



Evaluation of Health Inequity Status of In-School Youths in Uyo Capital Territory, Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Authors EBI and USE designed the study and wrote the protocol. Author AMU wrote the first draft of the manuscript. Authors USE and EBI reviewed the study design and all drafts of the manuscript. Author AMU managed the data collection of the study. Author EBI performed the statistical analysis. All authors read and approved the final manuscript.

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ABSTRACT

In any emerging urban territory, there are bound to be opportunities and advancements that will create alteration in the social order leading to social and economic classes. The resultant variations in socioeconomic status among the households is a critical factor in shaping individual and family decisions especially in taking advantages of services that can improve the general wellbeing of the households in space and time. Furthermore, this variation can also influence the health status of households' members across gender, generation and rurality. The study opted to ascertain this situation in a fast developing region in Niger Delta of Nigeria. Thus, this study evaluated health inequity status of urban youths in a Niger Delta region of Nigeria. Specifically, the demographic profiles of the respondents were analyzed, the pattern of health inequity indicants were ascertained

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and the pattern of index of health inequity status of the urban youths were assessed. The study was an expo facto research type and adopted a cross sectional survey design. Data were collected using a self-administered structured questionnaire. A sample size of 181 respondents were selected through multi-stage sampling procedure. Descriptive statistics including frequency count, percentage and composite index analyses were used to analyze the collected data. Findings show that majority of the respondent within the ages of 17 to 19 years and 86.7% were native of the study area. Of course 90.6% were depending on their parents for socioeconomic support as 68.0% resides in areas that were not totally classed as urban. With regards to health equity status, 40.9% of the respondents had low health equity status, 57.5% had average status and only 1.7% had high health equity status. The later findings buttress the fact that there is wide gap in health and socioeconomic wellbeing of the younger generation across the households and therefore improvement in the quality of child social protection and reduction in child poverty status.

Keywords: Youths; urban; evaluation; health inequity; health equity; determinants; disparity.

1. INTRODUCTION

Urban areas in most sub-Saharan Africa have their challenges with regards to matching their infrastructural resources with the fast increasing population. This situation is usually characterized by diverse income inequalities, upsurge in technological activities and also the problem of waste management. Therefore, living in cities have been reported to increase dwellers exposure to unhealthy environment, [1] and this has raised public health concerns. The disparities in health status across the population therefore arise from how frequently diseases affect an individual, how many people get sick or how often the disease can cause death, [2]. In other words, the disparities could be referred to as health inequity; describing the differences in health status between individuals in a given geographical setting. These inequities are usually socially produced and systematically distributed across the populations. They are regarded as differences in health wellbeing influenced by the distribution of diverse determinants between different population groups, [3-7]. Uyo Capital Territory has these peculiarities, the territory covers beyond Uyo as a local government area to fringes of the surrounding local government areas. The study area is spatially peri-urban with urban area at the centre. Uyo capital territory is an emerging and rapidly expanding urban city; witnessing changes due to its increasing population density with attendant health status disparities. Analysis of the spatial and temporal changes in Uyo capital territory reveals two major timelines, which is the pre- and post- elevation of Uyo local government area to a State capital status. The available evidence via analysis of aerial photograph and satellite imagery over there about 10 years intervals; 1969, 1978, 1988, 2001 and 2004 provide interesting land use change pattern, [8].

In their analysis of land area classification by different land use type; the study of Ernest, Mbakwe and Leke identified 11 classes and revealed that there have been upsurge in use of land that were non-degradable; agriculture (6024.17 ha), and forestry (324.94 ha) in 1969 to 2568.76 ha (agric) and 1028.82 ha (forestry) in 2004 while commercial land use (37.46 ha in 1969 increase to 100.35 ha in 2004), industrial (0.0 ha 1969 increase to 303.59 ha in 2004), residential (2111.70 ha in 1969 increase to 6144.92 ha in 2004), transportation (95.45 ha in 1969 to 207.91 ha in 2004) [8]. Certainly, as demands for land for human use increased with population growth, the resultant environmental perturbation increased at geometric rate throwing up serious health concerns for health care service to abate the much they can do, [1]. Within Uyo capital territory, there are several health care institutions ranging from primary, to tertiary health facilities which are publicly managed by the State. There are also privately own facilities which contribute to the health care delivery-friendly status. Despite availability of these health facilities, focus group discussion revealed that there is still high patronage of the non-formal health facilities. Such acts could be due to some social determinants of health disparity in such urban environment. Differences in health status are quite observable across the members of households due to the high cost of accessing health care. There are a lot of self-medication practices and patronage of traditional medical practitioners who often use herbal medicines. This suggests that access to affordable cost of health care services are becoming increasingly unpopular. Though, it may not be only peculiar to Uyo Capital territory, self-medication has been noted to be a worldwide problem [9-10]. The situation in terms of its magnitude differ across developing regions, [11-12]. As noted by [9] the situation is driven by

determinants such as inadequate health care facilities, poverty, illiteracy and unqualified patent medicine sellers. Their severity is further exacerbated by fewer physicians, high cost of conventional drugs for the vast low income households and patronage of herbal medicine due to notional cure to multiple ailments [9].

The practice of self-medication is mostly based on a previous experience of a treatment of a similar ailment and advice of relations, friends or patent medicine seller, [13-15]. Meta-evaluation of studies in the study area revealed most of residents of the area indulge in self-healthcare, with few or virtually no consultation of a physician, particularly in peri-urban and rural Akwa Ibom State. About 73.1% of the population of Akwa Ibom State were said to be very highly involved, while 14.3% were classed as highly involved, the remaining 12.6% who were not involved in self-medication could be due to vantage proximity to orthodox health facilities in the urban areas [16]. The massive indulging of rural dwellers in self-medication could be intertwined by their nature of exposure to harsh and hazardous working environment and seemingly poor healthcare service accessibility and delivery [17]. The prevalence of illness and access to health services also differ between different age groups, the older folks tending to be sicker than young people. People from lower socioeconomic groups tend to be more exposed to health hazards in the physical environment, they experience more psychosocial stress, suffer more material deprivation like poor nutrition and inadequate quality of housing. All these result in unfair and avoidable differences in health status observed within the society [1,3,18] and can influence the health status of an individual or the people either positively or negatively. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels which are themselves influenced by policy choices. Thus, the social determinants of health are mostly responsible for health inequities. Several determinants of health inequity have been highlighted in literature; the World Health Organization (WHO) have identified some to include: socioeconomic status, housing, food security, poverty and health care services [19] and while [20] classified the determinants to include the range of personal, social, economic and environmental factors which determine the health status of individuals or population. Determinants are not only those factors which are related to individual actions such as health behaviours and lifestyles, it's also related to

factors such as income and social status, education, employment and working conditions.

As noted by [21], low socioeconomic status is associated with increased morbidity and mortality. Socioeconomic status is very critical indicators when seeking insight to how the youths are faring. The wellbeing status of children and younger generations, especially non-income earners, in any household do reflect the socioeconomic status of the family economic position. When per capita expenditure is low, it affects the wellbeing of everyone much especially the younger generation, who need quality health care and status to be able to fulfill physiological and social obligations safely for overall human capital development. Youths that don't have access to health care services often die in their sickness or suffer chronic diseases. Those that live below the poverty line are often poorly fed or nourished; since income is proportional to quality food and the quality of food largely contribute to an individual's health [22-23], Urban teen youth health inequity tend to be that which are quite systematic and the differences in health care access are not distributed randomly but rather show a consistent pattern across the population, [20] and [23]. One of the most striking examples is the systematic differences in health care status between different socioeconomic groups. This social pattern of disease is pervasive, though its magnitude and extent vary among countries. Inequity in health is considered to be unfair because it is generated and maintained by "unjust social arrangements". Inequity is unfair because (a) we know how to reduce inequities with known interventions, but not to take action is unjust; and (b) inequities are avoidable and preventable. Although ideas about what is unfair may differ to a certain degree from place to place, there is much common ground. For example, it would be widely considered unfair if the chance of survival was much poorer for the children of some socioeconomic groups, compared with that of others. Globally, multiple strategies have been used to address health inequities. Three main approaches applied to measure and tackle inequities in health include targeting disadvantaged population groups or social classes, narrowing the health gap and reducing inequities throughout the whole population. It is likely that these approaches are interdependent and should build on one another.

The challenge of reducing health disparities will require sustained commitment from both health

agencies other sectors such as education, employment, transportation, social services, housing and from the public at large [18]. As earlier noted, the Uyo capital territory alone is characterized by avalanche of public and private health institutions but despite the availability of health care services in Uyo capital territory, how many teen youths are able to gain access to it? And what are the pattern of health inequity incidences in the study area and what is the health equity friendliness status among the youths in the region? Could the personal characteristics of the respondents explain variation in health inequity index among youths in Uyo capital territory? Thus, this paper evaluated urban health inequity status of in-school youths in Uyo, Nigeria and specifically, analyzed the demographic profile of the youths, mapped the variations in responses to the elements of health inequity and estimated its relative incidence index within the study area and also assessed the pattern of health care equity status among the respondents.

2. METHODOLOGY

This study was an ex post facto research based on cross sectional survey design. Uyo capital territory was chosen as the area of the study. It extends beyond Uyo Local government area to parts of four other local government areas that share contiguous geographical boundaries. It is located on latitude 5.0°N and longitude 80°E. Uyo local government area host the administrative apparatus of the capital territory, is one of the largest local government area in Akwa Ibom State. The area is within the equatorial rain forest belt. It is a tropical zone that has vegetation of green foliage of trees, shrubs and oil palm trees, etc. the study area has an estimated population of about 409,573. This comprises of 203,113 males and 206,460 females respectively. It has a land mass of about 218 km². The study target population was in-school youths, who were within the secondary school programme based on the assumption that they quite knowledgeable about their family background and would soon be confronted the psychological demands of independent living from their immediate family setting. A two-stage sampling technique was used to select the sample. The first step adopted simple random sampling to select two post primary schools out of eleven in the study area. At second stage, all the students in the senior secondary (SS) classes, who were present in school on the day of the visit, were used for the study. This gave a

total number of 181 youths (respondents). Primary data were collected using structured questionnaire with health inequity scale adapted from earlier Cronbach alpha reliability index of 0.662. The questionnaire was divided into sections to reflect the specific objectives of the study. Data were analyzed using descriptive statistics particularly percentage, frequency counts, incident index analysis and composite index analysis.

3. RESULTS AND DISCUSSION

3.1 Demographic Profiling of the Youths

A study of the demographic characteristics of the respondents across the selected variables as shown on Table 1, holds a lot of information for intervention planning. Ordinarily, the study population of in-school youths within the senior school programme ought to be dominated by students within the ages of 14 to 16 years but the large proportion of youths above 16 years and also the virtually equal enrolment of boys and girls in the school system is due large to the influence of free education policy intervention in the study area. The policy influence has brought in many out of school youths to the classroom. With reference to Item 1, 27.6% of the respondents were between the age range of 13 – 16 years, 52% were between the range of 17 – 19 years and 20.4% were between the range of 20-22 years. Item 2 shows that 50.3% of the respondents were men and 49.7% were female. Ordinarily, the target population ought to have been dominated by ages ranging between 14 and 16 years but the proportion of respondents above 16 years and virtually equal enrollment of boys and girls is due to influence of free educational policy and has brought back many out of school youth to classroom. Of course, the study area is predominantly of religious orientation as Item 3 shows that 98.3% of the respondents were Christians and only 1.7% were Muslims. Item 4 followed an apriori expectation about the marital status of the study population as 98.9% of the respondents were single and 1.1% were married. Item 5 shows the extent of cosmopolitaness as most (88.4%) of the respondents were Uyo indigenes and 11.6% were not indigenes. Item 6 shows that 86.7% of the respondents indicated that their parents are engaged in farming activities and 13.3% are not. Item 7 shows that 68.0% of the respondents live in rural area and 32.0% live in urban area. Item 8 shows that 90.6% of the respondents' income are from parents while 9.4% are personal.

Table 1. Distribution of respondents based on their demographic characteristics

Item	Demographic characteristics	Frequency (n=181)	Percent
1	Age group (years)		
	13 – 16	50	27.6
	17 – 19	94	52
2	20 – 22	37	20.4
	Sex		
	Male	91	50.3
3	Female	90	49.7
	Religion		
	Christian	178	98.3
4	Muslim	3	1.7
	Uyo indigene		
	Yes	160	88.4
5	No	21	11.6
	Do your parents engage in farming		
	Yes	157	86.7
6	No	24	13.3
	Residential area		
	Rural	123	68.0
7	Urban	58	32.0
	Source of income		
	Parents	164	90.6
	Personal	17	9.4

Source: Field survey (2012)

3.2 Pattern of Variation of the Elements of Health Inequity among the Youths

Elements of health inequity vary across geospatial settings and it is interesting to have detail understanding of the magnitude and response variation on the elements or indicants of health inequity within the population. Table 2 holds diverse information that can generate bases for actions to mitigate or reduce the health inequity gaps if interventions are directed towards the mass disadvantaged households. Furthermore, information is presented on the pattern of variation across the items; headcounts incidences and relative rank order of the indicants of the health inequity. Thus, the 16 indicants of health inequity exhibited four broad incident category having major implied dimensions; denoted by alphabetic superscripts “a” to “d”, which portray dimensionality of magnitude of severity of health inequities items across the study area.

Across the distribution, there were critical incidences of serious concerns for public health improvement. Such as 28.7% of the respondents do not receive their treatments from the chemists shop (item 2) while improve advocacy on sanitation issues could still be responsible for 45.3% of the respondents do not have cases of cholera and dysentery to be common in their family (item 11). About 49.2% of the respondents

are not attacked by malaria and fever every month (Item 13) suggesting that malaria is still call for concern. Despite about 43.1% of the respondents were not hindered by resources to buy drugs (Item 9) the rest of the is a source for worry as the financial concern why about 40.9% of the respondents do not manage their sickness at home (Item 7). About 37.0% of the respondents do not have member(s) of their family suffer from physical pain condition (Item 6). About 30.9% of the respondents family health condition is not okay (Item 3). About 48.1% of the respondents never felt dizzy in the last six months (Item 12). About 41.4% of the respondents never suffer from repeated malaria attack (Item 8). About 44.2% of the respondents do not visit health centers frequently because of their severe illness (Item 10). About 39.8% do not have money to pay for medical services available at home (Item 1). About 54.7% do not spend a greater percentage of their monthly income on health issues (Item 15). About 34.3% of the respondents do not feel that their body does not have efficient utilization of food (Item 5). About 30.4 percent do not have a good appetite for food (Item 4). About 50.8% of the respondents do not go to chemist for the fact that it is cheaper (Item 14). The results revealed across the items affirmed that much concert efforts are needed to systematically improve the health care friendliness in the study area.

Table 2. Distribution of respondents based on their response to health inequity status in their households. n = 181 youths

Item	Component of health inequity status among youths	Never	Often	Most often	Relative HleIOP
1	We do not have enough money to pay our medical services available in our place of residence.	19.9	40.3	39.8	^a 0.801 ^{1st}
2	Most of the treatments we have in our house is from chemist shop	28.7	40.3	31.0	^a 0.713 ^{2nd}
3	The current health condition of your family manageable	30.9	44.8	24.3	^b 0.69.1 ^{3rd}
4	My appetite for food is generally not good.	32.0	37.6	30.4	^b 0.680 ^{4th}
5	There is a feeling that our body system does not have efficient utilization of food.	34.2	45.9	19.9	^b 0.658 ^{5th}
6	Member(s) of our family have forms of physical pain condition and are worried about how to treat.	37.0	37.6	25.4	^b 0.630 ^{6th}
7	We manage our sickness at home instead of going to health facility.	40.9	35.9	23.2	^c 0.591 ^{7th}
8	I suffer from repeated malaria attack.	41.4	35.9	22.7	^c 0.586 ^{8th}
9	Resources (money) hinder our family from buying drugs when anyone is sick	43.1	35.9	21.0	^c 0.569 ^{9th}
10	We visit health centers frequently because of our severe illness.	44.2	34.3	21.5	^c 0.556 ^{10th}
11	Cases of cholera or dysentery are common within my family members	45.3	34.8	19.9	^c 0.547 ^{11th}
12	I felt dizzy and imbalance in the last six month.	48.1	33.7	17.7	^c 0.514 ^{12th}
13	In every month we are always attacked by malaria and fever	49.2	27.6	23.2	^c 0.508 ^{13th}
14	We are comfortable with chemist shop; is cheaper and would give same advice as hospital.	50.8	29.8	19.3	^d 0.491 ^{14th}
15	We use a greater percentage of our monthly income spent on health issues.	54.7	26.0	18.8	^d 0.448 ^{15th}

Source: Field survey (2012).

N/B: Figures are in percent, n=181 youths.

Superscripts "a", "b", "c" and "d" denote categories of health inequity indicants with index range 0.70-1.00, 0.60-0.699, 0.50-0.599 and 0.40-0.499 respectively, with similar variability in magnitude of the incidences across the population.

HleIOP: Health Inequity Index Order Positioning

The incident (headcount) index displayed under the Relative HleIOP (Health Inequity Index Order Positioning) column (see Table 2), measured the probable prevalence of the specific health inequity items across the population. As denoted by superscript "a" to "d", so as their proportional magnitude of severity decrease accordingly. Thus, the sequence depicts the relative rank order positioning of the indicants of health inequity. The deduced causes and their implications thus provide insight on the likely social protection and poverty reduction policy that could mitigate the health inequality gap across the region. The items of "a" category suggest financial insecurity induced patronage of non-facility health care, which is wide spread and the patronage gap may continue to widen as the purchasing value of income continue to depreciate within the international foreign exchange system. This implies that 70% - 80% of the households' health inequity status are induced by poor income earnings and until the

national government initiate actions toward affordable healthcare and drugs and as well as the revamping purchasing value of its currency and the performance of Nigeria economy. The widening gap would take longer time to close between the advantage and the disadvantage households. The "b" category implied that incidences of serious health breakdown as experienced within the households of respondents, invariably affects the flow socioeconomic benefits among its members. The "c" category is more multidimensional than any other category and the dimensions cover nutrition, sanitation and health friendly housing, which their poor status are still influenced by the economic insecurities and inequalities. The "d" category is relatively the least experiences across the study population, the respondents affirmed having poor financial wellbeing implying inability to afford most essential requirements for meaningful living.

Table 3. Distribution of respondents based on their response on the status of health inequity among youths (HleS) index, n=181

Index interval HleS	HleS index range interpretation	Frequency	Percentage
0.00 – 0.399	Virtually no and low inequity	3	1.7
0.400 – 0.699	Averagely high inequity	104	57.5
0.700 – 1.00	Core high inequity	74	40.9
Total		181	100.0

Source: Computer based field survey (2012)

3.3 Index of Health Inequity Status (HleS) among Youths within Households

This subsection estimated on individual bases, the degree of general health inequity among youths within households in Uyo Capital Territory, principally to ascertain the proportion of the dwellers who are grossly affected. Based on the 16-item indicators for assessment of health inequity situation, composite index analysis was adopted to generate a probabilistic magnitude of the health inequity status. The value of the HleS lies between 0.0 to 1.0; as the value tends towards 1.0, it signifies a core high health inequity status, while a tendency towards 0.00 implies health equity or virtually no inequity status. Based on the derivation of health equity status index for all respondents, a categorized summary of the result is as shown in above Table 3. The Table shows that about 40.9% respondents fell within the high health inequity status, 57.5% were within the average health equity status, while 1.7% fell within the low health inequity status category. This result reveals that most of the youths among households within Uyo Capital City are adversely affected health wise.

4. DISCUSSION

Youths are considered the future of any society and their health status is therefore considered paramount for future human security and self-sufficiency in any given community. The demographic profile of study population depicts the influence of basic education policy of the study area. Since 2008, there has been upsurge in enrollment of pupils and students because of the implementation of free educational programme. This course of action has encouraged both out of school and over aged persons to be enrolled into schools. Thus, the results in Table 1 affirmed this facts as the distribution of the sampled population were within and relatively above teenage; therefore about 20.4% were in early twenties within public school system. The school system also has promoted equal opportunity for boys and girls to be enrolled, which is evident in the sex distribution

of the respondents. The study population was predominantly Christians even though the area is highly cosmopolitan and attracts people of various religious and ethnic backgrounds.

It was quite interesting to note the high urban-periurban-rural linkage interactions and dependencies exist across social and economic activities within and around the Uyo capital city. The respondents admitted that their household do participate in agricultural activities, suggesting the thriving of urban agriculture within its boundaries. Though not at commercial quantity, most households take to farming as adaptive strategies to cope with the increasing harsh economic condition. Those who depend on farming as their primary means of livelihood travel to the periurban and rural villages for full scale involvement. As earlier noted, access to educational institutions is not only restricted to the residents of the capital city, as substantial percentage of the respondents admitted residing in the rural fringes but come to school within the city. As expected, 90% of the respondents depend on parental support for daily upkeep and most were generally satisfied with the income accruing to their households.

Out of the fifteen indicants of health inequity identified in the study, incidence of index affirmation showed four major categories which signified the pattern of variations on health inequity across the population. Analysis of the “a” category as depicted by the identified pattern, the conspicuously affirmed practice of self-medication, and the incidence across the population is prominent among its dwellers despite the array of health care institutions in the Uyo Capital city, [9] and [5]. This situation is also driven by similar factors as in other part of the world, [24] and [25]. The “b” category revealed that not less than 60% of the respondent crystallized across seven items describing worrisome family health challenges, relative accessibility to health facilities and relative food security status of households. The “c” category revealed that 50% of the households are faced with occurrence of illness that were preventable

via water, hygiene and sanitation practices probably because their relative low socioeconomic earnings could not afford the basic facilities toward health security. Lastly, the “d” category revealed the perception of the public toward social and financial unfriendly status which leads to seeking alternative care from non-orthodox health facilities.

The health inequity status result depicts that all is not well within the Uyo Capital Territory which is most advantageous in terms of infrastructures than any other rural, peri-urban and urban areas in Akwa Ibom State. If the urban region, which is quite friendly with public and private health facility can host such a proportional segment of 40.9% within a population of more than 1.5 million inhabitants, then the households and most of its members are seriously in need of opting out of implicit low socioeconomic wellbeing. The said percentage described within the core health inequity, 40.9% could just be conservative outcome of a sampled survey, in reality the proportion within the study population could be more than a half of the population. This calls for a theoretical based strategic planning to mitigate the declining access to good health.

5. CONCLUSION

The status of health disparity across this developing city is obviously enormous and should addressed. Government at all levels, Local, State and Federal level should be decisive in addressing social and economics determinants that affect health. Focus should be on developing a theory of change to holistically plan based on the identified determinants of health inequity along development accelerators which contribute greatly to the health status of an individual and the community at large. Community leaders should play crucial role in inculcating positive health values, attitudes and behaviours that would continue to promote good healthy life style in our communities. Youths living in communities with a healthy life style and free of any ravaging scourges are bound to have a good health status. Local leaders and the government should effectively driven innovative child poverty reduction and child protection policies that will emphasize improvement in the health status of youths. The government, as a necessity must subsidize the cost of health care services; and seminars/workshops should be made regular events with the hope of sensitizing the youths and the larger community on modifying environmental and behavioural risk factors to sustain personal and public health.

ETHICAL APPROVAL

All authors declare that verbally informed consent was obtained from the respondents which was evident by their willingness to participate in the survey and complete the questionnaire. This survey study was independent of institutional facility and had no committee consideration. The study was conducted in accordance to the tenets of the Helsinki Declaration of 1964 as amended in 2000.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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