**Author’s response to reviews**

**Title:** Development of aqueous-based multi-herbal combination using principal component analysis and its functional significance in HepG2 cells

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**Author’s response to reviews:**

We thank the editor and the reviewers for assessing the manuscript entitled “Development of aqueous-based multi-herbal combination using principal component analysis and its functional significance in HepG2 cells” and considering for publication in BMC Complementary and Alternative Medicine. As per suggestions the corrections have been incorporated in the manuscript as explained below after each comment.

1. Please also confirm whether a voucher specimen of this material has been deposited in a publicly available herbarium, and include this information in your manuscript. A deposition number should be included, if available.

   **Response:** Plant samples of P. granatum, P. roxburghii, S. chirata, T. cordifolia and T. corniculata were authenticated and verified by Mr. Viney (Research Officer), Herbal Health Research Consortium (HHRC) Pvt. Ltd. Amritsar (India) by observing the characteristic anatomical features with pharmacognostic studies. All plant samples were deposited in the herbarium of HHRC Pvt. Ltd. Amritsar (India) with voucher numbers ANC-04, PUT-02, CRT-09, GIL-46 and MET-10 respectively. These lines are included in the manuscript text under Methods section, subheading Procurement of herbal raw materials, line 105-110, page 5.

2. In the Ethics and consent to participate section please clarify whether consent to participate was obtained from participants. Please also include whether the consent was written or verbal. If the consent was verbal please include reasoning for this and state if an IRB approved this method of obtaining consent. If consent was not required, please include a statement on whether the need for consent was waived by an IRB or if national guidelines have established that studies such as this don't
require consent along with a reference to the relevant legislation.
Response: The Ethics and consent to participate section has been modified for more clarity. In order to carry out non-invasive procedures (assays employed routinely in the laboratory), blood from healthy donors was collected (not more than 2 ml/donor/week) with due permission from Dr. Sunil Kumar Gupta, In-charge, Health Centre, Guru Nanak Dev University (Ref. No.- 1298/Bot. & Env. Sci.) and written consent was obtained from volunteers to participate. These lines are included under subheading Ethics approval and consent to participate in Declarations section, line 696-700, page 31.

3. Because this research was conducted using human participants (blood donors), we would expect either ethical approval to have been obtained or the need for ethical approval to have been waived by an IRB or be deemed unnecessary according to national guidelines. If the need for ethical approval was waived by an IRB or is deemed unnecessary according to national regulations, please clearly state this, including the name of the IRB or a reference to the relevant legislation in the Ethics approval and consent to participate section of the Declarations.
Response: The present study did not involve any human and animal subjects. In order to carry out non-invasive procedures (assays employed routinely in the laboratory), blood from healthy donors was collected (not more than 2 ml/donor/week) with due permission from Dr. Sunil Kumar Gupta, In-charge, Health Centre, Guru Nanak Dev University (Ref. No.- 1298/Bot. & Env. Sci.) and written consent was obtained from volunteers to participate. These lines are included in the manuscript text under subheading Ethics approval and consent to participate in Declarations section, line 696-700, page 31.

4. Please provide a List of abbreviations after the Conclusions section. If abbreviations are used in the text, they should be defined in the text at first use and included in this list.
Response: The list of abbreviations has been incorporated after conclusion section (line 662-693).

5. Multi-panel figures (those with parts a, b, c, d etc.) should be submitted as a single composite file that contains all parts of the figure on a single page.
Response: As per suggestion, the multi-panel figures are combined as a single composite file containing all parts of figure on a single page.

6. We recommend that you ask a native English speaking colleague to help you copy-edit the paper. If this is not possible, you may need to use a professional language editing service. Use of an editing service is neither a requirement nor a guarantee of acceptance for publication.
Response: We have carefully gone through the manuscript and corrected all sections for any grammatical and language mistakes.

7. At this stage, please upload your manuscript as a single, final, clean version that does not contain any tracked changes, comments, highlights, strikethroughs or text in different colours. All relevant tables/figures/additional files should also be clean versions. Figures (and additional files) should remain uploaded as separate files.
Response: As per suggestion, the manuscript has been prepared as a single, final, clean version that does not contain any tracked changes, comments, highlights, strikethroughs or text in different colours. All relevant tables/figures/additional files are clean versions. Figures (and additional files) are uploaded as separate files.

We wish to thank the reviewers and the editors for a critical review of the manuscript and suggesting changes that have vastly improved its quality. We have made all necessary changes to the original manuscript as per suggestions. We hope the manuscript is now worthy of publication in BMC
Complementary and Alternative Medicine.