

## Comment “essential amino acids levels in individuals that attempted suicide”

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### Dear Author,

I read and examined your study with pleasure about the essential amino acid levels in suicide cases in the emergency room. In your study, it was found that the amino acids methionine, leucine, isoleucine, valine, lysine, threonine, phenylalanine and tryptophan were lower in the patient group. Essential amino acids are amino acids that are taken from external sources with food. Suicidal people with depression may have low levels of these amino acids since they also have malnutrition.

Depression may also occur indirectly due to methionine and tryptophan deficiency. Intake of adequate amino acids through proper nutrition reduces depression and reduces suicide attempts. This information is promising for the future. We hope you will conduct new studies with more patient groups.

In the study conducted by Rao et al.,<sup>1</sup> protein intake and therefore individual amino acids may affect brain functions and mental health. Most neurotransmitters in the brain are made from amino acids. The neurotransmitter dopamine is made from the amino acid tyrosine and the neurotransmitter serotonin from tryptophan. In case of deficiency of any of these two amino acids, there is not sufficient synthesis of the relevant neurotransmitters and this is associated with low mood and aggression in patients.

In the study conducted by Hees et al.,<sup>2</sup> essential amino acid levels were found to be low in celiac disease due to the decrease in the intake of plant proteins. In the same study, essential amino acid levels were low in patients with major depression, but no difference was detected between celiac patients and major depression patients. Essential amino acid deficiency due to celiac disease was found to be low. No relationship was found between major depression.

In the study conducted by Koochakpoor et al.,<sup>3</sup> a relationship was found between low dietary intake of essential amino acids and depression and anxiety.

In the study conducted by Baranyi et al.,<sup>4</sup> they found an inverse relationship between low levels of essential amino acids such as valine, leucine and isoleucine, and major depression.

In the light of this information, although your study shows a relationship between major depression and a decrease in essential amino acid intake, the number of patients in your study is small and your study is single. At the same time, there are other factors that cause major depression. In this regard, we recommend that patients be selected by eliminating other factors. There is not enough descriptive information about amino acids in your study. We also recommend that you conduct a study with a higher level of evidence by keeping a larger number of patients.

### ETHICAL DECLARATIONS

#### Peer Review Process

This letter was externally peer-reviewed.

#### Conflict of Interest

The authors declare no conflicts of interest.

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#### Author Contributions

Conceptualization: EV, NE; Design: EV, NE; Supervision: EV, NE; Resources: EV, NE; Materials: EV, NE; Data Collection and/or Processing: EV, NE; Analysis and/or Interpretation: EV, NE; Literature Review: EV, NE; Writing–Original Draft: EV, NE; Writing–Review and Editing: EV, NE.

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## Author reply “essential amino acids levels in individuals that attempted suicide”

 Tansu Gençer

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**Dear Editor,**

We would like to thank the author for the interest shown in our study entitled “basic amino acid levels in individuals with suicide attempts” and for the valuable comments provided.

In the letter, it was noted that the sample size of our study was limited and that studies conducted with larger patient groups may provide stronger evidence. In this regard, we would like to state that the sample size of our study was determined based on a statistical power analysis performed before the study was initiated. According to the analysis conducted by a biostatistics specialist, the inclusion of 35 participants in both the patient and control groups was sufficient to detect differences between the groups with respect to the variables evaluated in the study, and the statistical power was calculated as 0.90744. Accordingly, the study groups were established on the basis of this power analysis.

Nevertheless, as also highlighted in the literature, studies with larger sample sizes and multicenter designs would further strengthen the level of evidence on this subject. Therefore, future research involving larger patient populations may provide important contributions to the field.

We would like to thank the author for the constructive comments on our study and acknowledge that these contributions add valuable insight to the scientific discussion on this topic.

Sincerely,