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ACCEPTED ABSTRACTS

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## **Effect of exercise** during ramadan fast on sleep anthropometric measurements and blood parameters in females

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Introduction: Ramadan fasting is a safe annual activity for healthy individuals. In literature, body weight, waist circumference, body composition, or cellular and biochemical elements of blood experienced a decrease, increase, or no change during Ramadan.

Aim: Physical activity for female adults was our main concern to investigate the physiological changes during Ramadan with aerobic exercise intervention. Subjective and objective measures related to general health, female health and sleep were assessed.

Methods: The subjective measures include consent forms, general health questionnaire, Epworth Scale. Objective measurements consist of general examination: height, weight, age. Anthropometric measurements: waist-hip ratio, BMI, body composition, and blood tests including Complete Blood Count (CBC), general biochemistry profile, iron profile, vitamin B12. Three groups; EDR group (exercised during Ramadan), ENR group (exercised non-Ramadan month) and FDR group (fasted during Ramadan and had no exercise intervention).

**Results:** Within groups comparisons, subjects showed multiple trends of improvements in anthropometric measurements parameters and sleep duration in EDR group and these improvements showed significance only in fat body mass, fat percent with

p-values<0.05. EDR group showed no significant changes in anthropometric parameters. Between groups, comparisons showed a significant change in the EDR group in comparison to the FDR group in fat body mass, with p-values<0.05 while it remained non-significantly altered in other groups. Blood tests showed no changes in all the groups. Sleep duration or daytime sleepiness didn't show any major change in all groups except the expected shifts in sleep schedule during Ramadan no change in sleep duration.

**Conclusion:** Exercising while fasting in Ramadan reduces the fat percent more than fasting alone or exercising alone. We found no changes on blood basic hematology, biochemical and or day time sleepiness parameters.

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