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Exercise-induced BMI declined were association with increased sperm motility in college students：A short paper

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Objective Male reproduction cell level were effect by intensity and amount of exercise, therefore, we investigate the effect on semen parameters from six weeks aerobic exercise on normal weight and obesity male.

Methods

Exercise intervention

Participants completed 6 weeks of exercise intervention, 6 times per week and rest on Sunday. The exercise is composed of 20 push-ups and moderate intensity running 400 meters. The most suitable exercise heart rate (heart rate) = maximum heart rate of 75-80%, 8-10 minutes of warm-up exercise each time, the duration of each exercise duration is 60 minutes.

Laboratory methods:

BMI, body weight and Waist circumference were evaluated. Sperm count, percentage of sperm motility was evaluated. All subjects were requested to observe a 3 to 4day abstinence period before provide a semen sample, and the subjects were no performance heavy exercise. Semen samples were obtained at the second peoples hospital of Dazhou city, China. Sperm motility and count were analyzed using the World Health Organization(WHO) 2000 definition.

Results

Characterization of the subjects:

The baseline and Post-Pre Characteristics of the subjects were provided in Table 1. There were significant difference on body weight ($p < 0.05$), Waist circumference ($p < 0.01$) and BMI($p < 0.05$) between normal weight group and obesity group. However, there was no significant difference on after of exercise intervention.

There was not significantly increased on total sperm count, sperm motility (%) and sperm motility a (%). However, sperm motility b (%) was significantly increased trend after exercise intervention ($p = 0.06$), although there was only seven subjects.

Conclusions Our study demonstrated that exercise-induced BMI declined-amplitude were significantly associated with increased sperm motility, this finding may be explained, at least in part, by an improvement of male reproductive health. A significant correlation-trend was found between induced BMI# and sperm motility (%) ($R^2=0.77$, $p =0.12$) in normal weight group, but not in obesity or all subjects.