

Usefulness of Probiotic-Enriched Milk and Milk-Based Products

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Introduction

A potential dietary strategy to prevent obesity and metabolic syndrome was developed with the aim of intestinal microbiota using testiotics. Cultivated dairy products can be used for delivering probiotics to the gut as well as to promote probiotic bacteria's development and survival. In the last decade, the gut microbiota has become a major driver of metabolic syndrome and obesity *via* an increasing array of data. Multiple variables in the genetic and environmental makeup of the gut microbiota are regulated, including the key contributive component in diet. Diet surgeries such as probiotic supplements may help to manipulate the gut microbiota as a potential approach to prevent and cure metabolic syndrome and obesity. Diet supplements or food sources, particularly dairy products such as yoghurt or kefir, can provide probiotic bacteria to the intestine. Global consumption of milk and milk products exceed 6 billion people. In Europe, Oceania and the Americas, milk supplies 11% to 14% of the food supply. Due to the inverse relationship between milk product consumption and the risk of metabolic syndrome and, possibly, obese usage, milk-related consumption was noted in recent research. Due to the strong buffering capacity of milk proteins, which can preserve bacterial cells during gastric transit, cheese is an appropriate matrix for transporting the probiotic bacteria into the gastrointestinal system. The acidic bacteria are protected by the food matrices with the high-fat content and thick structure (as found in cheeses).

Production of Cultivated Milk Products

The probiotic cheese and yoghurt were produced at the laboratories of the Department of Health and Nutrition Sciences using the probiosis strains that were cultured there. Greek-style yoghurt and cottage cheese were prepared in accordance with the principles of standardised Greek yoghurt and cheese manufacturing in the cottage reek-style yoghurt and Cottage Cheese were prepared using 1 liter of commercially acquired milk.

The Impact on the Gut Microbiota of Unfermented and Fermented Sheep and Cow Milk

Along with improving human health, several fermented foods have nonetheless not thoroughly defined the influence of these on the

Rachel Miller*

Editorial Office, Journal of Nutraceuticals and Food Science, London, UK

*Corresponding author: Rachel Miller

✉ neutraceuticalfoodsci@journalres.com

Editorial Office, Journal of Nutraceutical and Food Science, London, UK

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intestinal microbiota. Dairy products are one of the world's most popular fermented goods. One area where there is presently no evidence is how the fermentation process alters intestinal flora after digestion. The potential distinctions between cow's and the milks of other mammals are even less well documented. Yoghurt is one of the fermented foods most often consumed. Cow milk is most often used however for the commercial manufacture of yoghurt a number of different mammalian milks are available. The usage of non-bovine milk products has grown widespread in western markets, as non-bovine products may be tolerated by those with allergies or sensitivities to cow's milking. Milk across animal species can also be fostered in various nutritional and aromatic characteristics. The cow's milk treatment showed particular treatment effects in other groups that were not apparent. The largest variability in the intragroup also revealed that cow milk can lead to more varied gut microbial populations. This implies that some substrates in cow milk might lead to a non-uniform reaction in bacterial populations. As the cow yoghurt treatment has not observed these effects, fermentation apparently deletes this consequence. Another method that might impact bacterial populations is bioactive substances such as peptides produced from proteolysis during fermentation. The content and activity of bioactive peptide has been demonstrated to differentiate between ruminants (e.g. sheep, cows etc.) after in vitro milk digestion. Many bacterial starters and adjuncts are known to lead to the production of bioactive peptides and bacterial strains that are generated in bioactive peptides.

In comparison with unfermented milk in a healthy host, fermented milk effects (yoghurt) have on the intestinal microbiota. It also studied the possible impact on bacterial

intestinal populations of variation in animal origin from milk (cow *versus* sheep). We assumed that animal origin would lead to a wider extent than fermentation, based on findings from this comparable investigation. While only an abundance of one species (*Collinsella*) was affected by animal origin, fermentation

seems to have a bigger influence. Taxa modifications and larger variations in intra-treatment in other treatment group were demonstrated to be caused by the treatment of cow milk. The abundance of *Collinsella aerofaciens* in the CM treatment was significantly greater compared with other groups.