



Letter to the Editor

Milk intake and depressive symptom: a risk assessment

Li *et al.*⁽¹⁾ conducted a cross-sectional study on the associations of total protein intake and protein sources with the risk of depressive symptoms, which was assessed by a nine-item Patient Health Questionnaire. Adjusted OR of the second and the third highest quartiles of protein intake from milk and milk products for depressive symptoms were 0.34 (95 % CI 0.17, 0.68). Especially, adjusted OR of high milk intake against the no/seldom milk intake in repeated and baseline measurements for rectal cancer were 0.37 (95 % CI 0.24, 0.59) and 0.61 (95 % CI 0.41, 0.93), respectively. There was a significant dose–response relationship, and I have some concerns about their study.

Sun *et al.*⁽²⁾ conducted a cross-sectional study to evaluate the associations between different types of milk products and depressive symptoms. They also used Patient Health Questionnaire, and logistic regression model was also applied for the analysis. Adjusted OR of the second and the third highest intakes of skimmed milk and the third higher intake of milk desserts for depressive symptoms were 0.46 (95 % CI 0.29, 0.75), 0.48 (95 % CI 0.27, 0.85) and 0.70 (95 % CI 0.55, 0.88), respectively. In contrast, adjusted OR of the highest, the second and the third highest intakes of whole milk against the lowest group for depressive symptoms were 1.55 (95 % CI 1.11, 2.16), 1.70 (95 % CI 1.15, 2.50) and 1.61 (95 % CI 1.05, 2.46), respectively. This means that different types of milk products have different associations with depressive symptoms, and dose–response relationship was not observed.

Willett & Ludwig⁽³⁾ recently reviewed the association between milk intake and physical health, and the effect of milk on cognitive impairment was also reviewed with special reference to frailty, sarcopenia, cognitive impairment and ageing⁽⁴⁾. There is a close relationship between depressive symptoms, physical health and ageing. Although conflicting and inconsistent associations were observed⁽⁵⁾, a meta-analysis with

high-quality studies is needed to specify the quantitative association between milk intake and depressive symptoms.

Acknowledgements

The author has indicated no financial support.
 There is no conflict of interest in the present study.

Tomoyuki Kawada

Department of Hygiene and Public Health, Nippon Medical School, Tokyo 113-8602, Japan
 email kawada@nms.ac.jp

doi:10.1017/S0007114520004900

References

1. Li Y, Zhang C, Li S, *et al.* (2020) Association between dietary protein intake and the risk of depressive symptoms in adults. *Br J Nutr* **123**, 1290–1301.
2. Sun J, Wang W & Zhang D (2020) Associations of different types of dairy intakes with depressive symptoms in adults. *J Affect Disord* **274**, 326–333.
3. Willett WC & Ludwig DS (2020) Milk and health. *N Engl J Med* **382**, 644–654.
4. Cuesta-Triana F, Verdejo-Bravo C, Fernandez-Perez C, *et al.* (2019) Effect of milk and other dairy products on the risk of frailty, sarcopenia, and cognitive performance decline in the elderly: a systematic review. *Adv Nutr* **10**, Suppl. 2, S105–S119.
5. Hockey M, McGuinness AJ, Marx W, *et al.* (2020) Is dairy consumption associated with depressive symptoms or disorders in adults? A systematic review of observational studies. *Crit Rev Food Sci Nutr* **60**, 3653–3668.