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NATIVE VEGETABLE OILS: PROPERTIES AND MECHANISMS

TATIANA RAKOVSKAIA, doctorand an. I, univ. assistant

Introduction: Vegetable oils with lipophilic compounds (polyunsaturated fatty acids, tocopherols, phytosterols, carotenoids, organic acids, alcohols, esters, aldehydes, ketones) and hydrophilic (phenolic acids, aldehydes, hydroxycinnamic esters, flavonols, procyanidins) determines a lot of biological properties.

Keywords: vegetable oils, cytoprotective, antioxidant, regenerating

Purpose: Analysis and systematization of the properties and mechanisms of vegetable oils.

Material and methods: Articles from the PubMed database were selected and analyzed according to the keywords „ vegetable oils”,”properties”, “mechanisms”.

Results: Vegetable oils have demonstrated antimicrobial, antioxidant, anti-inflammatory, anti-tumor, regenerative, cytoprotective activity. The antioxidant activity is attributed to scavenging free radicals, inhibited the lipid peroxidation, decrease the levels of conjugated diene, malonic dialdehyde, and increase the gene expression levels and production of some antioxidant enzymes. The anti-inflammatory activity by inhibited the high nitric oxide, pro-inflammatory cytokine and prostaglandins, increase the levels of the cytokines, inhibited inflammatory cell infiltration and oxidative damage.The anti-tumor effect involve apoptosis, DNA damage and oxidative stress.

Conclusions: The biological properties of vegetable oils have been attributed to polyunsaturated fatty acids, polyphenols, procyanidins, tocopherols, tocotrienols, carotenoids, phytosterols, chlorophylls, flavonols, glucoside constituiens.