

## **Author's response to reviews**

**Title:** Effect of exercise therapy on lipid profile and oxidative stress indicators in patients with type 2 diabetes

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Dear Madam,

On behalf of the authors of the manuscript we wish to apologize for not meeting previous deadlines and to thank you for your patience. The authors have responded to the Major compulsory and minor essential revisions of the reviewer on the next two pages.

Thanks again for kind consideration.

Yours sincerely,

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## **Major Compulsory Revisions**

1. The type 2 diabetic patients were treated with metformin, sulfonylurea or both. Stratification was done by considering: gender (female and male), age difference ( $\pm 5$  years), body mass index difference ( $\pm 3 \text{ kg/m}^2$ ) and difference in the duration of the disease ( $\pm 5$  years) as well as their medication. The medication was similar among the groups. The patients were encouraged to see their physician regularly and to our knowledge their medication was not changed through the period of the study
2. The authors have included Figure 1 in the manuscript which gives the selection of the final 231 patients in the study. All 231 diabetic patients completed the study. The results of compliance with home-based exercise and average attendance at yoga classes are given in paragraph 1 of the Results (section).
3. Hatha yoga exercise was the intervention used in one group of the diabetic patients. A description of the type of exercises and information on how the training was controlled supervised etc is given on Page 6 of the Methods.
4. The authors recognize the importance of measurements of conventional training parameters such as  $\text{VO}_2$  max, HR rest and lactate in any study investigating yoga or PT exercise intervention. The authors are aware of studies involving yoga intervention in which these parameters were investigated. Ray et al. reported significant increase in  $\text{VO}_2$  max in healthy individuals who practiced yogic exercise 1 hour every morning (6 days per week) for six months (Indian Journal of Medical Research 114: 215 – 221). Carrol et al. found that Ashtanga Vinyasa cause mild increase in blood lactate in subjects (Medicine and Science in Sports Exercise 35(5): S155). In another study, Bowman et al. reported that yogic exercise in healthy normotensive elderly subjects significantly decrease heart rate (European Journal of Clinical Investigations 27: 443 – 449). In our study there were budgetary constraints and while the authors agree that these parameters were necessary, there were not enough funds to carry out these investigations. However, the authors did record the pulse rate at rest, maximum pulse rate during training and that after exercise.
5. The authors reviewed the results for the total cholesterol /HDL (TC/HDL) ratio. There was no significant difference in TC or HDL concentrations at baseline compared with after 3 or 6 months. The raw data of these two parameters were used to calculate the TC/HDL ratio. The authors recognize that the TC/HDL ratio for the Hatha yoga exercise group after 3 months were not in consonance with the values of the individual parameters and so we agreed to withdraw TC/HDL ratio results from the manuscript.
6. The authors agreed with the reviewer that the novel aspect of the study was the effect of Hatha yoga exercise intervention on oxidative stress parameters and antioxidant status in the type 2 diabetic patients. Using this as the main focus, the authors have re-written the introduction and discussion. The ideas on exercise (first four line of page 16 – original manuscript) have been expanded – Page 14 – 15.

## **Minor essential revision**

The author has re-written the discussion.

1. According to table 3, there was significant difference in VLDL concentration after 6 months compared with baseline values. This was reflected in the results and the discussion (Page 10 and 11).
6. The last sentence of the conclusion was deleted.
7. The results for the TC/HDL was withdrawn as explained above.

The authors recognize that the manuscript is long and made an effort to reduce its size (from approximately 5000 words – 4991 to approximately 4000 words – 4046).