



Dairy: debunking the mucus myth

Confusion and misinformation about the association between dairy consumption and mucus production still abound, even among some healthcare professionals. Current research shows that while people may perceive symptoms of mucus production after consuming milk and dairy products, there is no conclusive evidence that milk increases mucus production or aggravates the congestion associated with colds, allergies or asthma^{1,2,3,4}.

Milk intake does not increase mucus production

Mucus is the film that covers the surface of the mucous membrane of the alimentary and respiratory tracts, protecting these organs against mechanical, thermal and chemical irritations. No substantial research exists to support the belief that milk consumption causes excessive mucus production or any other cold-related symptoms in the respiratory system¹. Several studies have shown that consumption of milk is not related to congestion, the amount of nasal excretion⁵ or the exacerbation or occurrence of symptoms experienced during asthma⁶ and colds. It follows that neither asthmatic individuals nor those with a cold need to avoid dairy.

Symptoms of increased mucus formation could be subjective

Despite the evidence, many people still limit their dairy intake based simply on their own beliefs and perceptions^{1,7}. This is supported by observations that proponents who believe in the 'milk-mucus theory' were more likely to report changes in sensory perceptions related to mucus after drinking milk than those who did not hold the same belief¹. The subjective nature of dairy-associated mucus production is reinforced by the finding that both soy milk and cow's milk consumers reported an increased sensation of mucus in a blinded study⁸.

The milk-mucus belief probably stems from sensations related to the creamy texture of milk. After consumption of milk, an emulsion may temporarily adhere to the thin mucus layer coating the throat, resulting in a transient sensation of increased mucus production. The sensation of increased viscosity or 'thickness' of mucus is probably due to droplet flocculation after the milk emulsion has mixed with saliva. Such aggregation affects the mouth feel and other sensory aspects associated with milk consumption⁹, which may be mistaken for mucus. A study by Bartley and McGlashan¹⁰ may explain the apparent milk-mucus contradiction reported in literature, where some people experienced an improvement of asthma or rhinitis symptoms on a dairy-free diet. Results showed that for milk to increase mucus production from glands:

- (i) A1 milk* (milk with a high β -casein A1 level) has to be consumed,
- (ii) the tissues need to be inflamed, and
- (iii) increased intestinal mucosal permeability should exist in order for β -CM-7 (an exorphin derived from the breakdown on A1 milk) to pass into the circulatory system.

All these prerequisites considered, increased mucus secretion following dairy intake is exceptional.

Avoiding dairy to reduce mucus is inappropriate and potentially harmful

Misperceptions about dairy may result in the unfounded and unnecessary omission of these foods from the diet. This, in turn, may lead to inadequate nutrient intakes such as calcium, and increased risk to non-communicable disease due to restriction of protective bioactive constituents found in dairy⁴. In fact, a recent study showed a possible protective effect of milk on respiratory health¹¹. Children who drank more milk were found to have a better (although not statistically significant) lung function compared to children who did not drink milk.

Conclusion

Current evidence does not support the association between milk and mucus production. On the contrary, dairy remains an economical source of a variety of nutrients, contributes to bone health, weight maintenance and the prevention of non-communicable diseases of lifestyle and forms an integral part of a balanced diet.

* A1 milk is milk from a specific cow – the Guernsey. When consuming milk from this source, during proteolysis, bio-active peptides are liberated, which may elicit an immune response in sensitive people.

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