Author's response to reviews

Title: Circulation of Human Influenza Viruses and Emergence of Oseltamivir-resistant A/H1N1 Viruses in Cameroon, Central Africa.

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Dear Sir,

Please find enclosed a revised manuscript of our paper MS:2008794127255205 entitled “Circulation of Human Influenza Viruses and Emergence of Oseltamivir-resistant A/H1N1 Viruses in Cameroon, Central Africa” submitted for publication as “Research Article” in the BMC Infectious Disease. In response to the editor’s reports and your comments, the following answers have been proposed.

**Question 1:** What was the influenza like illness (ILI) definition?

**Answer 1:** The following sentence was added in the methods section (page 3): “… defined as person with sudden onset of fever >38°C and cough or sore throat”

**Question 2:** More clinical and epidemiological information such as recent travel for other country can be helpful to better understanding the high level of oseltamivir resistance. The patients were treated with antiviral drugs? Which one? Is zanamivir available in the country?

**Answer 2:** The following sentence was added in the methods section (page 3) “All the participants were Cameroonian with no history of recent travelling and had never received an antiviral drug against influenza virus”. In Cameroon only Oseltamivir is available, Zanamivir is not available. In the discussion of our paper, we said that:” Oseltamivir has never been used to any large extent in Cameroon and there is no evidence that any of the Cameroonian patients were exposed to the drug before or during influenza infection”

**Question 3:** Why the study did not include others respiratory virus diagnoses methods such as Immunofluorescence DFA Antibody Staining?

**Answer 3:** Previous study had already reported a low performance of immunofluorescence DFA antibody staining compared to real time RT-PCR in the detection of influenza virus (Gharabaghi et al. J. Clin. Virol. 2008, 42: 190-3). As the main aim of our study was to determine the prevalence of influenza viruses in Cameroon and in order to avoid an underestimation of this prevalence, we have used the latest method which provided a good sensitivity and specificity

**Question 4:** In the discussion the authors recommended the use of both molecular techniques and viral culture for influenza surveillance; however these techniques are expensive and frequently available only in reference laboratory. It will be interesting to compare the results with other inexpensive and simple techniques.
**Answer 4:** I agree with this observation but this is a bit out of our study objectives. As already said in answer 3, molecular techniques are more sensitive than DFA or rapid antigenic tests. However, in order to clarify our idea, the following sentence was added in the discussion section (page 6) “Molecular techniques are thus suitable for the determination of influenza prevalence. However, since isolation …”

In a recent document titled “**WHO information for laboratory diagnosis of pandemic (H1N1) 2009 virus in humans**” (http://www.who.int/csr/resources/publications/swineflu/diagnostic_recommendations/en/index.htm), It is said that “Molecular diagnostics are currently the method of choice for pandemic (H1N1) 2009 virus. … The sensitivity and specificity of rapid point of care or immunofluorescence tests designed for direct detection of influenza A viruses are currently being evaluated. … It should be noted that these tests have appreciably lower sensitivity than RT-PCR for both novel H1N1 and seasonal H1N1 or H3N2 viruses. It should be emphasized that these tests will not differentiate seasonal influenza from pandemic (H1N1) 2009 virus”

We sincerely hope that this work will be considered for publication in the BMC Infectious Disease.

Yours Faithfully

Richard NJOUOM