

A Review on Biological Importance of Polyherbal Formulations

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Abstract: Polyherbal formulations are therapeutic combinations of two or more plants designed to enhance efficacy and reduce side effects relative to single-herb preparations. Two widely studied medicinal plants *Tulsi* (*Ocimum sanctum*) and *Neem* (*Azadirachta indica*) possess numerous pharmacological properties including antioxidant, antimicrobial, anti-inflammatory, antidiabetic, and immunomodulatory effects. Their combination as a polyherbal formulation offers the potential for synergistic therapeutic activities. Characterization of such complex mixtures is vital for quality control, standardization, and understanding biological activity profiles. Thin Layer Chromatography (TLC) and Ultraviolet-Visible (UV-Vis) spectroscopy are cost-effective, rapid analytical tools for preliminary qualitative and quantitative phytochemical evaluation. This review synthesizes current literature on the biological importance of *Tulsi*-*Neem* polyherbal formulation and outlines how TLC and UV spectroscopy are applied for phytochemical fingerprinting and activity correlation. A comparative study table is included, and future perspectives for analytical and biological research are discussed.

Keywords: *Polyherbal*