



SDI Review Form 1.6

Journal Name:	South Asian Research Journal of Natural Products
Manuscript Number:	Ms_SARJNP_46718
Title of the Manuscript:	Antioxidant Potential and anti-sickling activity of different organs of Curcuma longa: effect of total polyphenol content and correlation of the antioxidant capacity on anti-sickling activity
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	<ol style="list-style-type: none"> 1. Since the author doesn't isolate the polyphenols, it is difficult to involve these molecules in the study title. <i>Curcuma longa</i> is rich in others several molecules apart from polyphenols. these molecules possess divers activities which were probably benefic in the experience. 2. In the abstract, the study design and the methodology aren't well understood. there isn't a link between <i>curcuma longa</i>, blood an anti- sickling activity samples. 3. I disapprove the structure of the introduction. There is not the justification of the use of <i>Curcuma longa</i> to avoid sickling blood. In this introduction, the author should bring out the <i>Curcuma longa</i> molecules and their properties, follow by the justification of its use as anti-sickling diseases. I propose the following structure for the introduction *1st paragraph: gives the synthetic information on sickle cell disease (definition, origin, repercussions....) *2nd paragraph: information on previous strategies to eradicate sickle cell disease and why research should continuous in the domain. * 3rd paragraph: introduces <i>Curcuma longa</i> (definition, molecules, molecule properties) and justifies why it use as anti-sickling diseases is better than previous drugs. This last paragraph will end with the general objective of the work. 4. The 1st step of the materials and methods of this work must be focused on plant material used (<i>Curcuma longa</i>). 5. Blood was collected in which number of patients? Age of the patients? Men or women? 6. How the author collects the blood (method)? 7. Why the concentrations of different parts of the plant macerated in 100 mL of methanol during 24 hours were different. I hope that the quantity of bioactive molecules and the intensity of their activities could change with the concentration of the plant powder macerated. (the same question for aqueous extracts of various organs of <i>C. longa</i>). 	<ol style="list-style-type: none"> 1. Yep, <i>Curcuma longa</i> is rich in others compounds, but for a research purpose we can't study all these compounds but on the contrary our focus was mainly on the polyphenols. 2. The study design and the methodology are now clear. The link existing between <i>Curcuma longa</i>, sickling blood and the anti-sickling activity is that an extract is mixed with a drop of blood on a slide supercooled with paraffin to create hypoxia. After incubation, then the slide is observed under microscope at 40X of magnitude. Following the number of cells which recovered their normal, then the anti-sickling activity is evaluated. Principle of Emmel test. 3. This part of the manuscript has been corrected. Thanks for the suggestion. 4. This has been corrected as showed in the manuscript. 5. In this study, the number of patients is not relevant. Our main interest was to have a blood sample of a sickle cell patient. This aspect was not considered in this study. If it was so, these information could have been mentioned in the manuscript as socio-demographic characteristics. 6. For blood collection, we were assisted by a member of our team who is a nurse in Center of Mixed Medicine and Sickle cell anemia hospital. 7. I hope this depends on the quantity of bioactive molecules in each part



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	<p>8. The sub-title “c” is already including in “b” (b. Preparation of dry aqueous and methanol extracts; c. Preparation of dry aqueous extracts of various organs of <i>C. longa</i>).</p> <p>9. The protocol indicate how the author has used the <i>Curcuma longa</i> in order to avoid the Sickel cell disease is absent.</p> <p>10. The interpretation of the result is before the tables. The author should put the superscript alphabetic letters (a, b, c, ...) or the p-value to facilitate the lecture of the data in the tables.</p> <p>11. Puts all the data decimal part in the text and in the tables at 2 numbers.</p> <p>12. Deletes “(mean ± SD, n = 3)” in the table title</p> <p>13. Some references in the text aren’t well used. E.g: by Ajay <i>et al.</i>, Camatari <i>et al.</i> and Ritwiz <i>et al.</i> respectively [21-22, 51]. = by Ajay <i>et al.</i> [21], Camatari <i>et al.</i> [22] and Ritwiz <i>et al.</i> [51]. Wu <i>et al.</i> (2006) [53], = Wu <i>et al.</i> [53],</p> <p>14. Deletes the aim of the study in the conclusion section, it is sufficient in the abstract and the introduction.</p> <p>15. At the stage of this work, the author can't make the following suggestion. “Our results suggest that in vivo antioxidants, especially polyphenolic compounds of plants, in this case <i>C. longa</i>, could inhibit or delay the clinical expressions related to sickle cell disease by trapping free radicals produced in an abusive way in sickle cell or by inhibiting enzymes or other biomolecules involved in the production of free radicals or by stimulating the synthesis of enzymes in the antioxidant defense system”. The author should add the <i>in vivo</i> experience in the perspectives.</p> <p>16. In general, there is a total disorder in the reference section.</p> <ul style="list-style-type: none"> - Some references (6, 8, 9, 12, ...) do not end because of the absence of dot “.” at the end; - Writes the journal titles in the same way. Some are in abbreviated form (10, 12, 13, 16, ...) and others not (9, 11, 14, ...); - Authors names are not writing in the same way. E.g: Nilanjana Deb, Purba Majumdar, Ajoy Kumar Ghosh; Sawant R.S. and. Godghate A.G. 	<p>used.</p> <p>8. This has been corrected.</p> <p>9. The protocol has been added in materials and methods.</p> <p>10. According to the scientific writing standards, the interpretation of tables or figures come always after. This is the reason, we didn’t make any change concerning that suggestion.</p> <p>11. Done.</p> <p>12. Done</p> <p>13. Done</p> <p>14. Done</p> <p>15. This suggestion has been improved.</p> <p>16. This has been corrected. See the manuscript.</p>
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	<p>Chang, C. H., Lin, H. Y., Chang, C. Y. and Liu, Y. C. Camatari FOS., Lopes KH., Valentim BI., Xavier JA., da Costa JG., Santana AEG and Goulart MOF. <u>N.B: all the four forms are different.</u></p> <p>- In reference “n⁰5”, the article issue is replaced by the date.</p>	
Minor REVISION comments		
Optional/General comments	<p>I have reviewed the manuscript titled: " Antioxidant Potential and anti-sickling activity of different organs of <i>Curcuma longa</i>: effect of total polyphenol content and correlation of the antioxidant capacity on anti-sickling activity ". The experimental design and the methods have some dark points and need serious major revision.</p>	<p>The experimental design and the methodology have been reviewed properly and it is more clear in this corrected version than in the previous.</p>

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	