Original Article

ANTIRETROVIRAL MEDICATION ADHERENCE DURING THE EBOLA EPIDEMIC IN SIERRA LEONE

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ABSTRACT

The 2014 Ebola outbreak is the largest in history and the first in West Africa. The outbreak affected multiple countries in West Africa. Worldwide, there have been 28,639 cases of Ebola virus disease and 11,316 deaths at 13 March 2016 in the world's worst recorded Ebola epidemic in Guinea, Liberia, and Sierra Leone.

In 2002, the National Plan for HIV and AIDS was approved by the Government of Sierra Leone. The Strategic Plan and the associated guidelines included Prevention of Mother-to-Child Transmission (PMTCT) and the provision of Antiretroviral Treatment (ART).

During the Ebola outbreak in Sierra Leone, there has been a strong suspicion that people avoided the premises for drug administration such as hospitals, clinics and Community Health Centres. Health care service providers were terrified and reluctant to deliver services at the initial stage of the epidemic because of fear of becoming infected with Ebola, a time when the resources needed to prevent transmission were not available in country.

This study was carried out to establish ART medication adherence during the Ebola outbreak. A cross sectional study in both the community and institutions was carried out at four locations within Government Hospitals, support groups and youth service centres. The four sites represented the Western, Southern, Eastern and Northern regions of the country.

Semi-structured interviews and focus group discussions were carried out among People Living with HIV & AIDS (PLHA).

The study found that 90% of PLHAs missed at least one month's supply of ARV drugs thus indicating an adherence rate of 10%. The study also established that about 50% of PLHAs on ART failed to collect their drugs due to fear of the mounted checkpoints where temperatures of people were taken or fear of the diseases itself.

Keywords: ART, Adherence, HIV, Ebola, Sierra Leone

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BACKGROUND

The 2014 Ebola outbreak is the largest in history and the first documented Ebola outbreak in West Africa(Ansumana et al. 2016). The outbreak affected multiple countries in West Africa. A small number of cases were reported from Nigeria with a man from Liberia who travelled to Lagos and died from Ebola but an epidemic was prevented due to the rapid response of the Health Authorities in Lagos and Port Harcourt(Ohuabunwo et al. 2016).

The outbreak had several impacts on healthcare service delivery including under-five vaccinitions, TB control and HIV antiretroviral treatments (Ansumana et al. 2016).

HIV which was first reported in Sierra Leone in 1987(NAS/MOHS 2002) prior to the Sierra Leonean civil war, gradually became a threat to the social and economic development in the country. The Post-conflict environment, population movement, prostitution, high illiteracy rate, low level of condom use and early start of sexual activities added to the determinants present in the country with the potential to aggravate the spread of HIV infection.

In 2002, the Government of Sierra Leone approved the National Plan for HIV and AIDS. The Strategic Plan and the associated Guidelines included Prevention of Mother-to-Child Transmission (PMTCT) and provision of Antiretroviral Treatment (ART) free of charge(NAS/MOHS 2002). Adherence to ART was a critical component for a successful implementation of the Government initiative.

In adherence, the patient agrees to follow the instructions on drug regimen as prescribed by the health provider as well as comprehensive care. The quality of the relationship between the patient and the care provider greatly influences adherence to medication. A trusting, open, and nonjudgmental relationship improves the likelihood of strict adherence to prescribed medications. Non adherence or inconsistent adherence results in low therapeutic blood levels fostering drug resistance (Gardner et al. 2010).

Concerns about adherence are understandable. Adherence to antiretroviral drugs should ideally be over 95 per cent. When people miss doses of their medication, HIV develops resistance to the medications, people's conditions worsen and they are likely to die. Drug resistant HIV is also likely to develop in communities. Adherence can be described as, "an engagement and accurate participation of an informed patient in a plan of care" (DiMatteo et al. 2002)

During the Ebola epidemic, there was a strong suspicion that PLWAs avoided the premises of drug administration such as hospitals, clinics and Health Care Workers (HCW). The HCW on the other hand were terrified and reluctant to deliver services at the initial stage of the epidemic for fear of becoming infected with Ebola. The immediate consequences of Ebola among HCWs, especially when occurring in clusters of individual facilities, were the closure of health facilities, loss of routine services, grief and fear among HCWs and public mistrust of HCW work force to provide health services (WHO 2015).

The main aim of the study was to assess the ART adherence among PLHAs during the Ebola epidemic in Sierra Leone.

METHODS

The study was carried out in four Government Hospitals located in Freetown, Bo, Kenema and Makeni. The four sites represent the Western, Southern, Eastern and Northern regions respectively. These four sites were selected because there were support groups and/or established organizations through which People Living with HIV and AIDS (PLHAs) including ART clients were easily accessible. Two hospitals

providing ART services, three support groups, two voluntary community care treatment centres (VCCTC) including a youth centre, were targetted. A total number of 90 ART users were interviewed and 30 healthcare service providers.

The study was undertaken using semi-structured interviews. A topic guide was developed. One set of questions and topics was targeted at officers and health service providers. The questions were directed towards the rate at which the ART patients collected ARVs during the Ebola outbreak and reasons of their failure to come for their supplies. Records for ART supply were also observed. Another set focused on ART clients directed towards the frequency of ARV drug collection during the outbreak, possible reasons for failing to collect drugs on time and the time the last supply was taken from the providers.

Focus group discussions were held with groups of ART clients. Most of the members of the PLHA support groups involved in the assessment were ART clients trying to discuss most of the questions in the questionnaire. The leaders of the AIDS support groups and programmes preferred that discussions be scheduled on the day, time at the location where the support groups normally held their periodic group meetings. This was done to make sure that a representative group of ART clients was available and also not to disrupt the routine operations of the support groups. In several instances, these were also PLHAs working for the organizations who had taken the initiative in working with the groups and who served as focal persons in organizing home visits and facilitating therapy sessions. The discussion sessions typically lasted between 45-90 minutes. Consent to record the proceedings was sought from relevant institutions and individuals. All interviews were conducted in 'krio' (widely spoken pigeon English) and English.

Information from the focus group discussions and in-depth key person interviews was analyzed based on the question guide to capture the key points emerging from the discussion on each topic. Key points covered the full range of opinions expressed in the discussion and represent both the most common comments from participants as well as any significant differences that emerged. Examples, notable quotes or memorable comments of particular interest from participants that illustrate key points are included in the results.

RESULTS AND DISCUSSIONS

Results show that about half 47% (42/90) of PLHAs on ART failed to collect their drugs due to fear of the mounted Ebola checkpoints where temperatures of people were taken and from fear of contracting the disease in a healthcare facility(Fig.1) These were clearly indicated by both the patients and the care providers during the focus group discussions. Other reasons for not collecting ART included lack of transport (21%) and lack of food (16%).

A young lady from the Centre for Encouraging, Caring and Supporting HIV People (CECSHIP) group in Kenema said: ''*I failed to collect my drug supply from the hospital because health care providers were looking for all ill people''.*

Up to 90% of the PLHAs (on ART) failed to collect their monthly drug supply at least for a month. About 28% failed to collect drugs for one month, 24% for two months and 15% up to three months. This was clearly expressed by the health care providers in the focus group discussions(Fig 2).

A nursing mother on ARV from a village about three kilometers from Bo said: *''My real fear for not going to collect drug supply for more than two months during the Ebola period was the check points where temperature taken for everybody was done- I always feel hot within myself''.*
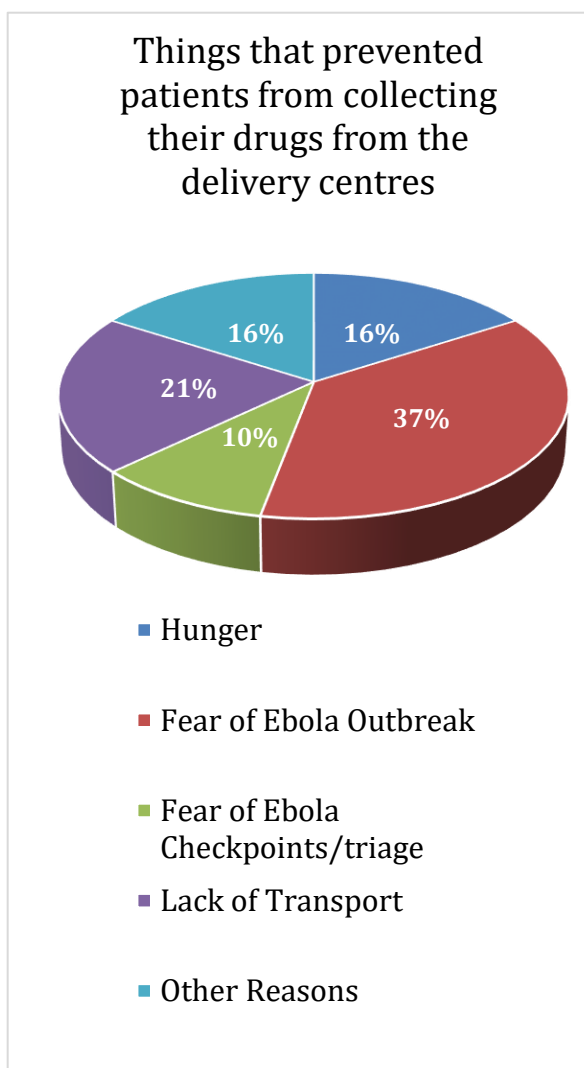

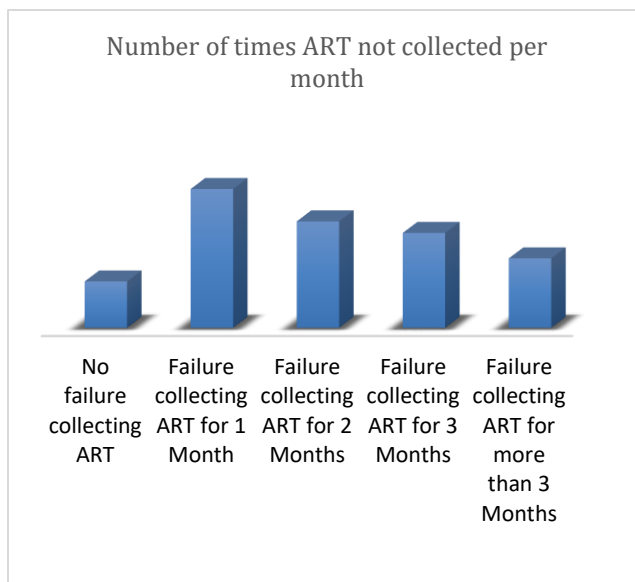Fig.1: Impediments to ART During Ebola

Fig 2: FAILURE IN ART COLLECTION PER MONTH

The monthly attendance for ART in 14 months during the study showed a decline in attendance during the peak of the EVD outbreak in Sierra Leone(Fig 3a and 3b).
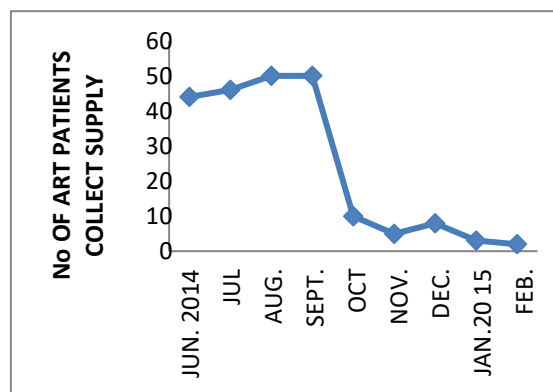
Fig. 3A: Monthly ART Attendance

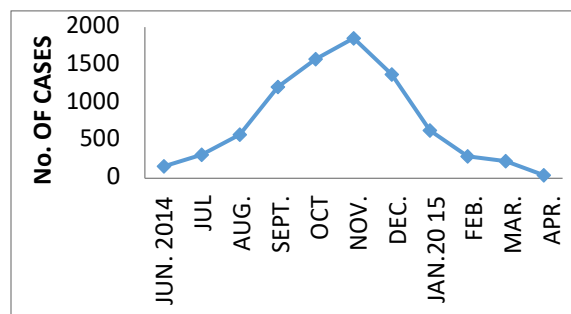Fig. 3B: Sierra Leone Ebola Epi Curve

Fig 3A shows that there was a gradual increase in drug collection before the outbreak and in the few months into the outbreak period. Control measures including movement of people started in the months of August and September of 2014, when road blocks were put in place and temperature taking of all moving through the check points started. The screening or triage process established at health institutions, hospitals and clinics also started at the same time. The graph indicates a big fall in the drug collection rates at the various care giving points. This is noticed in October and the subsequent months.

Some other reports have cited much greater than 50% reduction in treatment accessibility due to the Ebola outbreak on healthcare systems in Guinea, Liberia, and Sierra Leone(UNDP 2014).

CONCLUSIONS

A marked non-adherence to ART was found among PLHAs during the 2014-2015 Ebola epidemic. About 90% of PLHAs missed at least one month supply of ARV drugs and upto 50% of PLHAs on ART failed to collect their drugs due to fear of the mounted road blocks or checkpoints and the triage systems at health institutions. Other reasons for not collecting ART included lack of transport and lack of food.

The more actions taken to prevent the transmission of the Ebola virus and associated mortality, the more PLHAs avoided the premises of ART supplies. Since there were no optional ways for accessing ART, HIV situations of PLHAs may have been compromised.

Our study demonstrates the need for the introduction of Home-Based Care which may not be affected during any clinical emergencies including disease epidemics. Such measures would prevent non-adherence to ART which has the propensity of causing drug-resistant HIV infections.

Home visits could be done by health care givers to follow-up patients' compliance, side effects of drugs and all other conditions that might develop so that appropriate actions can be taken.

This study had several limitations. First the study was not randomized and the sample size may not be representative of all PLHAs. There was no assessment on the effects of non-adherence to PLHAs.

Despite the limitations, this study provides information that is important for HIV management especially during crisis situations.

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