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TIARUTAI KORNAWAKAN : THE EFFECT OF MILK / YOGURT
CONSUMPTION ON PROTEIN AND IRON STATUS IN THAI ADOLESCENT
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Adolescence is a period when people are at risk of nutritional problems both from dramatic increase in physical growth and poor dietary habits. Iron and calcium are often consumed in inadequate amounts. Adolescents should consume foods with high iron availability to meet their increased iron requirements. Good sources of calcium such as milk and dairy products must be consumed to meet Thai RDI of 800 mg calcium. There is, however, some evidence that milk and dairy products strongly inhibit the nonheme iron absorption, while other studies have shown that milk and dairy products enhance iron absorption. Iron and calcium are essential nutrients and the requirements for both nutrients are high in the adolescent age group. If milk enhances iron absorption, increasing milk consumption would be an attractive means of improving iron status.

To investigate this effect, an intervention study was performed among healthy Thai adolescents. Ninety-five subjects (23 males, 72 females), aged between 15-21 years, were randomly divided into two groups to consume either whole milk (500 ml) or yogurt (375 g) on a daily basis for 10 consecutive weeks. Dietary assessment was conducted at baseline, week 4 and week 10 of the study. Blood samples were collected at the start of the study and at week 10. Data on nutrient intakes indicated that calcium intake increased from about 50% to more than 90% of Thai RDI. In the study of iron status, improvement was observed in both milk and yogurt consumers. It is of interest to note a beneficial effect from both supplements in anemic subjects. In such subjects the hemoglobin and hematocrit levels were increases significantly after 10 weeks of milk and yogurt consumption. The prevalence of anemia in both groups decreases from 25% to 6.5%. In addition, the study also showed a significant increase in protein status, especially among the subjects whose baseline values were below normal. These results support the notion that milk and yogurt are appropriate sources of calcium, and that increasing calcium intake may improve protein and iron status of adolescents.