

# Review of: "Serological detection strategy and prevalence of HIV and Viral Hepatitis B and C in blood donors in Yaoundé Cameroon"

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Potential competing interests: No potential competing interests to declare.

## Serological detection strategy and prevalence of HIV and Viral Hepatitis B and C in blood donors in Yaoundé Cameroon

The topic is interesting and would be useful in its own field of application. However, I found this article to have too many serious errors. Here are some comments to consider:

### 1. Abstract

The purpose of the study is not found. Names like Murex HBsAg Version 3, Murex HIV Ag/Ab Combination, and Murex HCV Ag/Ab Combination [DiaSorin], are they methods or kits? Total Anti-HBc IgG+IgM numbers were not mentioned in the methods section but their results were found.

### 2. Introduction part

- The authors should explain the importance of other tests performed in this study such total Anti-HBc IgG+IgM.
- Some countries screen for HBV with an HBsAg detection test, then perform a NAT test to rule out false negatives. Why doesn't this study do the NAT test?

### 3. Materials and methods part,

- There is no part of Materials a description of the principles of methods used for primary screening tests for HBV, HIV, and HCV viruses (Murex HBsAg Version 3, Murex HIV Ag/Ab Combination, and Murex HCV Ag/Ab Combination [DiaSorin], Monolisa™ Anti-HBc PLUS, Monolisa HCV Ag/Ab ULTRA, and INNO-LIA HCV, HIV BLOT 2.2). On which analyzers are tests for these viruses performed?
- "Study setting" should be written "Study design"
- How do volunteers get their blood drawn? Are there any precautions for volunteers when taking blood for HBV, HIV and HCV screening tests?
- How were serum samples transported to laboratories in France for confirmatory testing? How long does it take and how

is the sample stored?

- Should the author explain why the French laboratory repeated the HBsAg test with Murex HBsAg Version 3, which was performed in Cameroon? Is it necessary to repeat this test in another country? Because of this it is easy to misunderstand that the testing system in Cameroon is not very accurate.

#### 4. Results part,

- « A descriptive and cross-sectional study » should be placed in Method part.

-In page 4, the author wrote "The prevalence of HIVAb and HCVAb after Western-blot screening of samples were respectively 0.34 % (n=4) and 0.26% (n=3)". Does INNO-LIA-HCV use Western-blot technique? The prevalence of HIVAb and HCVAb at the bottom of page 4 is the opposite of the prevalence at the bottom of page 5. There are mixed results.

-In figure 1, what is the meaning of "undefined"? How will serological samples with "indeterminate" results be processed further? The author explains why some "non-tested" serological samples? Abbreviations should be clearly annotated: HIV Ag/Ab Pos.; HCV Ag/Ab Pos.; HBsAg Pos.; HBsAg Neg.; HBcAb Pos.

-In table 1, groups with too small sample sizes should not be compared because they are not significant.

- The author presents the results of the total Anti-HBc IgG+IgM screening test in the Results section. It is recommended that the authors add methods for testing these antibodies in the Methods part.

#### 5. Discussion part

The author compared the prevalence of serologic markers for HBV, HIV and HCV in this study to be lower than that of Tayou Tagny et al. in 2009. And then the authors concluded "This is due to the implementation of WHO recommendations in terms of screening blood donation for TTIs and also the implementation of the Standards of the African Society for Blood Transfusion. Then, the reduction of the prevalence of HBV can also lead to the reduction of OBI in blood donors". I think this should not be asserted as such because studies may differ in terms of study design, sample size, etc.

#### 6. Conclusions part

The authors should not repeat the study comparisons discussed in the concluding section. The authors should focus on screening recommendations for early detection of HBV, HIV, and HCV infections, as well as measures to reduce viral infection rates, particularly HBV.