

Grape juice consumption and/or exercise training increased brain-derived neurotrophic factor levels in healthy elderly women

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Brain-derived neurotrophic factor (BDNF) is the most widely distributed neurotrophic factor in the central nervous system (CNS), and performs many biological functions such as neural survival, differentiation, and plasticity, effecting in learning and memory abilities. The grape juice effect was observed firstly in rats, but there isn't studies with humans and the potential effect of exercise. This study aimed to verify the impact of grape juice consumption and/or exercise in the modulation of the plasma neurotrophic factor (BDNF) levels in healthy elderly women. We designed this study in two steps. Firstly, 19 healthy elderly women were randomly distributed in two groups: Grape Juice Group (GJG, n=9) and Grape Juice + Exercise Group (GJEG, n=10). The GJG was instructed to drunk daily the grape juice(400 ml) during 30 days, while the GJEG was submitted to a physical exercise intervention (twice a week, 60 min/session) and drunk the grape juice. Secondly, 20 women were randomized in two groups: GJ + Exercise Group (GJEG, n=10) and Placebo + Exercise Group (PEG, n=10). The consumption and exercise instructions were the same. The grape juice and the placebo were provided

by the same winery, they were packed in the same box, with the same information, blinding the study. The grape juice is a commercial product. The placebo provided the same sugar content than the grape juice but without polyphenols. Blood sampling were taken for BDNF analysis pre/post intervention in both groups. The total phenolic compounds and total flavonols content were higher in grape juice than placebo. It was observed a significant increase on BDNF levels in GJG) and GJEG after intervention. However, this increasing was not observed in placebo group with exercise. In conclusion, the grape juice consumption per se is capable to increases BDNF levels, response that was not potentiated by exercise practice.

Speaker Biography

Caroline Dani has completed her PhD in 2008 from Universidade de Caxias do Sul, Brazil. She has completed her pos doc at Georgetown University, Washington, USA. She is professor of Methodist University Center, IPA, Brazil. She is a master co-ordinator. She has almost 80 publications. She is studying about grape juice since 2004. She has supervised more than 20 master and graduation students.

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