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PART 1:

Journal Name:	International Journal of Biochemistry Research & Review
Manuscript Number:	MS: 2012/IJBcRR/1867
Title of the Manuscript:	Nutritional effects of drinking Terminalia littoralis Seem. decoction in place of water on Wistar rats

General guideline: Reviewers are requested to follow these guidelines during review: *(Note: Title of different sections as proposed below may differ in case of review paper / case reports)*

1) Introduction *(Is the problem/objective of this study original, important and well defined?)*

- This study looked at the “**Nutritional effects of drinking Terminalia littoralis Seem. decoction in place of water on Wistar rats**”. The objective of the study is well defined and the study well conducted. According to the author’s introduction to the subject and in keeping with the literature however, decoctions are typically evaluated for their therapeutic properties as alternative treatments for various health conditions. Thus it is unclear what informed the decision to study the nutritional value, nor is there any reference to that effect provided in the literature as bases for the application of a decoction as a nutritional supplement. It is recommended that the author seriously consider revising this paper to include some biochemical measures to show therapeutic efficacy or not of the decoction.

2) Materials & methods *(Kindly comment on the suitability of the methods. Sufficient details of the methods should be provided to allow peers to evaluate and/or replicate the work)*

- Overall, the greatest weakness in this paper is this section of the manuscript. The METHODS while lacking sufficient details in the manuscript to enable replication; can certainly be easily obtained from the literature. They are however, quite basic and qualitative methods rather than more current and precise analytical assays, which naturally raises questions of accurateness. As an example, the phytochemical profile of the decoction and their bioavailability could be resolved by HPLC protocols readily available in the literature. Furthermore, the metabolism could be assessed by measuring the Phase I and phase II metabolic enzyme levels for instance. The absence of these assays or variations of it renders this work rather difficult to accept in its current form.



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3) Results & discussion (Kindly comment on: 1. Are the data well controlled and robust? 2. Authors should provide relevant references during discussion. 3. Discussion and conclusions should be based on actual facts and figures. Biased claims should be pointed out. 4. Are statistical analyses must for this paper? If yes, have sufficient and appropriate statistical analyses been carried out?)

- The data is well controlled, though there needs to be a better and detailed description of the statistics used for the amino acid analyses. Further, author should consider presenting some of the data as figures for easy visualization. In its current mostly tabular form the data are difficult to appreciate. Secondly, how does the dietary composition of the decoction compare with that of the diet? Importantly, considering that the safety of herbal supplements is of primary concern; that piece of information is crucial to evaluate nutrient intake, especially intake of micronutrients and phytochemicals to evaluate toxicity potential, if any, that may be associated with the decoction.

4) Conclusion (Is the conclusion supported by the data, discussed inside the manuscript? Conclusions should not be biased and should be based on the data, presented inside the manuscript only)

Are all the references cited relevant, adequate? Are there any other suitable current references authors need to cite?

This form has total 9 parts. Kindly note that you should use all the parts of this review form.

- The conclusion is largely not supported by data. There are no therapeutic effects shown in this study for a medicinal claim and the claim of protein quality or adequacy is dubious especially with limitations in SAA. There is no nutritional or physiologically relevant rationale provided for the implied suggestion of utilizing this decoction as a nutritional supplement. The author may need to re-think the rational of the study.



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PART 2: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part and write here 'Corrected'/ if not agreed, give suitable justifications)
<u>COMPULSORY REVISION</u> comments See comments below relevant headings above	<u>Introduction</u> 1) The introduction does not match the focus of study. It focuses primarily on therapeutic applications of decoctions, while the study as conducted pertains to the nutritional application of decoctions. This section needs to be revised to fit the nutritional focus. <u>Materials and methods</u> 1) Provide HPLC profiles of decoction as mention above (lines 75-84). 2) Provide vitamin C, carotenoids and phytochemical results in the decoction as well as the levels in rat plasma as bioavailability is crucial both to the therapeutic efficacy and nutritional effects of the decoction (lines 75-78). 3) A brief explanation of what the different PERs stand for biologically and why all three need to be measured (lines 113-118) 4) Data from the proximate analyses need to be presented (lines 85-89). 5) The author should be clear what data he is presenting, e.g. wine as opposed to decoction (Lines 108 and 119). 6) Lines 124-134. Please be specific with this particular protocol, especially in lines 130b-132 and 133-134. <u>Results and conclusion</u> 1) What statistical test(s) were used to compare all the	



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	amino acid levels in the decoction? The physiological relevance of the amino acid comparisons e.g. Phe vs. Asp; or His vs Pro. are unclear from the manuscript. The most important comparisons should be the amino acid groups and the physiological relevance to the animal. 2) The presentation of “p” values is confusing. In some places it is listed as p > 0.05 while in other places it is listed as p< 0.05. The author needs to ensure uniformity of presentation to enable proper assessment of the data. 3) Lines 267-268. The data presented does not support that conclusion. The low amount of SAA does not qualify this decoction as nutritionally adequate, nor is there any therapeutic evidence for medicinal claim. What was the specific reference protein used in this study.	
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Minor REVISION comments See comments below relevant headings above	<u>Introduction</u> (1) Line 54b: It is doubtful that traditional medicines by themselves reduce poverty. They certainly may contribute to health and physical well-being if efficacy is established although neither of those guarantees economic well-being. Please modify this statement to reflect reality. <u>Methods</u> 1) Typo in line 144b. Replace were for was. <u>Results and conclusion</u> 1)) In several places, the author uses the phrase, “this shows” or “this means” to advance explanations or conclusions that are not directly supported by the data. The recommended phrase for this kind of extrapolations would be “this suggests” or “this appears to suggest”. 2) Line 173-174 and elsewhere. The author confuses the decoction with “medicine” although no medicinal or therapeutic benefits are shown in this study. Please correct accordingly. 3) Throughout the manuscript the author often cites observation from literature but makes little or no attempt to connect those observations to specifically explain his findings. A specific example is found in lines 205-207. The author can better present such observations to make them more pertinent to this study. 4) Line 222-227 is rather confusing. First the data from the EAA scores is better viewed as a figure or table. More importantly however, under what condition, for what specie(rat or human) and at what frequency will it be necessary to drink a 66.59mL decoction just to make up TSCAA deficiency? Will solid food be a better option? The author’s recommendation for obvious reasons is impractical regardless of the species of reference and	
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	underscores the weakness in this study of looking at the nutritional rather than the potential therapeutic properties of the decoction. 5) What are the initial and final weights of the rats on this study to support the claim that the decoction increased the feed efficiency ratio of the diet (lines 233-244) 6) Lines 242-244. As the author already stated, phytochemicals are typically non-nutritive and it is difficult to envisage a situation where they directly improve feed efficiency. Please delete “phytonutrients” in that line. The most plausible explanation is rightly stated in line 243-244. 7) Lines 264-266. The observation in this manuscript is more of a “similar finding” than a corroboration due to the different species studied.	
<u>Optional/General</u> comments	The manuscript needs extensive revision. As indicated above, the most relevant study in keeping with the literature is to look at the metabolism and therapeutic effect of the decoction. If the choice is to still report nutritional properties, then sufficient justification and more data as listed in the compulsory revision column is required.	

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