



Ebola: After the War we have to Prepare Ourselves to Win the Peace

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Editorial

outbreak of Ebola is almost exhausted. is a conspicuous evidence. In the last weeks, no new cases of infection, or very few of them, have been recorded, although there is close monitoring of contacts that could develop the disease, and these are great news.

But the war we will have to handle the "peace" and the war's

And that could be Historically, outbreaks of Ebola, headline grabbers, have involved a small number of victims (318 people in Zaire at 1976; 315 people in Democratic Republic of Congo (DRC) at 1995; 425 in Uganda 2000-2001, 149 in Uganda 2007, and 264 people in DRC at 2007, also) with mortality rates above 50% (except in Uganda at 2007, which was 25%). who survived were very few quantitatively, as those initially were not very numerous.

But now we face a major challenge. More than 28,000 more than eleven thousand deaths. But what is also more important, no less than 17,000 people infected who recovered. individuals require ongoing medical care to manage complications of the infection that may develop recovery.

And here we have two examples of the world.

On October the 9th, it was known that the British nurse Pauline age 39, who had contracted the virus last December when she was working as a care-taker of the non-governmental organization Save the Children in Sierra Leone, had been isolated in a hospital at London it was detected Ebolavirus again in an "unusual late complication related to their previous infection with the Ebola virus". Health authorities claim that it was a remnant of the disease and that there was no danger of contagion, no risk to public health. nurse, however, was in critical condition before starting to recover.

Ian Crozier, 43 years old, an American doctor born in Zimbabwe, was infected with Ebola, while working on a treatment center in Sierra Leone. He was transferred to the USA and underwent 40 days of treatment at the Emory University Hospital. During his recovery, he acute uveitis and very high ocular pressure. Two months his hospital release, Dr. Crozier took a full ocular examination at the Emory Eye Center, which led to removal from inside the eye-a procedure known as "anterior chamber paracentesis." When this removed liquid from eye was tested, viable Ebola virus was found... nine weeks the virus had disappeared from their bloodstream (no viremia). Dr. Crozier was treated with topical corticosteroids and other drugs to reduce his high ocular pressure. His vision has returned to normal from then.

If we come back to our Ebola ground zero (Guinea, Sierra Leone and Liberia), now we must deal even more for those who have

survived. For those who have survived, besides the of some social stigma, health complications may be present in the incoming months or years. An announcement of what is to come can be read in this 2015 study (<http://www.ncbi.nlm.nih.gov/pubmed/25910637>). researchers recruited 49 survivors of the Ebola outbreak of Bundibugyo strain in Uganda (2007) and 223 contacts (relatives or close friends), most seronegative, 29 months the resolution of the outbreak. All of them were submitted to health surveys, general medical monitoring and blood analysis. When calculating the relative risk (RR) of several health complications, researchers found that the survivors have a higher risk of developing ocular problems (4 times increased risk of retro-orbital pain, twice the risk of blurred vision), hearing loss (twice the risk), sleeping and arthralgia (two times more risk, too) that uninfected contacts. In general Bundibugyo Ebola survivors have two times more risk of chronic health problems and times more likelihood to episodes of memory loss or confusion. No were observed in blood samples among both groups; obviously there was no viraemia at that time.

Although the Ebola virus causes an acute infection that resolved with the death of the host or the clearance of the infection, it is evident that survivors can present chronic symptoms that could persist for months or years, some of them of psychological or social nature.

origin of these complications is unknown, but it would probably be a result of tissue damage due to viral replication and the subsequent immune response.

And, coming back to Crozier case, we have to keep in mind that no virus in blood is not necessarily a sign we have clean the virus of our body. Preliminary results of a long-term study on the persistence of the Ebola virus in body (NEJM <http://www.nejm.org/doi/full/10.1056/NEJMoa1511410>) show that some men, nine months the onset of symptoms, can still produce semen containing viral genomes, a fact that was well known and that WHO reported but for shorter periods of time (about 80-90 days). In both cases, far beyond the virus occurrence in the blood (viremia) for which the standard negative threshold was established at 21 days. study indicates that all the sperm from men who the disease less than 3 months before the analysis proved positive (9/9; 100%); more than half of semen samples (26/40; 65%) evaluated from four to six months the onset of disease were positive, while a quarter (11/43; 26%) among those evaluated 7 and 9 months starting their illness also tested positive. It's unclear until now the basis of such

We must not forget, however, that all these positives come from detection of molecular signal by of viral genomes and no one knows if they are really infectious (the tests are being done now). But it is true that the viral genetic material detection several months onset of symptoms is supposed to a continuous, or at least

very recent spread of the virus within the individual and the fact that this individual is still a potentially disease transmitter.

Until more is known, up to 8,000 male Ebola survivors (from a total of more than 17,000 infected who has surpassed the infection) need proper health education, counseling and regular testing so they know whether Ebola virus persists in their semen; as well as health advices or measures to be taken to avoid viral exposure to their mates on bed. Until two consecutive semen analyses (with sampling separated at least 21 days) do not give negative results, it is highly recommended to refrain of all kinds of sexual activities or use condoms when engaged in them. Needless to say that thoroughly hand washing any physical contact with semen also is in the recipe.

We must also mention women ... the Ebola RNA genome has been detected by RT-PCR in the vaginal of a woman 33 days the onset of symptoms ... but live, infectious, virus, has been never isolated from vaginal It's impossible with so few references, know how long the virus currently remains in vaginal if they can be transmitted through sexual acts from women to men.

It will be necessary therefore to extend or make more intensive testing, assign a value to a risk in the sexual transmission of

Ebola virus, possible from men to women, unlikely in the reverse. Although this transmission route seems that didn't play any major role in the present outbreak, it could lead to occasional resurgence, if the detected genomes are infectious.

Ebola virus is highly lethal; those who survive the infection must be considered fortunate. However, once recovered their health status will not be the same as before. cited cases are from the

world, with name and surname, "easy" to follow and to be treated. rest of this editorial deals with anonymous cases with potential transmission and potential quantitatively deeper. While the size of the current outbreak has allowed boosting clinical trials of vaccines and antivirals, we also have to think investigate how to improve the quality of health care for many survivors ... to eliminate or pacify the especially in the Ebola ground zero. survivors do not need compassion, but respect and support. Because what has happened, happens and will happen in the countries, Sierra Leone, Guinea and Liberia, is and will certainly be less controllable, and worse than anything we will see in our vicinity.

But that's another story.