse and neglect – such as child labor, child sexual exploitation, child marriage, poor training and nurturing of children, homelessness, poor housing for children, and inadequate provision of healthcare and poor nutrition for children – are directly linked to poverty (Brooks-Gunn, Schneider, & Waldfogel, 2013; Cancian, Yang, & Slack, 2013; Carter & Myers, 2007; Faulkner & Faulkner, 2004; Pelton, 2015). It may be necessary to carry out this type of study in other low and middle income countries where both MICS and household income and expenditure data exist to complement the results of this study. Such child poverty studies may help in providing evidences which can help in addressing child poverty and various child deprivation aspects of the Sustainable Development Goals. Thus, efforts directed at poverty reduction in a country must take into consideration the ways poverty affects children and endeavor to address issues of child abuse and neglect. By providing adequate protection for children from poverty and various forms of deprivation, a country can hope to achieve tremendous and sustainable socio-economic growth and development. The future development of a country is determined mainly by how well such a country trains and caters for her children now. The well-being of children is a principal yardstick for measuring national development (UNICEF, 2000). As pointed out in UNICEF (2005), protecting children from the sharpest edges of poverty during their years of growth and development is the mark of a civilized society. Allowing children to face poverty and various forms of deprivation may be said to be the worst forms of violence against them and such treatment on a nation's future manpower or labor force cannot augur well for the development of such country.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

- Adetola, A., & Olufemi, P. (2012). Determinants of child poverty in rural Nigeria: A multidimensional approach. *Global Journal of Human Social Science, Arts and Humanities*, 12(12), 39–53.
- Aliyu, S., & Garba, A. (2012). The implications of child poverty on the Nigerian economy. *European Journal of Globalization and Development Research*, 6(1), 360–376.
- Amato, P. R. (2005). The impact of family formation change on the cognitive, social, and emotional well-being of the next generation. *The Future of Children*, 15(2), 75–96.
- Asra, A., & Santos-Francisco, V. (2001). *Poverty line: Eight countries' experiences and the issue of specificity and consistency. A paper delivered at the Asia and Pacific Forum on Poverty, Manila, 5–9 February*. <https://www.adb.org/sites/default/files/publication/28141/asra03.pdf>.
- Bamiduro, T., & Ogwumike, F. (2009). *Child poverty and disparities in Nigeria. A final Report submitted to UNICEF Nigeria*: Abuja Office.
- Berger, L. M. (2005). Income, family characteristics, and physical violence toward children. *Child Abuse and Neglect*, 29(2), 107–133.
- Berger, L. M. (2007). Socioeconomic factors and substandard parenting? *Social Service Review*, 81(3), 485–522.
- Bower, C. (2003). The relationship between child abuse and poverty. *Agenda*, 17(56), 84–87.
- Brooks-Gunn, J., Schneider, W., & Waldfogel, J. (2013). The great recession and the risk for child maltreatment. *Child Abuse & Neglect*, 37(10), 721–729.
- Cancian, M., Yang, M., & Slack, K. S. (2013). The effect of additional child support income on the risk of child maltreatment. *Social Service Review*, 87(3), 417–437.
- Carter, V., & Myers, M. R. (2007). Exploring the risks of substantiated physical neglect related to poverty and parental characteristics: A national sample. *Children and Youth Services Review*, 29(1), 110–121.
- Chen, W., & Corak, M. (2008). Child poverty and changes in child poverty. *Demography*, 45(3), 537–553.
- Corak, M. (2005). *Principles and practicalities in measuring child poverty for the rich countries. (UNICEF Innocenti Research Centre's Working Paper 2005-01)*. Florence: UNICEF Innocenti Research Centre.
- Dickens, R., & Ellwood, D. T. (2003). Child poverty in Britain and the United States. *The Economic Journal*, 113(488), F219–F239.
- Faulkner, S. S., & Faulkner, C. A. (2004). Poverty as a predictor of child maltreatment: A brief analysis. *Journal of Poverty*, 8(1), 103–106.
- Foster, J., Greer, J., & Thorbecke, E. (1984). A class of decomposable poverty measures. *Econometrica*, 52(3), 761–766.
- Gordon, D., Nandy, S., Pantazis, C., Pemberton, S., & Townsend, P. (2003). *Child poverty in the developing world*. Bristol: The Policy Press.
- Lewit, E. M., Terman, D. L., & Behrman, R. E. (1997). Children and poverty: Analysis and recommendations. *The Future of Children*, 7(2), 4–24.
- Minujin, A., Delamonica, E., Davidziuk, A., & Gonzalez, E. D. (2006). The definition of child poverty: A discussion of concepts and measurement. *Environment and Urbanization*, 18(2), 481–500.
- Mogstad, M., Langorgen, A., & Aaberge, R. (2007). Region-specific versus country-specific poverty lines in analysis of poverty. *Journal of Economic Inequality*, 5(1), 115–122.
- National Bureau of Statistics (NBS) (2005). *Poverty profile for Nigeria*. Abuja: NBS.
- National Bureau of Statistics (NBS) (2012). *Nigeria poverty profile 2010*. Abuja: NBS.
- National Bureau of Statistics (NBS) (2013). *Multiple indicator cluster survey 2011: Main report* Abuja: NBS.
- Onah, F. E. (1996). Post-adjustment policies towards poverty alleviation in Nigeria? *Nigerian Journal of Economic and Social Studies*, 38(3), 197–218.
- Ozughalu, U. M., & Ogwumike, F. O. (2015). Food poverty profile for Nigeria. *The Journal of Developing Areas*, 49(2), 183–201.
- Pelton, L. H. (2015). The continuing role of material factors in child maltreatment and placement. *Child Abuse & Neglect*, 41, 30–39.
- Ram, B., & Hou, F. (2003). Changes in family structure and child outcomes: Roles of economic and familial resources. *The Policy Studies Journal*, 31(3), 309–330.
- Ravallion, M. (1998). *Poverty lines in theory and practice. (World bank living standards measurement study working paper No. 133)*. Washington, DC: The World Bank.
- Roelen, K., & Gassmann, F. (2008). *Measuring child poverty and well-being: A literature review. (Munich personal RePEc archive (MPRA) paper No. 8981)*. https://mpra.ub.uni-muenchen.de/8981/1/MPRA_paper_8981.pdf.
- Roelen, K., Gassmann, F., & de Neubourg, C. (2010). Child poverty in Vietnam: Providing insights using a country-specific and multidimensional model. *Social Indicators Research*, 98(1), 129–145.
- Roelen, K. (2017). Monetary and multidimensional child poverty: A contradiction in terms? *Development and Change*, 48(3), 502–533.
- Schaefer, A., Mattingly, M. J., & Johnson, K. M. (2016). Child poverty higher and more persistent in rural America. *Carsey Research National Issue Brief*, 97, 1–8.
- Streak, J. C., Yu, D., & Van der Berg, S. (2009). Measuring poverty in South Africa: Sensitivity to the choice of equivalence scale and an updated profile. *Social Indicators Research*, 94(2), 183–201.
- UNDP (2015). *Human development report* New York: UNDP.

- UNDP (2016). *Human development report* New York: UNDP.
- UNICEF (2000). *Poverty reduction begins with children*. New York: UNICEF.
- UNICEF (2005). *Child poverty in rich countries*. Florence: UNICEF.
- UNICEF (2012). *Measuring child poverty*. Florence: UNICEF.
- UNICEF (2015). *The state of the world's children 2015: Reimagine the future*. New York: UNICEF.
- UNICEF (2016). *The state of the world's children 2016: A fair chance for every child*. New York: UNICEF.
- Wodon, Q. T. (1999). Regional poverty lines, poverty profiles, and targeting. *Applied Economics Letters*, 6(12), 809–812.
- World Bank (2016). *World development indicators*. Washington, DC: The World Bank.