

Associations Between Vitamin K and Suicide Attempts in Patients with Depression: A Case-Control Study [Letter]

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Dear editor

Recently, we have carefully read an original article titled “Associations Between Vitamin K and Suicide Attempts in Patients with Depression: A Case-Control Study” by Wang et al.¹ This is a very valuable and meaningful study worldwide and in China. It is an early or the first study to explore the relationship between serum vitamin K levels and suicide attempts in patients with depression, which revealed a novel biomarker for suicide attempts in depressed patients, providing scientific evidence for early identification of depressive patients with suicidal attempts and developing timely prevention and control measures. Given the high prevalence of suicide attempts and their widespread adverse effects on the depressed patients,² strengthening the management of suicide attempts among cases with depression is the responsibility and mission of healthcare workers.

The strengths of this article are as follows: (1) Suicide attempt is a common clinical characteristic in patients with depression, exploring the associations among novel biomarkers with depression or suicide attempts has important clinical significance and is one of the better attempts for diagnosis of diseases. (2) This article was well written, with a reasonable research design, appropriate methods, and detailed and rich results. The authors employed various methods to explore the relationship between vitamin K and suicide attempts among depressive patients, such as univariate and multivariate logistic regression analysis, ROC curve analysis, multiple linear regression analysis, stratified analysis, etc, and the conclusions drawn were more reliable. (3) In the discussion section, the authors provided a detailed explanation of the potential mechanisms by which vitamin K reduces the risk of depression and suicide attempts.^{3,4}

There are several areas that need improvement and further research directions in Wang's study, namely: (1) The sample size of this study is relatively small. We suggest that the authors calculate the sample size based on the EPV (events per variable) principle. The sample size for the case group should be 10 to 20 times the number of independent variables.⁵ According to Table 4 on page 3427, there are 17 independent variables in this study; Thus, at least 170 depressive patients with suicidal attempts are required. (2) Although stratified analysis was used to further analyze the relationship between vitamin K and suicide attempts in depressed patients, we suggest that the authors supplement the basis for stratification based on length of illness, FT4, TC, CRP, and vitamin D in the materials and methods section. (3) Marital relationships, family economic status, severity of depression, comorbidities, experience of major traumatic events, social support, psychological resilience, etc may also affect suicide attempts in patients with depression. In future research, the authors may consider incorporating these factors and further analyzing the relationship between vitamin K and suicide attempts among depressive patients after controlling for these confounding factors. (4) Due to the lack of reliable methods for measuring serum vitamin K levels in clinical practice and the inconvenience of detecting

techniques, we suggest that the authors consider developing a scale to evaluate suicide attempts in patients with depression, in order to quickly screen high-risk populations and provide effective interventions.

Disclosure

The authors declare no conflicts of interest in this communication.

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