Author’s response to reviews

**Title:** Impact of daily supplementation of Spirulina platensis on the immune system of naive HIV-1 patients in Cameroon: A 12-months single blind, randomized, multicenter trial

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**Version:** 2  
**Date:** 30 June 2015

**Author’s response to reviews:** see over
To whom it may concern

Dear Sir / Madam

I, the undersigned corresponding author of the manuscript title "Effects of *Spirulina platensis* supplementation on lipid profile in HIV–infected antiretroviral naïve patients in Cameroon: a randomized Trial study" hereby that the manuscript submitted for publication in the journal has been corrected and all the corrections are highlighted

Best regards

The authors
Reviewer’s Comments

Review 1: Minor comments.

Q1) It will be interesting to know the changes in Fat Free Mass and Total Body Fat to understand the changes in muscle mass and body composition.

Ans1): The changes in fat free mass and total body fat will be carried out in the further study.

Q2) Supplemental table 2 should be represented as table 1 in the main manuscript, which will be easier for readers to understand the differences observed at 0 and reorganize the table 2. The statistical data in Columns 2 to 6 does not align with Variable in Column 1.

Ans 2) Correction has been done

Q3) In Figure 2, statistically significant differences between 0 Month and 6 Months and 12 months in Spirulina group should be shown within the figure with symbols.

Ans3) Correction has been done

Q4) In Figure 3, statistically significant differences between 0 Month and 6 Months and 12 months in Spirulina group should be shown. As well as, statistically significant differences in the increase of viral loads in 6 to 12 months in control group should be shown within the figure with symbols.

Ans4) Correction has been done

Reviewer 2 : Venkateswarlu Chamcha

Major comments:

Q1. As presented in the figure 2, subjects in the control group had lower CD4 counts than that of the spi group initially i.e. at month 0, and showed continuously lower numbers. Where as in the spi group these numbers stayed increased to some extent. Although there was mentioning of antiviral activity of spirulina in the discussion, is there any evidence that can show clearly that spirulina can impact on T or B cells? If not then it may be the other factors that may contribute to the overall improvement of CD4 cell counts in these individual (less likely)?

Ans1: Some studies demonstrated the invivo capacity of S.platensis to increase immune system on nice. But no study in humman

1. Osamu Hayashi, Shoji Ono, Kyoko Ishii, YanHai Shi, Tomohiro Hirahashi, Toshimitsu Katoh Enhancement of proliferation and differentiation in bone marrow
hematopoietic cells by *Spirulina (Arthrospira) platensis* in mice. *Journal of Applied Phycology* 18, 1, 47-56


Q2. In the last paragraph of the results (page 6) the authors quote that spirulina significantly stimulated the immune system. Does anybody or you know the spirulina activates immune system?

**Ans2.** Since now there is no study which demonstrates that Spirulina activates immune system. However, Rabadiya and Patel (2010); Jung-Bum et al (2001) have shown the antiviral activity of *Spirulina platensis*.

Q3. Increase in the viral RNA copies in control group rose strikingly higher whereas spi group there was a significant control even though patients have relevantly high CD4 numbers. Again is there any data invitro or in vivo that can say that the effect is not a fluke? but real and indeed mediated by spirulina?

**Ans3:** There are very few in vivo studies providing strong evidence supporting the possible antiviral properties of *Spirulina* or increases the immune system.


However, some studies strongly demonstrated that the *in vitro antiviral* and enhance the immune systeme


**Minor comments:**

Q1. Show number of individuals in your figures such as (n=?) along with P values wherever observed significance?

**Ans1)** Correction has been done

Q2. I think the discussion is mostly a repeat of introduction and results. It needs restructuring focused majorly on the implications of the study findings and next steps taking spirulina further.