Author's response to reviews

Title: Anti-inflammatory, antioxidant, and antimicrobial activities of Cocos nucifera var. typica

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Author's response to reviews: see over

To
Mikel Aickin, University of Arizona
Editor-in-Chief
BMC Complementary and Alternative Medicine

Ref.: Manuscript response

Dear Prof.,

We are sending our responses to reviewers’ comments. The answers are on red.

We are aware of the conditions for submission and publication.
Looking forward for your reply, we remain

Sincerely yours

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1. The question posed by the authors is not well defined. Since the authors aimed to study if *Cocos nucifera* var. *typica* has the anti-inflammatory and antimicrobial activities that already reported in other varieties. Therefore the activities of *Cocos nucifera* var. *typical* should be done or discussed in comparison with other varieties.

*C. nucifera* var. *typica*, known as “gigante”, is one of the main varieties of the species in Brazil and has not been studied yet. The present study evaluated if its husk fiber might lead to the production of novel low-cost direct or adjunct treatments of inflammation and infection, since it is a by-product from the processing of *C. nucifera*. The results show that it has bioactivity that supports its uses in the folk medicine.

The activities were discussed in comparison with other samples whose biological activities were evaluated by the same methods and have been published in refereed journals (“comum” and “olho de cravo” presents in Brazil and Nigerian *C. nucifera* varieties).

2. The methods of this manuscript are appropriate and well described, Do the authors performed the anti-inflammatory of *Cocos nucifera* var. *typica* in *vitro* before applied in animal model?

No. not in this Ms. It is our intention to perform a complete *in vitro* comparison between the different varieties of *C. nucifera*.

3. The discussion on biological activities of other varieties of *Cocos nucifera* should be added. The conclusions should be focused on the comparison of biological activities of *Cocos nucifera* var. *typica* and other varieties more than anti-MRSA activities.

The discussion is about the biological activities in comparison with other samples whose activities were evaluated by the same methods by others authors. In the present study, the *C. nucifera* var. *typica* was active only against *Staphylococcus aureus* and *methicillin-resistant S. aureus* (MRSA). The conclusion is focused on MRSA because it is a resistant strain spreading worldwide, the infections are associated with significant morbidity and mortality, and the pharmaceutical arsenal available to control antimicrobial-resistant bacteria is limited. Since there is no greater relevance to performed synergistic activity of the extract and antimicrobial drugs against susceptible microorganisms, it was not done against *S. aureus* (only against MRSA).
MAJOR COMPULSORY REVISIONS

2. Discussion: the discussion should be more directed to the results obtained. Are there any comparisons that can be made to known phytochemical classes or potential bioactives present in the specific variety of C. nucifera?

The activities were discussed in comparison with other samples whose biological activities were evaluated by the same methods by others authors.

There are no specific phytochemical classes for a variety. The difference is in the proportion of each component. Esquenazi et al. (2002) demonstrated that the aqueous Cocos nucifera extracts are mainly composed by polyphenolic derivatives, as catechin, epicatechin and condensed tannins (B-type procyanidins). A stronger chemistry comparison of the different varieties is necessary.

One of the main varieties of the species in Brazil is the C. nucifera var. typica, known as “gigante”, and it has not been studied yet. The present study evaluated if its husk fiber might lead to the production of therapies and adjunct treatments of inflammation and infection by MRSA, since it is a by-product from the processing of C. nucifera.


DISCRETIONARY REVISIONS

Why was the standards used in the anti-inflammatory assay dissolved in PBS, but the extract in sterile water? Although this will most likely not have any effect, for consistency’s sake it should be kept to one vehicle-type.

The observation is corrected. We did a mistake. All the standards were solubilized in water. We corrected in the text.