Brooks-Gunn et al. (2009) Nutrition and the incidence of stress fractures in ballet dancers


This article investigated the effects of nutrition on the incidence of stress fractures amongst ballet dancers. Fifty classical ballet dancers and fifty nine people who didn’t dance were studied. These subjects were placed into three groups. Group one was compiled of dancers who had experienced stress fractures in the last year. They were matched for age and weight-for-height with ten dancers who hadn’t had stress fractures in the last three years, they became group two. The third group consisted of ten people who were not dancers and had not had stress fractures. These groups were all compared by evidence of eating disorders, nutrient intake, and other dietary patterns. Menstrual patterns, activity levels, and bone densities were also taken into account. All subjects were white and middle to upper class. They all aged from sixteen to twenty nine years old and were similar in what age they started dancing as well.

The bone densities were measured as a reflection of exercise and nutrition. The measurements were not significantly different except for foot densities which were understandably greater for the dancers. Caloric intake also did not differ significantly between groups. All three groups had a history of weight fluctuation (80% of the dancers reached a weight at least 25% below ideal), although interestingly enough the group with stress factors (group one) fluctuated to a significantly lower weight than the other groups. Group one also showed significantly greater tendencies to restrict food intake and had higher incidence of eating disorders. A greater number avoided high fat dairies and consumed low fat foods, and had a higher consumption of saccharin (found in diet sodas). The fact that significantly more dancers were vegetarians than non-dancers indicates that they were more health conscious as well.

It isn’t surprising that ballet dancers who have stress fractures also diet more and eat less. They would be getting fewer vitamins to the bones; therefore the bones would be weak and more likely to get damaged. Although that makes sense, I don’t believe eating disorders were measured accurately. One of the ways that they were measured was through diaries. Dancers were asked to record what they ate. I don’t trust that each subject recorded exactly what they ate, it is completely possible that they were embarrassed and neglected to include some consumption. Another indication of eating disorders described was the consumption of saccharin. That isn’t an indication because many people consume diet sodas, regardless of being on a diet or not. The non-dancers were used as a control group, but they were matched to dancers by height and weight. As declared in the reading, that isn’t an accurate pool because dancers tend to weigh less, so the non-dancers did too. That obviously creates a bigger likelihood that this control group has eating disorders and such. This was also proven in the findings and the authors noted that it was surprising that there were so many eating disorders in group three (even though the amount was still less than that of groups one and two). Although I agree with the findings and agree that the results make sense, I don’t think that this study and the results were as strong as they could have been.