



PERCEPTION OF STUDENTS ON THE IMPACT OF EBOLA VIRUS DISEASE (EVD) ON THE EDUCATION SYSTEM OF SIERRA LEONE

^aMohamed Paul Ngegba & ^bDavid Allieu Mansaray

^aDepartment of Extension and Rural sociology, School of Agriculture, Njala University, Njala Campus.

^bDepartment of Agricultural Education, School of Education, Njala University, Njala Campus

ABSTRACT

Since the official outbreak of the Ebola epidemic in Sierra Leone, the virus infected thousands of people and spread across all 14 Districts of the country. Its effect affected every facet of Sierra Leone. This paper examines reports on a study that investigated the impact of Ebola outbreak on the education system of Sierra Leone. The study was conducted in four main districts of Sierra Leone–Kambia District, Kenema District Moyamba District and Western Area. A stratified random sampling was used to select the District, while purposive and simple random sampling technique was used for selecting the Districts and the respondents. A questionnaire divided into four sections and comprising structured and semi- structured questions were administered to 400 respondents. The findings of the study revealed that there was no medicine for curing Ebola (8.5%), ignorance or lack of knowledge about Ebola Virus (6.3%) caused the rapid spread of the Ebola disease, also were poverty and police taking bribe at checkpoints (5.8%). To a great extent Ebola increased teenage pregnancy (22.0%), and girls child dropouts from school. Ebola outbreak highly impacted the educational system by using school compounds as Ebola holding centers, and many students were made orphans (50.0%). It was concluded that many factors were responsible for the rapid spread of Ebola Virus Disease throughout Sierra Leone. It was recommended that Government and other humanitarian organizations should help in the rehabilitations of all schools; that post Ebola rehabilitation and reconstruction should highly consider the girl child for their programmes, and that Ebola disease surveillance should be incorporated into the school curriculum to help control and prevent future reoccurrence.

KEY WORDS: Ebola impact, Education System, Student Perception, Girl Child.

INTRODUCTION

Ebola is a hemorrhagic fever of the filovirus family with 50-90% case fatality. There is no effective treatment for Ebola except for the euphemistically labeled “supportive therapy” (CDC, 2010). The virus is spread through contact with infested fluids, typically blood, and once it has infected a new patient, it rapidly attacks the internal organs and connective tissue, causes severe bleeding, vomiting, aches, mental impairment and dementia, and in severe cases, grand mal-seizures. The typical cause of death is multi-organ system failure (Lashley & Durham, 2007). The international community first became aware of Ebola in 1976, when the disease erupted in Yambuku, Zaire (now the Republic of the Congo or DROC) and N’zara, Sudan (WHO, 2007). During these outbreaks, most people took only passing notice of this new disease. Scientists who had dealt with the disease and the Zairois and Sudanese touched by it would not soon forget the epidemics. Then, the media focus was limited and Western concern was low. The recent outbreak in West Africa, (first cases notified in March 2014), is the largest and most complex Ebola outbreak since the Ebola virus was first discovered in 1976. There have been more cases and deaths in this outbreak than all others combined. The 2014 West Africa Ebola outbreak is unique not just because it has occurred in an area never affected before, but it has also

shown greater propensity to spread across national borders, putting Africa’s integration to a test. It commenced in Guinea Conakry and later spread to Liberia, Sierra Leone, Nigeria and Senegal. Beyond the toll on human lives and suffering, the recent Ebola epidemic affected West Africa had measurable economic impact in terms of foregone outputs, World Bank Report (2014). The report further intimated that Ebola outbreak not only caused higher fiscal deficits and prices; lower real household incomes and greater poverty, but also severely affected the educational sector of these countries. The 2014 Ebola outbreak has also been costly to Africa, where it has been estimated that there has been a full percentage point fall in GDP growth from 4.5 per cent to 3.5 per cent in just one of the affected countries with losses emanating from reduced agriculture, cross border trading and as much 80% losses in the hospitality industry (World Health Organization, 2014). According to UNICEF (2015), an estimated 5 million children and youth have been denied access to education in Guinea, Liberia and Sierra Leone. Therefore, children, youth and their families are increasingly concerned about the impact this will have on their futures and the future of their countries.

The first case of Ebola was reported in Sierra Leone in May 2014. By early May 2015, the Centre for Disease Control reported that nearly 4,000 people in the country had died,

from a total of more than 12,500 suspected or confirmed cases. The raw statistics tell only part of the story, however. The impact of the disease was not just on those who contracted it, but on the whole country. As well as fear of becoming infected, this wider effect was brought about by the steps taken by the Government to tackle the spread of Ebola. The authorities declared a public health emergency in July 2014 and instituted a strict set of measures including the suspension of markets, movement restrictions, and a 7pm curfew. In Sierra Leone, the Basic Education Certificate Examination (BECE), (which qualifies pupils to enter either Senior Secondary Schools or Vocational Institutions) is usually conducted in the first week in June each academic year. It is usually the third public examination to the National Primary School Examination (NPSE), and West Africa Senior School Certificate Examination (WASSCE) examinations. Most parents and teachers make a lot of preparations for their children for this examination. It was just after such preparation that the Ebola outbreak reached its peak in the country. This very important examination was therefore cancelled and postponed indefinitely, causing most of the pupils to return to their villages. The promotional examinations for certain schools were not conducted and therefore most pupils never knew their stand for the following academic year. Whether it was these factors that caused most of the girls who return to the villages to either married or became pregnant is beyond this study.

Before the Ebola outbreak, just 58% of children attended primary school in Guinea; 74% in Sierra Leone; and 34% in Liberia (Childinfo, 2014). The impact of prolonged school closures in a region with some of the lowest education indicators in the world is dire and the outbreak has negative consequences on the availability of teachers, the safety of school premises, vulnerability of girls and women and, in the longer term, the ability of affected countries to accelerate economic and social development. In addition, schools in all three countries had limited access to safe water prior to the crisis, a critical factor given the key role of hand-washing in preventing transmission. The EVD outbreak curtailed educational services. Teachers have been trained to support house to house campaigns to raise awareness about how Ebola is spread and prevented. Teachers are invaluable in this work as experienced communicators and trusted members of their communities. In Sierra Leone, 7,000 teachers have been trained as social mobilizers and are leading prevention activities (Government of Sierra Leone (GoSL) (2014). The implications for educational outcomes are not yet clear. The related economic losses borne by the national budget are high as wages to teachers still need to be paid and facilities maintained. Even worse may be future productivity losses, reflecting the lower education of those who do not return to school, which will also require heavy additional investment in an attempt to bring educational outcomes back to pre- outbreak levels. Sierra Leone had a very strong educational base, dating as far back as the colonial era; particularly between the periods 1951 to 1961. The first University College in Africa, South of Sahara was

located in Sierra Leone. As a center of excellence in manpower development in the entire West Africa Sub-region, it earned the enviable accolade of the “Anthems of West Africa”. However, three decades of bad governance and gradual neglect during the post –independence period led to deterioration of the educational system. The decade-old (1991-2001) rebel carnage caused further destruction to educational infrastructures as well as forcing thousands of children to abandon schooling.

Today the country has one of the lowest literacy rates in the world. Countries with strong and established education systems are often better prepared when a crisis like Ebola hits and are able to rebound more easily. But these three countries are among the poorest of the world. Sierra Leone and Liberia are also post-conflict countries. They had to start rebuilding their education systems after the conflict ended. However, in weak education systems, the closing of schools means that students lose valuable education time that is very difficult to recover. But we need to remember that this is first and foremost a health crisis. The government, local partners and the Global Partnership follow the guidance of the World Health Organization and the Center for Disease Control on when the situation allows for the re-opening of schools. The question one needs to ask now is how would the current Ebola outbreak affect the educational system of the Sierra Leone, considering that children are the future leaders? What would be the impact of this menace on the girl child who matures very rapidly, and what will be the state of Sierra Leone if education system continuously to fall? Though the development of any country depends on the educational status of her citizen, no much research has been conducted in Sierra Leone to ascertain the impact Ebola on the overall educational system of Sierra Leone, hence, the thrust of this study. It is hoped that the result of this study through light on the educational status of the country without any prejudice; and that the findings will be useful to the government of Sierra Leone, donor agencies, NGOs and all well meaningful people who have Sierra Leone at heart for the after-Ebola planning and reconstruction. It will also be essential to other countries in the sub-region and the globe as a preventive measure.

PURPOSE & OBJECTIVES OF THE STUDY

The study aimed at investigating the effect of Ebola outbreak on the educational system in Sierra Leone, more especially how this affected the girl child education in the country. To achieve this, the research was guided by four main research questions as follow:

1. What were the factors that caused the rapid spread of Ebola throughout Sierra Leone;
2. Which set of students were highly impacted by the Ebola outbreak in the country;
3. In which major ways did the Ebola outbreak affect girl child education in Sierra Leone; and
4. What are the perceptions of students on the impact of Ebola outbreak on the educational system in Sierra Leone?

METHODOLOGY

Study Area

The study was conducted in four Districts of Sierra Leone – Freetown in the Western Area, Kambia in the Northern region, Kenema in the Eastern Region, and Moyamba District in the Southern Region of Sierra Leone. These Districts were chosen because their strategic location in the country and the pattern of Ebola breakout in them (was the hard hit).

Freetown

Freetown is the capital City of Sierra Leone. It is found in the Western area of Sierra Leone where all ethnic groups are found. It contains the largest portion of the population of the country. Western Area is bounded to the West by the Atlantic Ocean, to the North and North-east by Port Loko District. It is bounded to the South by Moyamba District. Western Area is accessed by air, sea and road. Freetown, which is the capital city is peninsula and is accessed by road through Waterloo from the provinces. Western Area is divided into Western Rural and Western Urban. The Eastern Rural has a land area of 544 km² with a population of 174,249 people, while Western Urban has a land area of 13 km² with a total population of 772, 873 people (SSL, 2004).

Kambia District

Kambia District is a district in the Northern Province of Sierra Leone. Its capital and largest city is the town of Kambia. As of 2010, The District has a population estimated at 313,765 (SSL, 2004). Kambia District borders the Republic of Guinea to the north, Port Loko District to the south and Bombali District to the east. The district provides an important Trade route to or from the Sierra Leonean capital Freetown to Guinean capital, Conakry. The District occupies a total area of 3,108 km² (1,200 sq mi) and is divided into 7 Chiefdoms namely, Bramaia, Gbinleh-Dixing, Magbema, Mambolo, Masungbola, Samu and Tonko-Limba. The district is largely Muslim and its population is ethnically diverse. The Sierra Leonean Susu people are mainly based in Kambia District and they form one of the largest ethnic groups in the district. In this District, the Ebola outbreak was greatest and the disease stayed longer in this District than most of the other Districts in the country.

Kenema District

The second District that was severely affected by Ebola outbreak District. Kenema District is in the Eastern Province of Sierra Leone. It is located 7°50'N 11°10' W and it lies 200 miles east of Freetown and 42 miles to Bo. The district is the most populous district in the Eastern province with a population of 545,327. Kenema District has an area of 6,053 km² (2,337 sq mi) and comprises sixteen chiefdoms. Kenema District comprises of 16 chiefdoms-. Dama, Dodo, Gaura, Gorama, Kandu Leppiama, Koya, Langurama, Lower Bambara, Ngorahun Tunkia Niawa, Nomo, Nongowa, Wando Malegohun, Simbaru, and Small Bo. The estimated population of Kenema District of 515,461 (SSL, 2004). Kenema District has 30 FFS with membership population of 877 (MAFFS, 2012).

Moyamba District

Moyamba District is in the Southern Region of Sierra Leone. It is about seventy five miles (120 kilometers) away from the capital city, Freetown. Moyamba District is bounded to the North by Tonkolili District; to the south by Bo District; to the southwest by Bonthe District and to the West and North-West by the Mabam River. The entire district comprises of fourteen (14) chiefdoms: Bagrewa, Bumpeh, Dasse, Fakunya, Kagboro, Kaiyamba, Kamajei, Komoro, Kori, Kowa, Lower Banta, Ribbi, Timindeh, and Upper Banta chiefdoms. The district has a population of approximately 261, 000 with a total area of 6,902km² (SSL, 2004).

Sample Size and Sampling Technique

The sample frame of the study was a list of all students who have been severely affected by the Ebola outbreak in the entire country. An up-to-date list of these students was sought from the Ministry of Ministry Education Science and Technology (MEST) from each Headquarter Offices in each District. The sampling procedure was a combination of purposive, stratified and simple random sampling techniques. The sampling aimed at selecting eligible persons with equal probability and the sample was selected from the four Districts. The first step in the multi-stage sampling technique was a purposive selection of four Districts out of the fourteen Districts in Sierra Leone. These four Districts were purposively selected because they are the most important Ebola affected Districts and do not share similar cultures. The second stage of the sampling procedure consisted of purposive selection of sections of each District where Ebola hard hit. The third stage was characterized by the purposive random sampling of communities from these Districts where students have been severely affected. The lists of these communities were provided by MEST, the Ebola Task Force Team and MSF Officers in each of the Districts. The fourth stage comprised of selection of household where Ebola outbreak affected students were. The fifth stage involved a purposive selection of 400 students from the communities within the Districts. The Individual students were selected using simple random sampling technique. All the names provided by local authorities, MEST, MSF, and the Ebola Task Force in all the four Districts were numbered serially. All evenly numbered names were then selected until the required sample size of 400 students was obtained.

Research Instrument

The instrument for data collection for the study consisted main of semi structured and structured questionnaire, consisting of for subsections based on the objectives of the study. Section A collected information on the factors that caused the rapid spread of Ebola throughout Sierra Leone, while section B solicited data on the set of students severely impacted by Ebola outbreak in the country. Section C gathered information on the major ways the Ebola outbreak affect girl child education, and Section D sought out information on the perceptions of students on the impact of Ebola outbreak on the educational system in Sierra Leone. The instrument for data collection was subjected to pre-test in Bombali District, which was not part of the sample, while

validity and reliability tests were carried out. Validity test included face validity and content validity.

Face validity

The validity of the instrument was tested by 5 experts from the Ministry of Health (MOH), Ministry of Education Science and Technology (MEST), and other line Ministries, MSF, and other NGOs implementing Education programmes in the country, and Extension, and Agricultural Economics Departments of Njala University. The face validity of the instrument was measured by the experts who confirmed that the questionnaire contained items that would solicit the intended response on the effectiveness of farmers associations in facilitating clientele participating in agricultural development programmes in Sierra Leone. Also, the experts reviewed the items of clarity and ensured all that could confuse respondents and research assistants were removed. The construct validity was ensured by correlating the score of test administration of the instrument with that of another one with high level of construct using Pearson Product Movement Correlation. A correlation of the test scores of the two instruments on the 5 farmers gave a correlation coefficient of 0.77. This was significant at $p < 0.05$. This indicated that the instrument clearly measures appropriately the same construct measured with other instrument. Only students who would not constitute part of the final study were used in this construct.

Reliability of the Instrument

A pilot study was conducted to validate the questionnaire and to confirm the feasibility of the study. Thus, the questionnaire was subject to a pilot test conducted with 5 farmers and 5 extension agents in Kambia District which was not included in the survey. Cronbach's Alpha test was applied to test the reliability. Only elements with alpha value of 0.75 or above are considered (Nunnally, 1978). For all the variables Cronbach's Alpha value is 0.843 (at 0.5 levels) which shows the internal consistency of the scales. This also elucidates that the statements in the questionnaire were understood by the sample respondents. The quality of the questionnaire was ascertained and the test showed high reliability. Based on the pilot study the questionnaire was reviewed and modified duly to bring out responses from the sample women beneficiaries.

Data Collection

The Field work took place between 1st September and 15 November, 2015. A triangulation of qualitative and quantitative data was collected for this study. The data of this study were therefore collected by employing a number of data collection techniques. The techniques used were meant to reinforce each other and to enhance the reliability of the data. Both primary and secondary data were collected. Secondary data were information from the literature, official documents, library materials, internet, and textbooks. Primary data was solicited through administration of questionnaire, direct observation, focus group discussion, and key informant interviews. Prior to the fieldwork, researchers made several visits to the study area to: i) acquaint themselves with the Stakeholders (Students, Teachers, MEST and MSF workers, etc) and the situation on

the ground. ii) To have an informed consent of the MEST officers, Teachers, MSF and the Ebola Task Force Workers and also inform the community people about the purpose of the study.

Before the start of the field exercise, 10 research assistants, who were very familiar with the cultures of the study area and who well understand and speak the language of the people, were trained on how to administer the questionnaire. Each research assistant was given a field notebook, pencil, pen, and eraser. They were also instructed to write down any information and observation made that will be very essential for the accuracy of the study. Forty questionnaires were entrusted to each of the research assistants. These were coded and assistant researchers were asked to write the name of the community, and the respondents on each questionnaire. Interviews lasted between 35-40 minutes. In addition to interviews, direct observations were made during the administration of questionnaires. Focus group discussions too were held with key stakeholders including local leaders, MEST officers, MSF workers, Ebola Task Force Workers, Teachers, and students. Four focus group discussions and key informant interviews were held in the four Districts to collect qualitative information for the study and to verify responses from questionnaires. The authors supervised assistant researchers and collected all completed questionnaires very day. At the end of the fieldwork, all the questionnaires were put together and checked for uncompleted or not properly completed forms. During data collection, informed verbal consent was directly asked from respondents before interview.

Data Analysis

All data collected from the study area as in the questionnaire, focus group discussion, in-depth interviews and observation reports, were verified, coded and then analyzed. Quantitative data was processed, coded and analyzed using Statistical Package for Social Sciences (SPSS) program version 20. The results were presented by the use of descriptive statistics namely frequencies and percentages frequencies. Qualitative data were transcribed and subsequently theme and sub-themes derived. The themes and sub-themes were then presented as they emerged.

RESULTS

1. Factors that Caused the Rapid Spread of Ebola Virus Disease and Death in Sierra Leone

Table 1 presents the factors that caused the rapid spread of Ebola and death throughout the Sierra Leone. The Table revealed that 8.5% of the mentions pointed out to no medicine for curing Ebola, causing people to avoid going to hospitals for Ebola treatment, while ignorance or lack of knowledge about Ebola Virus (6.3%) as major cause of the rapid spread of, and the huge death incurred from the Ebola disease. Also, poverty and police taking bribe at checkpoints (5.8%), the overwhelming number of corpses to bury on daily bases by the Ebola Burial Team (5.3%), and death, associated with mysterious causes and resorted people to traditional healers and sorcerers (4.8%) were mentioned as

causes of the rapid spread of, and death incurred from Ebola disease outbreak in the country. Furthermore, struggle for power and fight for supremacy among those charged with decision-making responsibility (4.5%) spraying patients with strong, disproportionate concentrated chlorine (4.3%), and distrust and lack of confidence in the politicians (4.0%) were mentioned as the fourth set of causes of rapid spread and huge death incurred from the Ebola disease outbreak in Sierra Leone. Outright denial of the existence of the virus, alleging that politicians have cooked up the idea of Ebola, commercial motorbike riders, dishonesty in recounting the true nature of the illness in hospitals or with traditional healers, scoring (3.8%) each, relatives take the risk of burying their dead without protective gears, distrust of nurses in government hospitals by the social populace (3.3%

each) were next mentioned causes. Ill equipped and impoverished medical health care and infrastructures, politicization and tribalism, frequent transfer of Ebola Patients from one district to another, and callousness of some victims who maliciously infect others (2.8%) each were the second last mentioned set of major causes of the rapid spread of Ebola and the huge death of the disease in Sierra Leone. Shortage of ambulances to commute the blood samples of Ebola suspects and positive patients, Disgusting sight of the decomposing bodies of their relatives, some people die in the quarantined homes, not of Ebola but of starvation, High level of sabotage by some/group of individuals derailed the efforts of fighting outbreak, each scoring 2.3%).

TABLE 1: Factors that caused the rapid spread of Ebola and Death in country

Factors that caused the rapid spread of Ebola and Death in country	Mentions	
	No.	%
Ignorance or lack of sufficient knowledge about the Ebola virus	25	6.3
Ill equipped and impoverished medical and health care and infrastructures.	11	2.8
Shortage of ambulances to commute the blood samples of Ebola suspects and positive patients	10	2.3
Disgusting sight of the decomposing bodies of their relatives	10	2.3
Relatives take the risk of burying their dead with unprotected means available to them.	13	3.3
Deaths, associated with mysterious causes and people resort to traditional healers and sorcerers	19	4.8
Distrust and the lack of confidence in the politicians.	16	4.0
Outright denial of the existence of the virus	15	3.8
Alleging that the politicians have cooked up the idea of Ebola	15	3.8
Poverty and bribe taking at checkpoints by police personnel were overriding factors	23	5.8
Some people die in the quarantined homes, not of Ebola but of starvation.	10	2.3
Cultural beliefs and practices- the washing of corpses.	12	3.0
No medicine for curing Ebola illness –People avoided going to hospital for Ebola treatment	34	8.5
The commercial motorbike riders, commonly (called ‘Okada’)	15	3.8
Distrust of the nurses in government hospitals by the social populace	13	3.3
Spraying patients with strong or disproportionate concentrated chlorine.	17	4.3
The massive politicization of the entire Ebola saga	12	3.0
Politicization and tribalism, and frequent transfer of Ebola Patients from one District to another	11	2.8
Power struggle and fight for supremacy among those charged with making decisions.	18	4.5
High level of sabotage by some/group of individuals derailed the efforts of fighting outbreak.	10	2.3
The callousness of some victims who maliciously infected others	11	2.8
Dishonesty in recounting the true nature of illnesses in hospitals or with traditional healers	15	3.8
The mechanisms put in place for tracing and isolation of Ebola suspects were inadequate	12	3.0
The drive to preserve the dignity of loved ones and the respect for the dead	10	2.3
People disgruntled against the government - heap accusations of poor leadership	12	3.0
Rural communities Reluctance to inform Ebola Response Team of sick people in neighborhoods.	10	2.3
Ebola Burial Team had overwhelming number of corpses to bury on daily bases	21	5.3
Youth and women were already struggling to find decent employment lost the opportunities	21	5.3
Total	400	100

2. Set of Schools and students severely affected by Ebola outbreak in Sierra Leone

Table 2 presents the type of school and sets of students most affected by the Ebola breakout in Sierra Leone. The table revealed that more nursery school pupils in Private School (12.8%) than those affected in Government assisted school (5.3%) and the effect was moderately severe (46.7%), while lower primary school pupils (Classes 1 -3) in government assisted schools (12.7%) were more affected than those in private schools (3.9%) and the level of affection was highly severe (40.0%). The upper primary schools (classes 4-6) in both governments assisted and private schools were equally

affected by the Ebola outbreak with highly severe (40.0%), and moderately severe (53.0%) levels of severity. case. Pupils in JSS 1-2, and JSS3 in Government assistant schools were more affected by Ebola than those in private schools. For these, the level of severity for JSS3, highly severe (50.0%) was higher than that of JSS1-2(43.0%). Pupils in SSS1-3 in private schools (13.0%), with a highly severity (53.0%) were more affected than those in Government assisted schools (9.1%), while pupils in SSS 4 in government assisted schools (9.3%) and those in private schools (8.0%) were at highly severe(55% and 61.8%) levels affected by Ebola. Private Technical and Vocational

students (12.0%) and Teachers Training Colleges (13.7%) were more affected than students in government assisted. Only 9.6% of the students in Poly Technical institutions and

Universities were affected by Ebola, and the levels of affection were highly severe (49.0% and 50.3%) respectively.

TABLE 2: Set of Schools and Students severely affected by Ebola Outbreak in Sierra Leone

Set of Students Severely affected by Ebola Outbreak	Type of School Affected			Level of Severity		
	Mentions (N=2528)	Mentions (N=2072)				
	Government assisted Schools	Private Schools	Not Severe	Moderately Severe	Highly Severe	Don't Know
Nursery School Pupils	135(5.3%)	265(12.8%)	53(13.3%)	187(46.7%)	140(35.0%)	20(5.0%)
Lower Primary School Pupils(Class 1-3)	320(12.7%)	80(3.9%)	45(11.2%)	121(30.3%)	160(40.0%)	74(18.5%)
Upper Primary School Pupils(Class 4-6)	200(7.9%)	200(9.7%)	59(14.8%)	212(53.0%)	121(30.3%)	35(8.8%)
Junior Secondary School (JSS1-2)	300(11.9%)	100(4.8%)	32(8.0%)	175(43.8%)	175(43.8%)	18(4.5%)
Junior Secondary School (JSS 3)	265(10.5%)	135(7.6%)	23(5.8%)	167(41.8%)	200(50.0%)	8(2.0%)
Senior Secondary School (SSS1-3)	230(9.1%)	270(13.0%)	25(6.3%)	184(46.0%)	212(53.0%)	11(2.8%)
Senior Secondary School (4)	235(9.3%)	165(8.0%)	18(4.5%)	190(47.5%)	180(45.0%)	12(3.0%)
Technical and Vocational Students	240(9.5%)	260(12.5%)	13(3.3%)	157(39.3%)	221(55.3%)	9(2.3%)
Teachers Training College Students	117(4.6%)	283(13.7%)	21(5.3%)	132(33.0%)	247(61.8%)	10(2.3%)
Poly technical Institution Students	243(9.6%)	157(7.6%)	17(4.3%)	163(40.8%)	197(49.3%)	23(5.8%)
University Students	243(9.6%)	157(7.6%)	19(4.8%)	157(39.3%)	201(50.3%)	23(5.8%)

3. Major ways Ebola affected Girl Child Education in Sierra Leone

The results of the findings on the effect of Ebola on girl child education in Sierra Leone are presented in Table 3. The Table showed that to a great extent (22.0%) caused increase in teenage pregnancy, to a very great extent (24.5%) girl's dropout from school, and many girls have become bread winners of their homes to a very great extent (27.7%), many

girls lost their parents and became caretakers of their siblings to a very great extent (30.0%). To a very very great extent, many girls died during the Ebola outbreak (39.0%), most could not sit to the external examinations (35.0%), and to a great extent, most of them were highly traumatized (33.0%), while to a very great extent many girls lost their focus in education.

TABLE 3: Major ways Ebola Affected Girl Education in Sierra Leone

Major Ways Ebola Affected Girl-Child Education	Extent of Effect					
	Not Extent	Some Extent	Great Extent	Very Great Extent	Very Very Great Extent	Can't Tell
	No. (%)	No. (%)	No.(%)	No. (%)	No. (%)	No. (%)
Ebola caused increased teenage pregnancy	12(3.0%)	86(21.5%)	89(22.3%)	83(20.8%)	120(30.0%)	10(2.5%)
Many girls dropped out of school	14(3.5%)	100(25.0%)	90(22.5%)	98(24.5%)	89(22.3%)	9(2.3%)
Most girls became bread winners of their homes	2(0.5%)	50(12.5%)	90(22.5%)	110(27.5%)	138(34.5%)	10(2.3%)
Many girls lost their parents and became caretakers of their siblings	21(5.3%)	45(11.3%)	100(25.0%)	110(27.5%)	120(30.0%)	4(1.0%)
Many girls died during the Ebola outbreak	2(0.5%)	28(7.0%)	104(26.0%)	106(26.5%)	157(39.3%)	3(0.8%)
Most could not sit to the external examinations	1(0.3%)	9(2.3%)	130(32.5%)	120(30.0%)	140(35.0%)	-(-%)
Most of them were highly traumatized	3(0.8%)	15(3.8%)	134(33.5%)	120(30.0%)	128(32.0%)	-(-%)
Many girls lost their focus in education	5(1.3%)	45(11.3%)	110(27.5%)	124(31.0%)	106(26.5%)	10(2.5%)

4. Perception of Students on the impact of Ebola on the Education System

Table 4 depicts the perception of students on the impact of Ebola on the educational system in Sierra Leone. The Table showed that Ebola outbreak highly impacted the educational system in the country by causing a lot of school dropout from schools (60.0%0, most school compounds were used as Ebola holding centers, and many students became orphans(50.0%) orphans (50.0%), totally changed the

academic calendar, shortened academic year, halted entire education system, many teachers lost their lives, each scoring 49.5%), and insufficient sensitization on the Ebola disease, and massive student admission into university(48.0%) each. It also perceived to have moderately impacted economic hardship among students (55.0%), students forgetting all they previously learnt in schools (50.0%).

TABLE 4: Perception of Students on the impact of Ebola on the Educational System of Sierra Leone
Level of Severity of Impact

Perception of Students on the Impact of Ebola	No Impact	Moderately impact	Highly impact	Don't Know
	No. (%)	No. (%)	No. (%)	No. (%)
Totally changed the academic calendar	23(5.8%)	178(44.5%)	198(49.5%)	1(0.3%)
Shortened the academic year	12(3.0%)	187(46.8%)	196(49.0%)	5(1.3%)
Caused a lot of school dropouts from school	10(2.5%)	147(36.8%)	240(60.0%)	3(0.8%)
Ebola made many students orphans	15(3.8%)	178(46.7%)	201(50.3%)	6(1.5%)
Ebola caused economic hardship on students	17(4.3%)	220(55.0%)	154(38.5%)	9(2.3%)
Many students forgot what they learnt in school	12(3.0%)	200(50.0%)	168(42.0%)	20(5.0%)
Ebola put the entire education system to a halt	11(2.8%)	191(47.8%)	198(49.5%)	-(-%)
Most school were used as Ebola Holding Centers	-(-)	180(45.0%)	220(55.0%)	-(-%)
Most teachers lost lives during the Ebola outbreak	8(2.0%)	196(49.0%)	196(49.0%)	-(-%)
There was not enough sensitization on Ebola	10(2.5%)	191(47.8%)	193(48.3%)	6(1.5%)
There was a massive admission into Universities	9(2.3%)	180(45.0%)	192(48.0%)	19(4.8%)

DISCUSSION

1. Major Causes of rapid spread of Ebola Disease, and death incurred in Sierra Leone

The study revealed that one of the major causes of rapid spread of the Ebola virus Disease in Sierra Leone was no medicine for curing Ebola, causing people to avoid going to hospitals for Ebola treatment, while ignorance or lack of knowledge about Ebola Virus. When sick people don't attend hospitals, there is a tendency that sympathizer who visits such people can easily catch up the sickness. In this study, most people avoided hospital but resorted to traditional healers, who also caught the disease. They did so because of ignorance and lack of knowledge about the true nature of the disease. This finding is in line with World Health Organization (2014), which described the alarming rate of infection or transmission of Ebola outbreak in West Africa as 'rampant' and that the causes of such an exponential diffusion and transmission of the virus would be attributed primarily to ignorance or lack of sufficient knowledge about the Ebola virus and its modes of human to human transmission. Richmond and Baglole (2003) also observed that people don't go to medical facilities because they fear that, especially when they say they have Ebola, they will be given injections to kill them. The study further showed that poverty and police at checkpoints taking bribes were other major causes of rapid spread of Ebola and the huge death experienced in the country. Where there is high level of poverty, people become corrupt and will do

anything to survive. The finding of this study confirms WHO's (2015) that in Sierra Leone, a localized health emergency escalated into a major crisis due to a weak health system compounded by poor provision and access to basic public services. The crisis also highlighted the countries' infrastructural weaknesses, including inadequate provision of water, sanitation, electricity and education. With poor roads and bridges and high cost of transport, all these factors helped to aggravate the difficulties of responding to the epidemic quickly and efficiently. Ebola burial team also had overwhelming number of crops to bury on daily basis. This caused many dead to remain in houses for more than a day or two before they were buried. In such situation, people easily come in contact with the dead body, which later cause then to later spread the disease.

According to Word Bank (2014), people attribute those deaths from Ebola Virus Disease to witchcraft, sorcery, generational curses, demonic attacks and some even say it is the wrath of God falling on the nation in order for us to turn our hearts back to God. The findings of this study confirmed that of World Bank Report. The findings of this study also revealed that Ebola Burial Team had overwhelming number of corpses to bury on daily basis. Where a group of few people are empowered for burying corpses, the burden may be so much that would be unable to completely the task within short times. This study indicated corpses were left in homes for more than a day or two, putting lives of households at risk. The local people were not in cooperated

into these burial teams, causing them to secretly burying their dead relatives without any protected clothing or even caring for the sick patients. This findings subscribes to the work of Kuni *et al.* (2001) who found out that in the case of Ebola, research in Gabon around three outbreaks between 19994 and 1997 identified arrange of problematic practices, including family members remaining close to the patient to nurse him/her; hugging and torching the dead at funerals, and traditional healers' treatment such as cutting a patients' skin with unsterilized knives and applying blood to the skin. The study further showed that people were disgusted with the way Ebola Burial Teams were disposing dead bodies of their relatives. This finding is in line with Hewlett and Hewlett's (2008) findings that documented in detail which, and how, particular aspects of the response strategies caused local anxiety. Particularly, significant were the prevention of people's ability to carry out customary burial practices, and the hiding of sick and dead relatives in tarpaulin isolation units, which led people to suspect that, their body parts were being stolen. These particular instances which incited worry and resentment interplayed with a broader disgust of international teams, 'parachuted' in from outside. People who are infected with Ebola but not showing symptoms cannot spread Ebola to other people until after they begin to have symptoms. It is also possible that Ebola virus can be spread through the semen of men who have survived Ebola (Yamin *et al.*, 2015).

People who are living in or travelling to affected areas of Africa may be at risk of infection. The risk of infection with EVD is extremely low, unless there has been direct exposure to the blood or bodily fluids of an infected person or animal, alive or dead, including unprotected sexual contact with people who have had a diagnosis of EVD confirmed, up to three months after they have recovered. Also people who are travelling in affected countries and who feel unwell should seek immediate medical attention. Those who have returned from travel in affected countries and feel unwell should seek immediate medical assistance and should tell their doctor they have been in West Africa, or mention if they know they have been in contact with someone who has had Ebola (Better Health, 2015). The findings of this study indicated that commercial motorbike riders, who transport people from one point to the other have been the major cause of the rapid spread of Ebola within the country, ascribing to the findings of Better Health's (2015) results. Family and other caregivers are important sources of protection and emotional support for children. Those separated from caregivers (e.g., orphans because of Ebola) may find themselves in unfamiliar places and around unfamiliar people during an Ebola disease outbreak. They may be very fearful and may not be able to properly judge the risks and danger around them. In hindsight, it appears that the rapid spread of the disease was also due to major shortcomings in governance, social cohesion and missed opportunities to exploit the benefits of sub-regional collaboration despite the existence of the Mano River Union (WHO, 2015). The author further stated that in Sierra Leone, a localized health emergency escalated into a major crisis due to a weak health system

compounded by poor provision and access to basic public services. The crisis also highlighted the countries' infrastructural weaknesses, including inadequate provision of water, sanitation, electricity and education. With poor roads and bridges and high cost of transport, all these factors helped to aggravate the difficulties of responding to the epidemic quickly and efficiently. The findings of this study are similar to the findings of UNICEF and WHO, where Shortage of ambulances to commute the blood samples of Ebola suspects and positive patients.

2. Set of Schools and Students severely affected by Ebola Outbreak in Sierra Leone

The school and the society are knitted together in such a way that whatever affects the society will invariably affect the school. When there is social unrest in the society, the school attendance may be affected. Koma *et al.* (2013) stated that school cannot be divorced from the society when the society is peaceful and calm, the school will also witness a high degree of peace and commitment. Any epidemic in the society will adversely affect the school as no school can open in the face of such epidemic especially when it is contagious. In this study, both Governments assisted, and private owned schools were severely affected by the Ebola outbreak in Sierra Leone, and in most cases, students in the private schools were severely affected that pupils in private schools. The World Health Organization (2014) reported Ebola killed seven out of 10 victims in Africa and new cases could hit 10,000 a week within two months if it's not brought under control. The findings of this study revealed that that from nursery school pupils to University students were either moderately or highly severely affected by the Ebola outbreak, which confirms the findings of Koma, *et al.* 2013's and WHO, 2014's findings. The study further revealed that most students in the B.E.C.E. and W.A.S.S.E could not take the external examination any longer, even though it was conducted late in 2015, and that those who attend government assisted school s were more highly severely affected in that case. Those are so because those of these students either died or never went back to school. Students who were also in Technical vocational institutions, Teachers Training Instructions, Poly Techniques and universities were also highly severely affected by the Ebola breakout. According to United Nation Development Programme (UNDP, 2015), the education of an estimated five million children and youth has been set back, as schools did not re-open at the start of the new school year in September 2014. It further reported increase in adolescent pregnancies during the outbreak has been attributed largely to the closure of schools. On the whole Ebola affected all carder of students in the country.

3. Major Ways Ebola Affected Girl Child Education in Sierra Leone

According to UNICEF (2015), thousands of children (up to 17,000 by February 2015,) have been registered as having lost one or both parents or their primary caregivers as a result of Ebola. The report further stated that the Non-Ebola-related morbidity and mortality, including infant and maternal mortality, also increased as resources were diverted

to fighting the virus and people avoided seeking health care, given the perceived risk of infection in health facilities. The impact of prolonged school closures in a region with some of the lowest education indicators in the world is dire. The outbreak has negative consequences on the availability of teachers, safety of school premises, vulnerability of girls and women and, in the longer term, the ability of affected countries to accelerate economic and social development through education (WHO, 2014). The findings of this study indicated that most girls dropped out of school either because they lost their parents or got married and were taking care of their siblings, which confirmed the findings of UNICEF (2015) and WHO (2015). The report further stated that most girls were forcefully married and became pregnant during the Ebola era. This finding subscribed the findings of World Health Organization (2015) that Ebola exacerbated existing problems of child labour, gender-based violence and exploitation of, and violence against, women and children.

The findings of this study revealed that most girls lost their parents or those you care for them during the Ebola outbreak in Sierra Leone. This findings is in agreement with the PLAN (2015) which stated that older children who have lost parents or who face poverty are likely to take on work and domestic responsibilities, and there is a concern that girls are at greater risk of sexual abuse and early marriage due to the loss of education, greater poverty and loss of caretakers. The author further stated that Orphans and those who have lost caretakers due to abandonment or stigmatization are at particular risk. In addition to the loss of family care, there are lost opportunities for play and socializing, which are important for child development and coping strategies. Children still play, but the quality of play has changed markedly. The closure of schools also removes an important location for child protection. When schools close, children are no longer spending days with peers and teachers in an environment that can provide a level of child protection. The shutdown of wider government services and restrictions on movement (including for international aid workers) in the earlier stages of the outbreak meant that child-protection programmes, where they existed, were no longer providing care to vulnerable children.

4. Perceptions of Students on Ebola Impact on the Educational System in Sierra Leone

The study revealed that Ebola totally changed the academic year. When academic an academic year is altered, educational activities including teaching period, teaching time and workloads (Massaquo, 2011).The author also added circumstances examination or other means of assessing students can be compressed but difficult. This can lead most students to either getting low marks or totally failing examination. The study revealed that Ebola caused a lot of dropouts from school, has been orphaned, and experienced economic hardship. This is in support of UNICEF Report (2015) which stated that many children voiced concern over not being able to return to school because they could not afford to pay their school fees due to the economic impacts Ebola has had on their parents'

livelihoods and household income. Of those raising this concern, some were orphans who had lost the family breadwinner. A few children reported not knowing if it was possible to return to school as they were now working to provide income for their families, and felt their parents may prioritize work over education. A common theme that arose around returning to school was the concern about poor hygiene facilities. Children did not feel schools had sufficient hand washing points or clean water to enable them to maintain good hygiene practices. In particular, adolescent girls reported concerns about the lack of sanitation facilities at schools (UNICEF.2015). The report continued that Ebola has created enemies among community members who are now suspicious of each other and that children can only protect themselves from Ebola by observing all the rules for interacting with people. The economic impact of the outbreak on the household was raised across all groups of children, with many reporting there not being enough money or enough food at home.

CONCLUSION

Many factors were responsible for the rapid spread of Ebola Virus Disease throughout Sierra Leone. Some of these factors included lack of sufficient knowledge on Ebola, poverty and bribe taking at check points, no medicine to cure Ebola illness, Ebola burial team overwhelmed with corpse to burry on daily basis, deaths associated with mysterious causes, and acute shortage of ambulances for conveying Ebola patients from one district to another. All Government assisted schools and private schools were affected the Ebola Virus Disease. From nursery school pupils, JSSS1-3 students, SSS1-4 students, technical and vocational student, poly techniques, Teachers Training Colleges, and University students all were severely affected by the disease breakout. Many students in the external examination classes in these institutions never took their examinations. Many girls were highly severely affected by Ebola outbreak. Most of them became pregnant, dropped out of school, became breadwinners of their homes, while others were forcefully married, others still could not go back to school because of the economic hardship they face. The students perceived that Ebola totally changed the academic calendar , shorten the school year, increased school dropouts, most school compounds were used as Ebola holding Centers, indicating that Ebola affected the educational system of Sierra Leone in different ways.

RECOMMENDATIONS

From the findings and conclusion, the following recommendations are made:

1. The Government and other humanitarian organizations should help in the rehabilitations of not only the government assisted schools but also the private schools.
2. The post Ebola rehabilitation and reconstruction should highly consider the girls, those who are orphaned, those forcefully married and those that became pregnant during this disease outbreak.

3. Government through the Ministry of Education Sports and Technology and all NGOs should afford to assist all school –age children for at least the next five years by offering them scholarships.
4. Ebola virus disease surveillance should be incorporated into the school curriculum so that knowledge about it can help promote its prevention and control.

REFERENCES

- Better Health disease (EVD) (2014) Channel Ebola virus: [Available at]: https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/ebola-virus-disease-evd?view_as_pdf=true
- CDC (2010) Known Cases and Outbreak of Ebola Hemorrhagic Fever, in Chronological Order. Available at: <http://www.cdc.gov/edc.gov/nciidod/dvrd/spb/mnpages/display/ebola/ebolatable.htm>[Accessed 13/11/2012].CDC. Special Pathogen Branch.
- Childinfo (2014) Global Education Cluster, UNICEF). Education Actors [Available from]: www.ineesite.org/en/crisis-spotlights/ebola-west-africa
- Government of Sierra Leone (GoSL) (2014). *National Communication Strategy for Ebola Response in Sierra Leone*. Freetown: GoSL. [Access from]: <http://www.mamaye.org.sl/en/evidence/national-communication-strategy-ebola-response-sierra-leone>
- Hewlett, B. & Hewlett, B. (2008), *Ebola, Culture and Politics: The Anthropology of an Emerging Disease*, Wadsworth Books: Kentucky USA.
- Koma, T., Huang, C., Kolokoltsova, O.A., Brasier, A.R. and Paessier, S. (2013) Innate Immune Response to arenaviral injection: a focus on the highly pathogenic New World hemorrhagic arenavirus. *J. Mol. Bio.* 425, 4893, 489-4903.
- Kunii, O., Kita, E. and Shibuya, K. (2001) 'Epidemics and Related Cultural Factors for Ebola Hemorrhagic Fever in Carbon', *Japanese Journal of Public Health*, 14(6): 641-6.
- Lashley, F. & Durham (2007) *Emerging infectious diseases: trend and issues*. New York, NY: Springer Publishing Company.
- Leach, M. (2008) *Haemorrhagic Fever in Africa: Narratives, Politics and Pathway and Responses*, STEPS working Paper 14, Brighton: STEPS Centre.
- Massaquio, S.B. (2007) *Challenges of Educational Delivery in Junior Secondary Schools in Bo Post War Sierra Leone*. Unpublished M.Sc. Thesis, Njala University, Bo Campus.
- Yamin, D. Gertler, S. Ndeffo-Mbah, M. L. Skrip, L. A. Fallah, M. Nyenswah, T.G. Altice, F. L and Galvani A.P (2015), *Effect of EVD Progression on Transmission and Control in Liberia*. *Ann Intern Med.* 6 January 2015; Vol. 162(1) :734-5
- Plan (2015) *Young lives on lockdown: The impact of Ebola on children and communities in Liberia*. Thrived from: file:///C:/Users/Admi/Downloads/2014_young_lives_in_lockdown_executive_summary_en.pdf
- Nunnally, J.C. (1978) *Psychometric theory* (2nd ed.). New York, NY: McGraw-Hill.
- Richmond, J.K. & Baglole, D. (2003) *Lassa Fever. Epidemiology, Clinical Features, and Social Consequence* 'British Medical Journal', 327(29):127.
- Statistics Sierra Leone (2004) *Sierra Leone Housing and Population Census Report, 2004*. [Available from]: www.statistics.sl/2004_population_and_housing_census.htm
- United Nations Development Programmes (UNDP) (2015) *Ebola Response and Recovery | UNDP in Sierra Leone* [Accessed from]:www.undp.org/.sierraleone/2015/ebola-response-and-recovery-.h
- UNICEF (2015) *Impact of Ebola*. Retrieved from: http://www.unicef.org/emergencies/ebola/75941_76129.html.
- UNICEF (2015) *Sierra Leone EVD Weekly SitRep 21 Jan 2015*[Available at] [UNICEF+\(2015\)+Sierra+ Leone+ EVD+ Weekly+SitRep+21+Jan+2015&aq=UNICEF+\(2015\)+Sierra+Leone+EVD+Weekly+SitRep+21+Jan+2015&aqs=chrome..69i57.6763j0j7&sourceid=chrome&es_sm=93&ie=UTF-8](http://www.unicef.org/emergencies/ebola/75941_76129.html)
- World Bank (2014) *Group Report Shows Growth Shrinking, Economic Impact Worsening in Guinea, Liberia, and Sierra Leone: December 2, 2014*
- World Bank (2014). *The Economic Impact Of the Ebola Outbreak*. Washington. Available from: <http://www.worldbank.org/en/news/press-release/2014/08/04/ebola-world-bank-group-mobilizes-emergency-funding-for-guinea-liberia-and-sierra-leone-to-fight-epidemic> [Accessed: 29th August 2014]
- World Health Organization (2007) *A Safer Future: Global Public Health Security in the 21st Century*, The World Health Report 2007, Geneva: WHO.
- World Health Organization (2014) "Ebola Response Roadmap" 28th August, 2014
- World Health Organization (2014) *Ebola virus disease, West Africa – update 19 August 2014*. Available from:<http://www.afro.who.int/en/clusters-a-programmes/dpc/epidemic-a-pandemic-alert-and-response/outbreak-news/4258-ebola-virus-disease-west-africa-19-august-2014.html> [Accessed: 29th August 2014].