

Correspondence

Reply

To the Editor:

Miller¹ stated in his correspondence in response to our Rostrum article that it is possible that it is not the presence of factors in raw milk, but rather the absence of homogenization, that might explain the protective effect of farm milk consumption.

We agree that homogenization and/or heating of milk may indeed have a biological effect on cow's milk allergy. This is indicated by the animal studies referenced, but to our knowledge, there is no human data to support this. In our article, we have discussed the possible factors in raw milk that may be involved in the prevention of asthma.² In the farm milk studies that were discussed, inverse associations between farm milk consumption and inhalation allergies were demonstrated. Importantly, Loss et al³ have shown that the consumption of raw farm milk, but not the consumption of heated farm milk, protected against asthma. This strongly suggests that the effect seen is not the result of homogenization, as farm milk is not homogenized. Instead, the data show that heat-sensitive components, most likely proteins, in farm milk are responsible for this effect. Therefore, we do not think that the absence of homogenization can explain the effect of farm milk consumption on asthma.

Lately, the transdermal sensitization hypothesis, which suggests that early cutaneous exposure to food allergens may lead to allergic sensitization,⁴ has gained interest. Potentially small milk fat globules might promote skin uptake of a wide ranges of molecules, including allergens. However, human skin is a good barrier and molecules larger than 500 d cannot penetrate healthy human skin.⁵ Allergens in general have molecular weights between 10 and 80 kDa, and it is unlikely that these will penetrate the skin even in the presence of small fat globules.

Finally, Miller¹ suggested the intriguing possibility that rather than a *protective* effect by the consumption of raw farm milk, the consumption of processed milk might be associated with an *increased prevalence* of allergy. This question prompted us to revisit the literature on this issue. Several groups have studied the effect of dietary intake of milk (we assume this is regular, processed, and heated shop milk) in relation to the development of asthma and eczema.⁶⁻⁹ None of these studies could demonstrate a positive association between milk consumption and the

development of respiratory allergies and atopic dermatitis. Therefore, we conclude that it is the presence of factors in raw milk, rather than the effects of homogenization on milk, that are associated with the effect on asthma and rhinitis prevalence.

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Disclosure of potential conflict of interest: R. J. J. van Neerven and J. M. L. Heck are employed by Friesland Campina. H. F. J. Savelkoul is employed by Wageningen University. E. F. Knol declares that he has no relevant conflicts of interest.

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