ABSTRACT

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EFFECTS OF DIFFERENT TYPES OF SPICES AND COOKING TIME AGAINST IODINE LEVEL OF IODISED SALT

(xiv + 56 pages: 8 figures, 16 tables, and 19 appendices)

Iodine Deficiency Disorders are still one of the major problem in Indonesia. Spices can reduce iodine in iodised salt. Some factors such as an active compound that can be found in spices like Vitamin C (ascorbatic acid) can diminish iodine, cooking time and pH were another factor that affect the iodine in iodised salt. The purpose of this research was to study the relationship between different type of spices and cooking time to the iodine in iodised salt. The purity of sodium chloride (NaCl) from 5 different brands of iodised table salt (GB1, GB2, GB3, GB4, and GB5) that were commonly found in the market were tested using argentometry method to determine the purity of sodium chloride (NaCl) in each iodised table salt. Iodine in iodised salt measured using iodometry, while in the processed food was measured using iodometry but with two different cooking time: 3 minutes and 5 minutes. The result showed that different types of iodised salt caused significant difference (p<0.05), toward the purity of sodium chloride and iodine in iodised salt. GB1 has the highest amount of sodium chloride (96.55 ± 1.2%) and the highest iodine level in iodised salt (40.37 ± 2.21 ppm). Iodine levels in the processed food also shown a significant difference (p<0.05) towards the different of the spices used in the solution and cooking time. The result showed that the mixed of spices solution iodine’s levels significantly different towards the control, 0 ppm for 3 minutes and 0 ppm in 5 minutes cooking time. In addition to assure the best way to add iodised salt in the processed food, the experiment conduct by adding iodised salt before being boiled, at the time of being boiled and when the food ready to serve by using high pressure liquid chromatography (HPLC). The best way to add iodised salt was when the food ready to serve (1668.87 ppb) to assure the iodine was sufficient enough to meet the iodine daily intake value.

Keywords: argentometry, cooking time, HPLC, iodine, iodine deficiency disorders, iodised salt, iodometry, salt, spices