

J-milk's argument for the cohort studies about adverse health effects of milk in Sweden

1. Summary of this study

On 29 October, the study targeted at Swedes (the analysis of two large scale cohort studies which tracked both men and women for maximum of 20 years with the focus on their dietary habits and the examination of the connection between the amount of milk consumption and the risk of fracture and mortality) was published in the British Medical Journal.

Summary of the published study result is as follows.

In women, a higher risk of death was observed in the follow up period among ones who drank more than 200g of milk a day than the ones who drank less than 200g a day. The increase in risk was 21% for women with consumption of 1-2 glasses of milk a day and 93% for 3 glasses or more a day. Furthermore, the increase of the bone fracture risk was associated with drinking more than a glass of milk a day in women. In men, no such clear association was observed for either bone fracture or death.

The study also pointed out that a higher intake of fermented milk products such as cheese and yoghurt was associated with reduced risk of mortality and fracture particularly in women, and they suggested as the logical explanation that drinking milk contains high level of "D-Galactose" (a type of sugar) unlike fermented milk products.

2. Reaction of public opinion to this study

The result of this study was broadcasted on major network news in Japan and perceived with the impact.

For many years, vast amount of studies were carried out on nutritional health functions of milk globally, and various evidences have been published. Since the result of this study has contents which overturn the traditional findings, the questions about the validity of this study and its method of drawing its conclusion were raised both in Japan and abroad, and there are discussions over the evaluation of this study among the researchers.

3. J Milk's comments

Under these circumstances, J Milk has collected the comments on this study from the specialist researchers (Milk and Dairy Products Health Science Commission, researcher members of the Milk Academic Alliance) and summarised our evaluation of this study by referring also to the comments of the researchers from various countries gathered by the International Dairy Federation.

However, this is still an interim report since the institutions such as the International Dairy Federation continue with their professional evaluation of this study, and their official views are to be announced at an early date.

(1). Observational studies like this one (a study performed by collecting data about health and illness without any intervention) get influenced by innumerable constraint conditions and have characteristics of their inability to identify correct causal relationship, therefore, such conclusion must be treated with caution.

(2). In addition, the subjects of this study were mainly the Swedes with some people of neighbouring countries, and this study may not apply to other regions with different lifestyles and living conditions.

For example, the milk intake in these countries is higher than the Japanese average, and there is considerable difference in calcium intake. The average calcium intake of the women who were the subjects of the survey in this study was more than 700mg per day, and the relevant average of the Japanese women aged 20 years and over is 431mg per day (2012 National Health and Nutrition Survey by the Ministry of Health, Labour and Welfare).

Furthermore, vitamin A is added to drinking milk in Sweden. (a vitamin A intake is known to be related to a bone fracture risk)

(3). In relation to milk, it is important to remember the fact that the scientific evidence so far accumulated and many previous articles indicate the opposite result to this study.

(Major studies provided as reference)

1). Milk Drinking and Mortality: Findings from the Japan Collaborative Cohort Study (Japanese cohort study, J. Epidemiol. 2014)

2). Milk and dairy consumption and incidence of cardiovascular diseases and all-cause mortality: does-response meta-analysis of prospective cohort studies

(WageningenUniversity, Am J Clin Nutr. 2011)

3). Dairy and bone health (J Am Coll Nutr. 2009)

4). Milk intake and risk of his fracture in men and women: a meta-analysis of prospective cohort studies (J Bone Miner Res. 2011)

Particularly, in the similar cohort study published on 18 October this year in Japan, the lower mortality was observed in the cases of the minimum milk intake of 1-2 times per month in men and 2-3 times a week in women compared to non-milk intake, and this result has attracted attention.

(4). This study formed a hypothesis that "D-galactose is not good for human health" as a rationale from the results which indicated increase of the bone fracture risk and the mortality with drinking milk and decrease with fermented milk products. This hypothesis is based on the established experimental model for premature ageing including shortened life span caused by oxidative stress and chronic inflammation when D-galactose is given to laboratory animals (mice, rats and drosophila flies), and it is still unclear whether this result could be generalised to human.

Also, the amount of lactose/galactose in milk and fermented milk products are not so different, and fermented milk products contain more vitamin K than milk (vitamin K is known to be linked to the health of bone and cardiovascular system), these facts need to be considered.

From the above, a conclusion should not be drawn solely on the grounds of the article of this study, and eating habits (especially the way of consuming milk) should not be affected by it.

Also, when broadcasting such study, it is particularly important the other researchers' evaluations of its study method and results to be considered and the other studies of a similar theme to be compared with.