



Lactose Intolerance

Lactose malabsorption (LM): lactose deficiency, lactose intolerance, milk intolerance.

As infants mammal nurse from the mother's milk which is rich in lactose. Lactose is a milk sugar, a disaccharide and principle carbohydrate source in milk of land animals.

To ingest milk the lactose is hydrolyzed in the small intestines, this happens when the small intestines secretes the enzyme lactase which splits the lactose molecule in two producing sugar glucose and galactose. This is then absorbed and enters the blood. However, if the lactose remains unhydrolyzed it has intestinal symptoms – stomach gas, distension, flatulence, diarrhea and vomiting. Lactose intolerance is the inability to digest and absorb lactose which is a condition that occurs naturally in the majority of adults globally.

Lactose absorbers are those who can hydrolyze lactose to produce glucose which is absorbed into the blood. Lactose malabsorbers are those who cannot –hydrolyze lactose and so glucose is not absorbed. Many people who are lactose malabsorbers are able to consume milk daily with no signs of distress.

As children humans have a high intestinal lactase activity so to take in lactase is much easier. After weaning the lactase activity declines to great lows for the remainder of the person's life. This happens with no experience of intestinal illnesses. The process of decline of lactase activity and the beginning of lactose malabsorption is normal in nearly all land mammals.

There have been cases however where the process of lactose malabsorption (LM) is delayed until a person's teens or adulthood.

The issue by race

Studies show that many race groups had a high prevalence of LM (60%-100%). Research also illustrate that only Northern Europeans and a few small isolated peoples continue to have high lactase production levels in adulthood. Northern Europeans including Danes, Scandinavians, German, British and Irish, descendants in the US and Australia had low prevalence of LM. Elsewhere only 2 east African pastoral people had low prevalence – Hima and Tussi.

High prevalence of LM was found in the following groups:

In US – Indians, Orientals (Chinese, Philipinos, Koreans, Japanese)

Chinese and Indians in Australia

Thais, Arabs, Jews, Greeks, Greek Cypriots

Natives of New Guinea

American Blacks
Gandu and other agricultural Bantus of Uganda
Shona of Rhodesia
South African Bantu
Aborigine Australians
Greenland Eskimos (full blood)
Chami Indians in Colombia

Studies performed by Cook 1966 et al on 135 people from east African tribes including some Bantu agricultural tribes and others from neighboring pastoral traditions.

It was found that in adults 96% were LM from the Gandu people from neighboring Bantu groups. However, an exception were the Hima peoples with 9% and the Tussi at 17% LM.

Also further studies in the 60's and 70's showed Bantu tribes in Kenya, South Africa, Zaire and the Cameroons had high prevalence of LM.



In the US studies showed ½ of Black elementary school children have LM and the prevalence increased with age. In adults the percentage of those with LM was lower than those on the African continent which is thought to be due to the generations of mixing with Europeans descendants how had a lactose absorption of 80%-90%. Overall it is estimated that in the US 2/3 of black, Mexicans, American Indians, Ashkenazic Jews and Orientals are lactose intolerant.

Reference

Lactose malabsorption in Africa. By Fredrick J Simmons, Africa Economic History. No 5, spring 1978 pp16-34.

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