

## Comparison of Conjugated Linoleic Acid (CLA) Contents in Raw Cow Milk and UHT Treated Cow Milk in Sri Lanka

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Conjugated linoleic acid (CLA) is a heterogeneous group of isomers of linoleic acid (18:2, cis-9, trans-11 & trans-10, cis-12) and found to be health beneficial in various diseases, such as cancer, diabetes, obesity, and atherosclerosis. Biological synthesis of CLA arises through the microbial isomerization of dietary linoleic acid in digestive tracts of ruminants. Therefore, food items originated from ruminants are rich with CLA. However, the distribution of CLA in cow milk available in Sri Lanka is poorly understood. Therefore, this study aimed to assess the content of CLA in raw cow milk and UHT treated cow milk in Sri Lanka. Three samples of UHT treated fresh milk and three samples of raw cow milk were analyzed for CLA content using standard procedures. Freshly drawn raw cow milk samples were collected from three local cows (n = 3) and three UHT treated milk samples (n = 3) were taken from the market. Milk fat separation was carried out by the double centrifugation method and CLA-1 (cis-9, trans-11) and CLA-2 (trans-10, cis-12) levels of each milk sample were determined by gas chromatography. The mean value of CLA-1 in UHT treated milk ( $0.67 \pm 0.06$  g/100g of milk fat) was significantly higher than raw milk ( $0.50 \pm 0.00$  g/100g of milk fat). However, CLA-2 was not detected in milk samples. In conclusion, this study shows that the consumption of fresh milk provides a CLA level that is beneficial for human health. Moreover, it indicates that there is a possibility that UHT processing and feeding practices for cows may have affected the CLA content in milk. The better feeding for cows from which UHT milk samples were originated by organized farmers may have caused an increase in CLA content in UHT milk. However, further studies are highly warranted to confirm these findings.

**Keywords:** Conjugated Linoleic Acid (CLA), Cow-milk, Fatty acids, Sri Lanka, UHT