The Impact of Health Care Expenditure on Households Living Standard in Ekiti State

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Abstract: Payment for health care is said to be calamitous when it exceeds a defined level of household income(10% by WHO) and this leads the households to sacrifice goods and services, consumption of other goods, and services that are essential for their well- being.. Therefore, this study examined the impact of health care spending on household's living standard in Ekiti while the specific objectives is to determine how the percentage of household income spent on healthcare substantially affects the living standard of Ekiti people. The study made use of qualitative methods of descriptive analysis and Logit regression analysis to explore the stated objectives of this study. The findings of the study showed that the source of treating illness is basically through primary health care facilities and it is mainly by households' out of pocket expenses. The study also revealed that the most prevalent illness is malaria which is above 90%. The surprising result of this study is that the large proportion of the respondents has no much health problem, food problem, and school fee problem despite the fact that the households' expenses is out- pocket. Judging from the findings, the study, therefore, concluded that the health care expenditure in Ekiti is fundamentally households' out of pocket expenses and that standard of living in Ekiti is not so bad owing to the finding that there is no obvious health, food and school fee challenges. In line with the foregoing findings, the study recommended that the government should establish National Health Insurance Scheme for all the persons both in an urban and rural areas of Ekiti state in order to greatly enhance the living standard of people of Ekiti. More so, the government of Ekiti must educate her people very well on how to control and prevent malaria which is the most prevalent disease that is affecting the people of Ekiti.

Keywords: Healthcare Expenditure, Household's Standard of living, Malaria, and Logit Regression Analysis.

1. Introduction

Health can be defined as a complete state of physical, mental and social well-being and not merely the absence of disease or infirmity (WHO,2011). Health is a very important aspect of an individual's wellbeing and since individuals makes a nation; therefore, healthcare could be regarded as one of the indispensable conditions to achieving a sustainable long-term economic development (Oluwatoyin et al, 2013). Health as a concept is very sensitive one because it deals with not just humans but with human body. Without a good health condition, it is almost impossible to carry out any economic activity and if at all, there is any, it will certainly not be efficient and so it is important to take this subject seriously. Therefore, wisdom suggests that health is wealth.

There is a growing concern about the economic impact of health care expenditure on households who face illness, particularly in the areas where prepayment mechanisms do not exist and households have to make out-of-pocket expenditures to use health services (Onokan, 2010). In Nigeria, out-of-pocket expenditure accounts for almost 78% of total expenditure on health (Olarewaju & Akanmi 2005). This high level of health expenditure implies that health care can place a significant financial burden on household. Payment for health care is said to be catastrophic when it exceeds a defined level of household income (10% by WHO) and leads the households to sacrifice goods and services, consumption of other goods and services that are necessary for their well- being. One of the most devastating consequences of poor health is impoverishment caused by impaired lab our participation, which affects people's income generation capabilities.

Production and delivery of health services in Nigeria are financed from both private and public funds. Private sources of health financing include household (out-of-pocket) spending and health care insurance scheme. Direct household expenditure (user charges) is the most common source of health care financing in sub-Saharan countries. Public sources of health financing comprise budgetary and extra-budgetary allocation by the three- tiers of government.(Aigbokhah, 2000).

Out-of- pocket spending seems to be the major payment strategy for health care in Nigeria. The real challenge of health care financing in Nigeria as in many Countries in sub-Saharan Africa (SSA) lies primarily on the acute shortage of resources. Ill-health is a random variable and financing the cost of treatment can push a household into poverty or deeper into it (Cylyer & Wagestaff, 1993). Nigeria has experienced a high incidence of poverty in the last 15 years. The impact of the incidence becomes more important because of the high inequality associated with even this low level of household income and expenditure. The belief is that examining the financing structure and share of burden among stakeholders will be a starting point at addressing the poor state of health in the country and the inequality that characterize it including Ekiti State. Ekiti State was chosen as the study area particularly because it ranks high among the poor states in the country. One of the adduced reasons for low standard of living in Ekiti State is high rate of household expenditure on health status of Ekiti people in view of the fact that the public health expenditure on health is among the lowest in Nigeria. Statistics by (UNHDI 2010) depicts that N3,493billion, four percent of the total state budget of N81,428billion was expended on health in 2008, yet life expectancy in Ekiti state is 55years, the highest in Nigeria, the improved life expectancy may be as a result of out of pocket expenses.. Household expenditure on health in Ekiti State may be one of the reasons for the low living standard in Ekiti State despite the fact that incidence of under five Children fever and diarrhea in Ekiti State, which is adjudged the highest killer of children, is ranked 1st in South Western states of Nigeria (NDHS,2009). This might account for increased out of pocket expenses in Ekiti people on household living standard in Ekiti State.

The broad objective of this study is to empirically examine the impact of health care expenditure on households living standard in Ekiti state while the specific objectives is to determine how the percentage of household income spent on healthcare substantially affects the living standard of Ekiti people.

2. Literature Review

Chou (2007) investigated the relationship between health care expenditure, income and other factors that are not related to income for China with pooled cross-section and time series data. The study explains China's regional health expenditure using LM type unit root tests. To study the stationary property of these variables, they used panel Lagrange Multiplier (LM) unit root tests that allow for structural changes. To perform the LM unit root tests, they employed finite-sample critical values derived through the bootstrap method, instead of relying on the critical values from the asymptotic normal distribution. An important finding based on the estimated panel co-integrated regressions is that the government budget deficits have a significant long-run impact on China's health care expenditure. This provided supportive evidence on the differences between rich and poor areas in China's health care financing policy and the substantial disparities in health service coverage in China.

Evans (2003) examined the extent of catastrophic health expenditure, as a first step to developing appropriate policy responses. The study used a cross- country analysis design. Data from households' surveys in 59 countries were used to explore, by regression analysis, variable associated with catastrophic health expenditure. They desired expenditure as being catastrophic of a households financial contributions to health system exceed 40% of income remaining after subsistence needs have been met. The findings indicate that the proportion of households facing catastrophic payment from out of pocket health expenses varies widely between countries and those catastrophic spending rates was higher in some countries. Three key preconditions for catastrophic payments were identified: the availability of health services requiring payment, low capacity to pay and the lack of prepayment or health insurance.

David (1993) examined Health expenditure and household budget in rural areas. The study was conducted in a Kpelle village in North Central liberals and it revealed that health care expenses constitute a major part of domestic spending. The actual transactions for major health care expenditure are handled by men, typically using income that jointly belongs to the couple in addition to the husband's personal income. Women are likely to spend their personal income on minor health expenses for themselves and their children. Women's health

expenditure, as well as, their income handling arrangements, seems to differ according to the type of conjugal union that exists.

Gopalan (2009) examined the household economic impact of an outbreak of Clukingunya in terms of out- of-pocket health care expenditure and income foregone due to loss of productive time in Nissa, India. The study employed structured interviews on one hundred and fifty (150) respondents, breadwinners from the affected households of a village with maximum number of reported cases in the state, during August 2007. The results revealed that one hundred and forty nine respondent incurred cost of care more that 10% of their monthly household income (catastrophic health expenditure) outbreak of an emerging disease created unforeseen catastrophic health care expenditure and reinforcing the poverty ill-health nexus.

Barros & Bertoldi (2008) investigated out-of-pocket health expenditure in a population covered by the family Health program in Brazil. They also assessed the occurrence of high health spending in a low income population, as well as the pattern of out of pocket health payments. This research work used a cross sectional data with a sample representative of families covered by the family Health Programme. The results revealed that the proportion of income spent on health was similar across economic groups, but this equality is achieved at an unacceptably high level.

Soumitra Ghosh(2010) investigated catastrophic payments and impoverishments due to out of pocket health spending in India, using data from National sample survey on consumption expenditure undertaken in 1993-94 and 2004-2005, the study revealed that out of pocket payments are the principal source of health care finance in India, which led most household to impoverishments and low living standards,
Farlex (2009) analysed the incidence and severity of catastrophic health care financing using different definitions of catastrophic health care and also examined the links between this phenomenon and poverty. This study used data drawn from Nigeria, a country with health care market structure and financing arrangements very similar to the competitive market model. The study found that the incidence and intensity of catastrophic health care payment are very high among the Nigeria population but its contribution to the National Poverty profile is relatively low, suggesting that the tendency for catastrophic health care expenditure may be more prevalent among the rich rather than the low income households.

Ementa (2005) investigated whether or not the existing health care financing arrangements and structure of the health care market in Nigeria improves or worsen income distribution in the country. To achieve this objection , the research used two decomposition framework: the Aronson-Johnson-Lambert model and the Duclos-Jalbert-Araar model and used the data specifically generated to provide the kind of information required. The findings show that the healthcare system is not income redistributive. There is high level of horizontal inequity and re-ranking arising from the current method of health care financing.

Hodo and Emmanuel (2010) investigated the causal direction and long run relationship between government health expenditure, income and health status in Nigeria. The study established that there exist a strong causal bi-directional relationship running between life expectancy and poverty in Nigeria. A long run relationship was also found by the study to exist between income and health status but the study did not find a significant long run relationship between health status and government health expenditure.

 Sambo, Adamu and Aliyu (2004) in their study on out of pocket health expenditure for under five illness in a semi – urban community in Nigeria observed that factors that determine   pattern of utilization of health care services include geographical and economic accessibility, literacy level and perceived derivable benefits. The study found out that people still accord high patronage to patent medicine vendors due to lack of fund to attend instituted hospitals. Empirical research by Strauss (1998) also established that higher income potential permit individual and society to afford better nutrition, better health care and better health status.

3. Research Methods

This section presents research design, population, sample and sampling technique, research instrument, validity of the instrument, and reliability of the instrument, administration of the instrument and methods of data analysis.

3.1 Research Design

The study employed descriptive research of survey type. The design used a representative sample to collect data systematic description of existing situation.

3.2 Population

The Population of the study consists of the entire households in Ekiti State. The State was divided into the three senatorial districts. The field survey was conducted in 16 local government area of the State.

3.3 Sample and Sampling Technique

The sample for the study was made of 500 households. The study covered both rural and urban area of Ekiti State. The sampling technique used for the study was multi-stage and simple random sampling. The sampling was selected in stages. The first stage was three senatorial districts. The second stage was local government areas and the last stage was the selection of the hospitals in the towns and rural settings.

3.4 Research Instrument and Administration

Data for this study was collected mainly through the use of questionnaires which is quantitative approach. The questionnaire titled "Household healthcare expenditure survey in Ekiti State, Nigeria". The questionnaire has four main sections, Section A-D. Section A; Bio – data, the section B; questions on household assets and housing condition, section C; involved questions on social economic factors and section D on health status and utilization of health services. The study also employed interview which is qualitative in nature to complement the use of questionnaire. Interviewing which is face to face interaction was used to elicit intrinsic responses from the respondents. In regard of quantitative approach, 500 questionnaires were administered; only 490 were completed and returned. It was administered to the headship of the household which may be male or female. In case of qualitative approach, interview was conducted with 500 people and the same 490 responded. 150 people were interviewed from Ekiti North, 148 responded, 150 people were also interviewed from Ekiti South, 146 were responded while 200 people were interviewed from Ekiti Central because it is more urbanized and civilised, 196 responded. The responses were tape recorded and later transcribed. Qualitative approach (interview) was used to elicit information on socio-economic characteristics of the urban and rural respondents of the study like sex distribution, age distribution, marital status distribution and education status of the respondents while quantitative approach(the use of structured questionnaire) was employed to garner data on household information.

3.5 Validity and Reliability of the Instrument

The research instrument was subjected to both face and content validity. The face validity was ascertained by experts in Health sector and the content validity was ascertained by experts in Economics. After the validity of the instrument, test-retest method was used for the reliability of the instrument .The study involved pre – enumeration survey to ascertain the adequacy of the instrument.

3.6 Administration of the Instrument

The research instrument was administered directly to the respondents. The questionnaire was taken to the selected household for administration. Consent was sought from the heads of households before administration of the questionnaires. Friends and course mates who were thoroughly trained were used as research assistants to help in administering the questionnaires.

3.7 Method of Data Analysis

The data was analyzed using descriptive and inferential statistics. Frequency count and simple percentage were used to capture the socio-economic characteristics and some general questions. Multiple regression analysis was used for estimating household's expenditures and the various characteristics of the population. Probit analysis was employed at the third stage of the analysis to investigate the household expenditure on the health care and the extent it has affected the living standard of people.

The logistic model is specified thus,

$$\log p = b_0 + b_1 HC + b_2 AC + b_3 EC$$

P = health expenditure
Hc = Household characteristics
Ac = Access to healthcare
Ec = Economic circumstances.

The dependent variable was dichotomized as 1 and 0. If health expenditure is incurred during one month preceding the survey; the value assumes 1 and otherwise, 0.

4. RESULTS AND DISCUSSION.

Table 4.1 Social – economic characteristics of the urban and rural Respondents.
Table 4.1.1: Sex Distribution of the Respondents

Variable	Urban		Rural		Total	
Sex	Frequency	Percent	Frequency	Percent	Frequency	Percent
Male	110	52.6	137	48.8	247	50.4
Female	99	47.4	144	51.2	243	49.6
Total	209	100	281	100	490	100

The study covered four hundred and ninety people, two hundred and forty seven of those were Male and one hundred and ten of the males reside in the urban while the remaining one hundred and thirty seven lived in the rural area. The female interviewed were two hundred and forty three and ninety nine of them lived in the urban Centre while the other one hundred and forty four resided in the rural settlement. The study supports the findings of the Population census of 2006 which concluded that the male population (1,215,487) is more that the female population (1,183,470). Also, it implies that the male are spending more than female counterpart both in the urban centers and rural areas.

Table 4.1.2: Age Distribution of Respondents

Variable	Urban		Rural		Total	
Age group	Frequency	Percent	Frequency	Percent	Frequency	Percent
0 – 4	24	11.5	32	11.4	56	11.4
5 – 10	22	10.5	43	15.3	65	13.3
11 – 15	17	8.2	29	10.3	46	9.4
16 – 20	21	10.0	30	10.7	51	10.4
21 – 30	51	24.4	39	13.9	90	18.4
31 – 40	26	12.4	31	11.0	57	11.6
41 – 50	20	9.6	26	9.3	46	9.4
51 – 60	13	6.2	14	5.0	27	5.5
61 – 64	3	1.4	4	1.4	7	1.4
65 and above	12	5.8	33	11.7	45	9.2
Total	209	100	281	100	490	100

The study classified the respondents into ten age groups; 21 to 30 age brackets has the highest representation of 18.4% of the population interviewed while those between 61 to 64 with a percentage of 1.4% were the least in the population studied. The age group of both the urban and rural settlements revealed that there are more dependent population than the working class in the study and that these high dependent ratio dwell more in rural areas. It implies more working and active class are in urban centers.

Table 4.1.3: Marital Status Distribution of Respondents

Variable	Urban		Rural		Total	
Marital Status	Frequency	Percent	Frequency	Percent	Frequency	Percent
Married	88	42.1	96	34.1	184	37.6
Separated	2	1.0	9	3.2	11	2.2
Divorce	_	_	2	0.7	2	0.4
Single	112	53.6	155	55.2	267	54.5
Widow / Widower	7	3.3	19	6.8	26	5.3
Total	209	100	281	100	490	100

The marital status of the respondents showed that the single has the highest in the study population of both the rural and urban centers which constituted 54.5% of the respondents followed by the married population which accounted for 37.6% of the study while the divorced were 0.4% of the respondents.

Table 4.1.5: Household Size

Variable	Urban		Rural		Total	
Household size	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 – 2	126	51.4	93	37.9	219	44.7
3 – 4	72	27.3	67	26.8	139	27.8
5 – 6	37	14.8	53	23.2	95	19.0
7 – 8	9	3.6	24	10	33	6.6
9 – 10	1	0.4	7	2.8	8	1.6
11 – 12	0	0.0	0	0.0	0	0.2
13 – 14	0	0.0	1	0.4	1	0.0
Total	245	100	245	100	490	100

Out of the five hundred households interviewed in both regions, 44.8% of the respondents were from household populated by one or two people while respondents from household that had thirteen or fourteen people had the least representation of 0.2% of the study. Other household size categorized for study are 3and 4 persons which had 27.8% of the respondents, 5 and 6 people also had 19% also 7 and 8 had 6.6% of the population while 9 and 10 people had1.65 of the respondents. However no family fell into 11 and 12 range. This indicates that most of households in Ekiti about 82% have a family size of between 2 and 6 populations.

Table 4.1.6: Education Status of Respondents

Variable	Urban		Rural		Total	
Literacy status	Frequency	Percent	Frequency	Percent	Frequency	Percent
None / Below primary	41	19.6	73	26.0	114	23.3
Primary	38	18.2	77	27.4	115	23.5
JSS	19	9.1	31	11.0	50	10.2
SSS/O level	49	23.4	50	17.8	99	20.2
NCE /OND/ A' level	26	12.4	27	9.6	53	10.8
B.A/ B.Sc / HND	29	13.9	19	6.8	48	9.8
Tech / Professional	3	1.5	2	0.7	5	1.0
Masters and Above	4	1.9	2	0.7	6	1.2
Total	209	100	281	100	490	100

Their literacy status of the respondents showed that 23.3% of the study had no education while 23.5% of the respondents had primary school education while the population of respondents that received education above primary school education are more than 50%. This implies that Ekiti state citizens are fairly educated and they

dwell in rural setting as well.

Table 4 2: Health Care Management Information

Illness suffered			Source of seeking treatment			Health expenses paid for		
Illness	Freq	%	Source	Freq	%	Payment	Freq	%
Malaria	444	90.61	Primary health care facility	242	49.39	Household out of pocket Expenditure	266	54.29
Typhoid	26	5.31	Medicine store	134	27.35	Self	134	27.35
Diarrhea	10	2.04	Traditional healer	54	11.02	Other relative	40	8.16
			General hospital or clinic	30	6.12	Govt or State	38	7.76
Respiratory tract infection	6	1.22	Home/ self-medication	14	2.86	Others	12	2.45
Others	4	0.82	Community health worker	8	1.63			
			Private hospital or clinic	4	0.82			
			Others	4	0.82			

Table 4.2 shows the distribution of illness suffered by the respondents in the last two weeks of the study. 90.61% of the 490 respondents that had health issues reported that they came down with malaria, followed by typhoid which suffered by 5.31% of the respondents. Diarrhea was reported by 2.04, 1.22% of the respondents reported that they had respiratory tract infection, while Primary health care facility has the highest patronage of health care seekers, 49.39% of the households interviewed reported that they sought treatment from Primary health care facilities; Patent medicine store had 27.35% patronage of household interviewed while 0.82% of the respondents received their health care products from the private hospital and clinic. 54.29% of household interviewed had their health expenses paid from out of pocket while 27.35% of the respondents paid personally for their health care expenses also government is responsible for 7.76% of the interviewed health care expenditure .

Table 4.3: Information on household problem

Food problem			School fees problem			Health care problem		
Category	Freq	%	Category	Freq	%	Category	Freq	%
Never	152	31.02	Never	208	42.5	Never	214	43.67
Seldom	164	33.47	Seldom	106	21.63	Seldom	118	24.08
Sometimes	170	34.69	Sometimes	154	31.43	Sometimes	136	27.76
Often	4	0.82	Often	14	2.86	Often	16	3.27
			Always	8	1.63	Always	6	1.22

Household problem associated with food sometimes is 34.69%, it often occur 0.82 %, seldom occurrence while 31.02 never had any food problem. Other household problem is school which has never happened as reported by 42.5% which is the highest is school fees, 21.63% seldom have school fees problem while only 2.86% and 1.63% often and always have schools fees problem respectively. Health care problem faced by the respondents 43.67% never had such household problem while only 3.27% and 1.22% often and always respectively. This study reveals that large proportion of the respondents have no problems of food, students' school fee and health care problem. This may be due to their high level of education

Table 4.4. Logit regression of Health Expenditure on various independent variables

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Logit regression                    Number of obs   =      245
                                    LR chi2(5)      =    100.16
                                    Prob > chi2     =     0.0000
Log likelihood = -16.743793         Pseudo R2       =     0.7494
--------------------------------------------------------------------------
  Health Expenditure |     Coef.        Std. Err.      z    P>|z|     [95% Conf. Interval]
        -------------+----------------------------------------------------------
      feesPROBLEM |  -10.12353   1800.788    -0.01   0.996    -3539.604   3519.357
      healthPROB~M |    4.820155  1176.541     0.00   0.997    -2301.159   2310.799
      rentPROBLEM |    4.481335  1363.301     0.00   0.997    -2667.539   2676.502
      utilityPRO~M |    7.732325   462.4652    0.02   0.987     -898.6829   914.1475
             rate |   -6.072015   462.4651   -0.01   0.990     -912.487    900.343
            _cons |  -10.90572   462.4663    -0.02   0.981     -917.323    895.5116
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There is no significant relationship among the response and the predictors at 95% confidence interval. With p-values higher than 0.05, it means there is no significant relationship among the response and the predictors at 95% confidence interval. The result of the regression analysis also showed that the explanatory variables such utility problem, health problem and rent problem have positive relationship but they are not statistically significant except school fee that is insignificantly negative. The result also confirms that households have no problem of rent, utility and health care as indicated by the descriptive result.

Conclusion and Policy Recommendations

The study explored the impact of healthcare spending on household's standard of living in Ekiti State. The results of the study showed that the source of treating illness is basically through primary health care facilities and that households' out of pocket expenditure constitutes the means of payment for most of the people in Ekiti. The study also revealed that the most prevalent illness is malaria which is above 90%. The study also showed that the large proportion of the respondents has no much health problem, food problem and school fee problem despite the fact that the households' expenses is out- pocket. Therefore, the study concludes that the burden of health care expenditure is on the households. Based on the findings of this study, the study recommended that government should establish National Health Insurance Scheme for all the persons both in urban and rural area of Ekiti state in order to greatly enhance the living standard of people of Ekiti. More so, it is also evident from the study that health care facility funding of all the three level of care is grossly inadequate, improved funding of the health sector is also recommended for improved performance of the health system.

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