



REDISCOVER DAIRY

The Consumer Education Project of Milk SA

May 2015

Can milk-aversion be reversed?

Many people have a variety of taste aversions. A study conducted with more than 500 undergraduate students found that up to 65% of the students reported that they suffered from at least 1 food aversion, while another study with nearly 1,500 subjects reported that about 5% of the population had milk-/butter-aversions.

Different definitions

English dictionaries such as Merriam-Webster define 'aversion' as "a strong dislike that leads to aversion", while scientific research defines 'aversion' as "a strong dislike associated with food illness or gastrointestinal discomfort".

Lactose intolerance

Milk and dairy products can make people develop unpleasant side-effects such as the flatulence, abdominal pain, cramps and diarrhoea linked to lactose maldigestion. This condition is associated with an inability to digest milk sugar or lactose because such patients suffer from a lack of the lactase enzyme. To a great extent lactose intolerance/maldigestion is dose- and situation-dependent. Scientists have found that the majority of lactose intolerant patients can tolerate having up to 1 cup of milk a day.

As the most bioavailable and abundant source of calcium in the human diet, helping people who are lactose intolerant or those who have a milk-aversion to be able to consume milk and dairy products would greatly improve their diets and bone health.

Other reasons for avoiding milk

In addition to individuals who suffer from established lactose intolerance, there are a considerable number who believe that they are "sensitive to milk and dairy products" and need to avoid them at all cost. This could be due to symptoms caused by other conditions such as irritable bowel syndrome (IBS) which also causes flatulence, abdominal pain, cramps and diarrhoea! In such cases milk and dairy may be innocent scapegoats.

This is a regular Newsletter of the Consumer Education Project (CEP) of Milk SA!

An Initiative by the Consumer Education Project of Milk SA.



REDISCOVER DAIRY

The Consumer Education Project of Milk SA

Finally there is the category of people who have learned to avoid milk and dairy as a learned response. In many cases, a single bout of illness after consumption of a food type such as milk can trigger a lifetime of aversion which may not be based on reality.

In view of these variations in the human reaction to milk and dairy foods, O'Conner and her team of researchers at the Department of Nutrition Science of Purdue University in the USA, set out to test if 21 days of a milk drinking intervention could reverse milk aversion.

The study

Twenty-seven participants (15 lactose digesters and 12 lactose maldigesters) between the ages of 18 and 55 years at a Midwestern University, who have been avoiding milk for at least one year, participated in the 21 day study. These milk avoiders included both lactose-intolerant (maldigesters due to lack of an enzyme) and tolerant (digesters), who were taught how to gradually introduce increasing quantities of milk into their diets.

The goal of the study was to increase liquid cow's milk intake from half a cup of milk twice a day (week 1), to 2/3 cup of milk twice a day (week 2), and then to 1 cup of milk twice a day (week 3).

The subjects were tested for milk aversion, and how much they liked milk. In addition, their dietary intake with special emphasis on calcium intake was determined and hydrogen breath tests were carried out. Lactose maldigesters produce higher levels of hydrogen in their breath when they are fed a test dose of 20 g of lactose dissolved in water. The subjects were also asked to keep records of their symptoms during the study.

The participants were followed-up after 3 and 6 months to determine if the intervention had influenced the participants perception of and tolerance for milk, and their tendency to use milk more frequently.

This is a regular Newsletter of the Consumer Education Project (CEP) of Milk SA!

An Initiative by the Consumer Education Project of Milk SA.



REDISCOVER DAIRY

The Consumer Education Project of Milk SA

Results

The results showed that both the subjects with, and without lactose intolerance, showed a statistically significant decrease in the number of symptoms they recorded as they got used to increasing quantities of milk. Interestingly, the maldigesters (i.e. people who suffered from actual lactose intolerance), had a greater decrease in symptoms than the digesters. This supports previous findings that even patients with lactose intolerance can consume up to 1 cup of milk a day without untoward symptoms.

Feelings of aversion decreased until a plateau was reached at about 6 months. At the same time the subjects reported an increase in liking for milk which also reached a plateau at 6 months.

On average milk consumption increased to about 10 servings per month at the 3-month follow-up, which improved calcium intake from a poor intake at baseline of less than 700 mg calcium per day to fair (700 to 1000 mg calcium/day) at 3-6 months. This increase in calcium consumption was significant and a welcome improvement in dietary intake considering that the majority of Americans have a sub-optimal calcium intake. A lack of calcium in the diet can lead to osteoporosis in both men and women, hypertension and certain cancers.

Conclusion

O'Conner and her team concluded that "The results suggest a reversal of milk avoidance". The study showed that milk avoiders can increase their liking of milk and learn to incorporate milk into their diets after being exposed to increased amounts of milk over a 21 day period.

The nutritional benefit of reversing milk avoidance and increasing the use of milk in the diet, is of course the improved intake of bioavailable calcium which helps to prevent osteoporosis and hypertension and may help against certain cancers. An adequate calcium intake also benefits a number of metabolic functions, it strengthens bones and teeth, helps to control weight gain and improves resistance to diseases.

This is a regular Newsletter of the Consumer Education Project (CEP) of Milk SA!

An Initiative by the Consumer Education Project of Milk SA.



The results of this study are encouraging and will hopefully prompt dietitians to help their milk-averse patients to overcome their dislike of this calcium-rich food.

Reference:

O'Conner L E, Eaton TK, Savaiano D A (2015). Improving milk intake in milk-averse lactose digesters and maldigesters. *Journal of Nutrition Education & Behavior*:1-6.

This is a regular Newsletter of the Consumer Education Project (CEP) of Milk SA!

An Initiative by the Consumer Education Project of Milk SA.