

IODINE FORTIFICATION OF DESSERT IN IODINE DEFICIENCY PREVENTION PROGRAM FOR PRIMARY SCHOOL CHILDREN, MAHA SARAKHAM PROVINCE, THAILAND

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Abstract. Iodine deficiency (ID) has adverse effects on the health of people. This study monitored in Maha Sarakham Province, northeastern Thailand iodine status of 114 primary school children, 7-12 years of age, who were at risk of ID. Urinary iodine concentration (UIC) was used for determining iodine status according to the WHO guidelines. Median UIC (employing an ammonium persulfate colorimetric method) and iodine intake were measured to assess iodine status. More than half (69.3%) of the children had urine iodine (UI) level lower than 100 mg/l, indicative of an inadequate iodine intake. Boys and girls 7-9 years of age had 40.7% and 70.0%, respectively of normal iodine status for their age. Iodine intake, calculated for each participant using the formula of the US Institute of Medicine, had a median value of ~61 $\mu\text{g}/\text{day}$, half of the Thai daily recommended intake of 120 $\mu\text{g}/\text{day}$. Although the Thai Ministry of Public Health supports an iodized-salt intake campaign but it would appear that there was still a too low consumption by the children in the target population, suggesting their respective family food was also deficient in providing RDI of iodine. Egg jelly iodine fortification improved the UIC level from severe (UIC $\leq 20 \mu\text{g}/\text{l}$) to adequate IU level.

Keywords: iodine deficiency, iodine fortification, urinary iodine, school children

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