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## The effects of 8 weeks aerobic exercise on levels of Homocysteine, HS-CRP serum and plasma fibrinogen in type II diabetic women

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### Setting the scene:

The risk of cardiovascular disease (CVD) is many times higher among people with diabetes. Presence of diabetes increases the risks of heart attacks and strokes in people up to 2 to 6 times. There are a lot of inflammatory markers predicting cardiovascular heart diseases, including homocysteine, high-sensitivity C-reactive protein (hs-CRP) and fibrinogen. The purpose of this study was to investigate the effect of 8 weeks of aerobic exercise on blood levels of inflammatory markers in diabetic women.

### What did they do?

Subjects consisted of thirty sedentary middle-aged women with diabetes who were randomly assigned to two groups of experimental (n = 15) and control (n = 15) groups. Exercise program consisted of 8 weeks (3 sessions per week) aerobic exercise with intensity of 60% to 75% of maximum heart rate of the subjects. Heart rate was calculated for each subject using the formula 220 minus age. It was controlled by using Polar heart rate meter (model 1000 PvkS made in Germany). Each session consisted of 15 minutes of warm-up with stretching and exercise, the main body of exercise (including 35 minutes of running at a distance of 1/5 mile at a constant speed and intensity of 50% to 75% of maximum heart rate) and a 10 minute cool-down with stretching and running softly. Before and after the workout, fat levels, homocysteine, hs-CRP and fibrinogen of subjects were determined to evaluate the effect of exercises. In order to control the diet to prevent interference on measured values (homocysteine, fibrinogen, and hs-CRP), 3 days prior to the exercise protocol, subjects provided researchers with their diets.

### Takeaway message:

Regular aerobic training reduces the risk of stroke and improves health of diabetic middle-aged women by lowering homocysteine, fibrinogen and hs-CRP.