Reviewer's report

Title: Vitamin D levels are low in adult patients with sickle cell disease in Jamaica and West Africa

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Reviewer: Ambroise Wonkam

Reviewer's report:

General comments
The authors reported on the needed issue of details phenotyping of SCD patients in Africa. The data indicated a low 25(OH) D levels among SCA patients. These data are unique and diverse the attention of the scientists interest in the topic. The comparison with African populations of the diaspora with integration of GIS is also original.

However a few precisions/comments and limitations need some attention prior publication

Specific comments

Major Compulsory Revisions

Methods:
1- The sample sizes of SCD patients are relatively small; the authors should comment on this, these data are rather preliminary…

2- The method does not indicate whether Nigerian patients were in steady state or in crisis. Could the author comment whether this could have change the 25(OH) D levels?

3- The patients and controls were not age and sex matched. To what extend this could have affected the results?

4- Statistics: owing to the small sample size sample among patients, we should be expecting a skewed distribution of 25(OH) D levels. Could the authors confirm that mean and SD appropriate to present the data? And subsequently the parametric tests used for comparison?

Minor Essential Revisions

Results:

Was there any possibility to assess phenotypes correlations between the 25(OH)D level and clinical events among patients? (e.g. number of painful crisis)

Discussion:

The statement that Jamaican and Nigerian and Nigerian has a low intake of foods high in Vitamin D, need some references to support the assumption….

Practice implications: Does this finding have any implications for care of SCD
patients? Authors should comment more on this.

Discretionary Revisions
Perspectives: what are the author and research recommendations to move this topic forward?

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

No conflict of interest to declare