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**EFFICIENCY OF FOOD FORTIFICATION PRODUCTS WITH ZINC
REQUIRED TO CONTROL ZINC DEFICIENCY DISORDERS**

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Zinc is widely used in human body enzyme synthesis with regard to small size of its ion and ability to readily bind to ligands. The main functions of this microelement are: growth, immunity, tissue repair, vitamin A metabolism, protection against oxidative damage, neuropsychological functions, sexual maturation, apoptosis, cellular signaling, zinc is necessary for DNA and proteins synthesis and many others functions in the whole body level. The biological functions of zinc can be classified into three main categories: catalytic, structural, and regulatory. Zinc metalloenzymes are found in six enzyme classes: oxidoreductases, transferases, hydrolases, lyases, isomerases and ligases. The ability of this microelement to stabilize the membranes and its antioxidant activity play a significant role in injuries prevention induced by free radical activity in inflammatory processes.

Zinc deficiency disorders are widespread in several developing countries. Zinc deficiency disorders occur in some regions of Ukraine. It was found that children aged from 6 to 12, who live in four subregions of Chernigiv region are suffering from zinc deficiency due to decline in adequacy of zinc intakes. Several strategies apart from the use of pharmacological supplements and food fortification have been suggested for the improvement of dietary zinc status in the developing country settings. The recommended zinc daily intake within the range 5-15 mg and it depends on the human age and gender.

We have been investigated the effect of milk and dairy products consumption fortified with zinc-containing complexes (alginates, sulfates and picolines) on the improvement of dietary zinc status. The approaches of milk products fortification with zinc have been developed. It was found that the novel dairy foods can effectively restore zinc level on humans suffering from deficiency of this microelement.

KEY WORDS: zinc deficiency, pubescence, metabolic disorders, antioxidant activity, food fortification