

This study aimed at identifying the effectiveness of eating fermented fish fortified with potassium iodate solution. The effectiveness is indicated by the acceptability, the continuity of eating and an increased and sustained iodide level found in participants' urine excreted before and after consumption of given fermented fish. The study was designed as the quasi-experiment which consisted of one experimental and one comparative group. Samples in both groups are inhabiting in the same geographical area named Ban Nafai Nua and Ban Nafai Tai, Tambon Nafai, King amphoe Phupamarn, Khon Kaen Province. Samples were women who are 15 - 44 years old, living in the study area. They were randomly drawn from each study village. At the end of the 30 day-study period, 27 participants remained in the experimental group and 24 in the comparative group. Before the experiment started, both groups were collected early morning urine specimen (EMUS) for determination of an iodide level per gram creatinine and interviewed for base-line data. After that the

experimental group was given fermented fish, fortified with potassium iodate solution, but the comparative group was only given fermented fish. On the first, seventh and thirtieth days of consumption, participants were asked for EMUS. The questionnaire for appraising the acceptability to the fortified fermented fish was administered on the second day of the study period. At the end of the experiment, the questionnaire for assessing the continuity of eating and the cooking of the fortified fermented fish was applied to the experimental group. Findings indicated that in the experimental group, the acceptability of greater than 2 scores (= no difference from what they have eaten in the past) of colour, odour, taste, texture and overall comments were statistically significant by employing one sample t-test ($p = 0.031, 0.001, 0.044, 0.008$ and 0.044 respectively). In term of the continuity of consumption in the experimental group, the average day of consumption was 28.22 ± 2.79 ($\bar{X} \pm S.D$) which was greater than the continuity criteria of 27 days (90 % of the study period), the difference was statistically significant ($p = 0.017$). The difference of an iodide level before the experiment compared to the level on the 1, 7, and 30 day were statistically significant by applying Mann-Whitney two sample test ($p = 0.001, 0.003$, and 0.000 respectively). In the experimental group, the level of iodide on the 1, 7, 30 day was not statistically different by Wilcoxon matched-pairs signed-ranks test ($p = 0.480, 0.114$ and 0.105 respectively). It is concluded that eating the fermented fish fortified with potassium iodate solution increased and sustained the level of iodide in the samples' urine. It therefore could be considered as a supplementary measure to the IDD control programme in Thailand. However its application to the large scale need more evidence to ensure this measure is effective.