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Therapeutic Potential of Flavonoids and Their Mechanism of Action against Microbial and Viral Infections-A Review

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Abstract

Flavonoids are polyphenolic phytochemicals generally found in vegetables, fruits, flowers, nuts, seeds, tea, honey and propolis. In the past plants containing these compounds have been used to cure different diseases. Seeking usage of plants for curing diseases many researchers carried out studies to analyze the antibacterial, antifungal, antiviral, anti-inflammatory and antioxidant properties of extract of different plants containing flavonoids. Similarly, synergistic relationship was found between chemotherapeutics and flavonoids. Cancer is a serious disease due to its high mortality rate. Anticancer mechanism of flavonoids has been described by elucidating its point of intervention in cancer cell cycle. Flavonoids act as bactericidal and bacteriostatic by damaging cytoplasmic membrane, inhibiting energy metabolism and inhibiting synthesis of nucleic acids against different microorganisms. Viral infections are more difficult to control as compared to bacterial. So antiviral drugs are least available, since flavonoids possess antiviral properties, so individual flavonoid compound having antiviral properties may be concentrated or their structure may be modified to enhance their antiviral activity. Phosphorylation of protein by cytokinase II is inhibited by flavonoids which help in the cell arrestation of HIV at integration traction phase of

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