

CHAPTER 5

Implication of Natural Compounds for the Prevention of Ocular Diseases

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Abstract: Our eyes are a window to this world and like other parts of our body are affected by various diseases and injuries. Prevalence of various ocular diseases is although very high, very few remedies are available. Diseases affecting eye and vision are on the rise particularly those associated with potentially blinding conditions such as diabetic retinopathy, age-related macular degeneration, and glaucoma. Prevention appears to be a better modality for most of the ocular diseases compared to that of the treatment options. Natural compounds have found its use in the prevention and treatment of many ocular diseases. Several natural compounds with properties such as anti-oxidative, anti-proliferative, immunomodulatory have been implicated in the prevention of various ocular diseases. However, there are many avenues left for the application of natural compounds for the prevention and treatment of various ocular diseases. Understanding of the probable mechanism responsible for the disease formation, identification of targets, evaluation of candidate molecules by *in silico*, *in vitro* and *in vivo* assays can strengthen the application of natural compounds for the prevention of ocular diseases. Besides disease prevention, natural compounds have also found its use in various ocular surgical procedures.

Keywords: Age-related macular degeneration, Anti-aging, Anti-inflammatory, Antioxidants, Anti-proliferative, Apoptosis, Cataract, Diabetic retinopathy, Dry eye, Eye disorders, Eye injuries, Glaucoma, Immunomodulatory, Intraocular pressure, Natural compounds, Ocular surgeries, Ocular viscoelastic devices, Phytochemicals, Phacoemulsification, Viscoelastic substance.

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