

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/281063489>

Preliminary data on Serosurveillance and Seroprevalence on Ebola Infections in the Northern District of Sierra Leone

Conference Paper · May 2015

CITATIONS

0

READS

78

16 authors, including:



Martin Sanou Sobze

47 PUBLICATIONS 196 CITATIONS

[SEE PROFILE](#)



Vincent Batwala

Mbarara University of Science & Technology (MUST)

35 PUBLICATIONS 567 CITATIONS

[SEE PROFILE](#)



Marta Giovanetti

Fundação Oswaldo Cruz

225 PUBLICATIONS 6,153 CITATIONS

[SEE PROFILE](#)



Gianluca Russo

Sapienza University of Rome

235 PUBLICATIONS 1,000 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Molecular surveillance of emerging pathogens using Bioinformatic and Bayesian Phylogeny [View project](#)



Sanitation, water and diarrheal diseases among children in households in Bamendjou, Cameroon [View project](#)

Preliminary data on Serosurveillance and Seroprevalence on Ebola Infections in the Northern District of Sierra Leone

NADEGE GOUMKWA MAFOPA¹, RAOULWADOUM², MARTIN SOBZE¹, EMMANUEL IWERIMA³, VINCENT BATWALA³, MARTA GIOVANETTI², GIANLUCA RUSSO⁴, ANTONELLA MINUTOLO², PATRICK TURAY⁷, THOMAS B. TURAY⁵, AHMADOU MAGBO⁵, MASSIMO AMICOSANTE², MASSIMO CICCOZZI⁶, GIOVANNI REZZA⁶, VITTORIO COLIZZI², CARLA MONTESANO²

- 1- University of Dschang, Cameroon
- 2- University of Rome "Tor Vergata", Rome, Italy,
- 3- African Union Support to Ebola Outbreak in West Africa (ASEOWA)
- 4- University of Rome "La Sapienza", Rome, Italy
- 5- Partner Relief Development, Freetown, Sierra Leone
- 6- Italian Institute of Health – ISS, Rome, Italy
- 7- Holy Spirit Hospital, Makeni, Sierra Leone

More than one year on, the hold world is under the pressure of what is known today as the Largest Ebola Virus Disease (EVD) outbreak in West Africa. To assess the real extent of Ebola infection in the District of Bombali, Sierra Leone, we carried out an epidemiological survey and serological analyses among EVD survivors and their household contacts (HHCs), and Health Care Workers (HCWs) from two distinct health structures with no EDV cases. The survey has been authorized by the Ethical Committee of the Ministry of Health and Sanitation of the Sierra Leone, and covered 256 individuals: 68 EVD survivors assisted at Loreto Clinic and leaving in the surrounding of Makeni; 79 HCWs from Holy Spirit Hospital and Loreto Clinic in Makeni; a rural population of SandaLoko Chiefdom in Bombali District, with four survivors and their 105 HHCs. Using a sensitive and specific ELISA method, we found a ZEBOV-specific IgG seroprevalence of 95.6% among the 68 survivors; 3.8% among the 79 HCWs and 11.4% among the HHCs. Altogether, our data suggest a circulation of sub-clinical EBOV infections among contacts of EVD patients and HCWs, opening several interesting questions on the virulence and pathogenicity of the actual circulating Ebola virus in Sierra Leone. However, our results need to be validated on larger samples of subjects, but may be a rationale for screening of HCWs in countries affected by EVD in order to assess their risk of infection.

Main References

1-Baize S, Leroy EM, Georges-Courbot MC, Capron M, Lansoud-Soukate J, Debré P, Fisher-Hoch SP, McCormick JB, Georges AJ. Defective humoral responses and extensive intravascular apoptosis are associated with fatal outcome in Ebola virus-infected patients. *Nat Med* (1999); 5(4): 423-426.

2-Sobarzo A, Groseth A, Dolnik O, Becker S, Lutwama JJ, Perelman E, Yavelsky V, Muhammad M, Kuehne AI, Marks RS, Dye JM, Lobel L. Profile and persistence of the virus-specific neutralizing humoral immune response in human survivors of Sudan ebolavirus (Gulu). *J Infect Dis.* (2013); 208(2): 299-309. doi: 10.1093/infdis/jit162.

3-Mohan GS, Li W, Ye L, Compans RW, Yang C. Antigenic subversion: a novel mechanism of host immune evasion by Ebola virus. *PLoS Pathog* (2012); 8(12):e1003065. doi: 10.1371/journal.ppat.1003065.

4-Becquart P, Wauquier N, Mahlaköiv T, Nkoghe D, Padilla C, Souris M, Ollomo B, Gonzalez JP, De Lamballerie X, Kazanji M, Leroy EM. High prevalence of both humoral and cellular immunity to Zaire ebolavirus among rural populations in Gabon. *PLoS One* (2010); 5(2): e9126. doi: 10.1371/journal.pone.0009126.