Author's response to reviews

Title: Determinants of Academic Performance in Children with Sickle Cell Anaemia

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RESPONSE TO REFEREE 2 COMMENTS

• This is a revision of an earlier submission. The authors have carefully responded to reviewer comments. The Introduction/Background is much more focused and citations are now current. Factors unique to conducting this study in Nigeria (e.g., no standardized academic achievement measures, difficulty using other gold-standard measures because of lack of cultural validation, high rate of malaria) have been addressed. While these issues detract from the independent scientific impact of the paper (in light of other studies in the peer-reviewed literature), they are offset by the contribution to our understanding of the relationship between SCA and academic function in this country, continent, and culture.

Response: Thank you. Your comment has been noted.

• The authors have attempted to distinguish between IQ and achievement in this revision. Unfortunately, the use of IQ still occurs in several points in the paper, and this is problematic given what we know about neurocognitive function in SCA. Multiple papers have emphasized that the neurocognitive outcomes in children with SCA are principally in the areas of executive function- processing speed, sustained attention, working memory, etc. The authors have indicated that the DAPT is a non-verbal test (which it is) but it does not have a speed component, an attention component, nor a working memory component, and its relationship with the Stanford-Binet and Wechsler series is with IQ (full scale) and not more precise measures of function. The cultural testing issues preclude being able to change this in the study, but the authors are encouraged to describe the DAPT as a measure of visual-spatial-motor planning and execution and not a measure of IQ. The use of the term IQ is still somewhat misleading in this context.

Response: Accordingly, DAPT has been described in the appropriate section as a measure of visual-spatial-motor planning and execution.
IQ has been replaced with DAPQ (Draw-A-Person Quotient – which was determined using the DAPT) and intelligence ability where appropriate.

- I appreciate the efforts of the authors to contribute to the literature on SCA in the African continent, and to find ways to do this in the face of a number of cultural measurement challenges. The number of families who agreed to participate is impressive, and their contribution through willingness to participate should be clearly acknowledged in addition to the teachers and schools.

Response: The parents/caregivers have been acknowledged in the acknowledgement section.

N.B.- New inclusions/corrections in the manuscript has been highlighted in coloured text.

Thank you once again for your critical review of our article.

Yours Sincerely,

Dr Ezenwosu.