

Development of a Choline Database for Thai Food and a Population-Wide Assessment of Choline Intake in Thailand

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Abstract

Choline is an essential nutrient for human health, and a deficiency is associated with health problems such as metabolic dysfunction-associated steatotic liver disease, a common liver disease [1]. Research shows that Western populations have inadequate choline intake, but the intake status of Asian populations is less studied [2]. This study developed a choline database for Thai food and evaluated the choline intake status of the Thai population. Following the guidelines of the Food and Agriculture Organization/the International Network of Food Data Systems [3], 1,806 Thai food items were matched to the U.S. choline database, and the missForest imputation method was employed to impute missing data. Next, choline intake was assessed in Thai adults aged 18 years and older using a nationally representative sample from the Thai Food Consumption Survey (n=3,593). Our results show that animal-based foods such as eggs, meat, and fish contain more choline than plant-based foods. Mean ($\pm$ SD) choline intake was 171.8 $\pm$ 146.0 mg/day, with only 3.6% of Thai individuals meeting the adequate intake levels. Men consumed more choline than women (mean 192 vs. 154 mg/day; $P<0.001$). Choline intake declined with age but did not differ by body mass index. In conclusion, this study created a choline database for Thai food and shows that most Thais do not meet the recommended choline intake.

References

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