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EVALUATION OF EFFECTIVENESS OF NEW IODINE-CONTAINING ORGANIC COMPOUND FOR PREVENTION OF IODINE DEFICIENCY

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Iodcasein (Patent N2151611) as food additive was registered in Russia.

Three choices of the use of the baked products enriched with iodine were evaluated. Choice 1: Children of Kaluga (220 individuals) and Tver (100 individuals) were given rolls (60g, 92 mcg of iodine). Choice 2: Children of Zhizdra rayon of the Kaluga oblast (1200 individuals members of children collectives) were given white bread (100g of bread contained 92 mcg of iodine). Choice 3: Children of Novozybkov Town (160 individuals) and Klinty Town (100 people) located in the Bryansk oblast were given brown and white bread (46 mcg of I in 100 g of bread).

In subjects of Kaluga and Tver (choice 1) the degree of iodine deficiency was similar (mild). In 3-4 weeks after beginning to consume rolls median iodine content in urine was 158mcg/l and 139mcg/l, the content did not change for the whole period of the follow-up (150 day for children of Kaluga and 45 days for children of Tver), it was >100mcg/l.

Choice 2. Consuming white bread (92mcg of iodine in 100g of bread) allowed one to normalise iodine supply to children. Initial median content of iodine in urine was 57-75 mcg/l in the subjects. In 40 days following the beginning of consumption the content increased from 95 to 123 mcg/l (median - 105mcg/l).

Choice 3. When iodinated bread(46 mcg of iodine in 100g of bread)was consumed by need only normalisation of iodine supply was noted as well. Initial median of urinary iodine in children of Klinty and Novozybkov was 74.0mcg/l and 59.5 mcg/l. In 40, 160 and 400 days from beginning of delivery of bread enriched with iodine to schools median urinary iodine was 166, 123, 146mcg/l (Klinty) and 104, 115, 126 mcg/l (Novozybkov) respectively.

Morpho-functional analysis of thyroid status against consuming baked products enriched with iodcasein shows that there was positive dynamics: trend for normalisation of hormonal status was observed, reduction of thyroid abnormality incidence was observed.