

# Letter to the Editor

## Is obesity influence serum brain-derived neurotrophic factor level in adults?

Dear Editor,

We read with great interest the article by Gajewska and colleagues in which the investigators reported that the concentration of brain-derived neurotrophic factor (BDNF) did not differ in the participants, regardless of sex, age, obesity, or the declared physical activity<sup>1</sup>. However, we think there are some points that should be mentioned as contributory factors.

Previous studies showed that several diseases such as bipolar disease, multiple sclerosis, rheumatoid arthritis, chronic kidney disease, atherosclerosis, Alzheimer's disease, Parkinson's disease, epilepsy, major depression, schizophrenia, colorectal cancer, atopic diseases (allergic rhinitis, atopic dermatitis) and lower respiratory tract infection could affect BDNF levels<sup>2,3</sup>. Beside of above diseases, clopidogrel, aspirin, anti tumor necrosis factor alpha drugs, antidepressants, and statins could alter BDNF levels<sup>4,5</sup>. Also, dietary supplements such as zinc, vitamin B, vitamin E, vitamin A, omega-3 fatty acids, ginkgo biloba extracts and folic acid can influence BDNF levels<sup>6,7</sup>. In this regard, without defining these contributing factors, interpreting the results is problematic.

BDNF levels were found to fluctuate during menstrual cycle. In luteal phase, BDNF levels were shown to be higher than follicular phase<sup>8</sup>. Also, Begliuomini et al<sup>9</sup> suggested that BDNF levels were lower in women with amenorrhea or menopause than that of fertile women. Maffioletti and colleagues suggested that serum preparation procedure is highly important issue to provide robust methodology<sup>10</sup>. Due to being stored in platelets, BDNF level is highly affected from duration of the clotting process. They recommended the minimum clotting duration for a correct serum BDNF dosage as 1 hour. In this study, the authors did not define sampling time, clotting period or women's menstrual status, which could cause falsely higher or lower serum BDNF levels. Therefore, standardization of methodology is essential for measurement of serum BDNF.

In conclusion, clarifying these concerns will certainly provide a clearer picture when interpreting serum BDNF levels among participants.

### Conflict of Interest

The Authors declare that there are no conflicts of interest.

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