

**STUDY ON THE ROLE OF BIOAVAILABILITY ENHANCERS IN UNANI
FORMULATIONS IN THE LIGHT OF UNANI AND MODERN PERSPECTIVES:
A LITERATURE REVIEW**

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In Unani System of Medicine, *Mufrad Dawa* (single drugs) and *Murakkab Dawa* (compound medicines) have been used to treat various diseases since ancient periods. During this endeavor, poor assimilation and absorptions of ingredients were one of major problem that affected the therapeutic efficacy of the compound medicines. Unani physicians, through their empirical practice, ideally designed the compound medicines in order to solve the problem associated with absorption and to achieve maximum benefits. Therefore, various supportive ingredients have been incorporated along with active herbal ingredients in compound medicines to enhance the bioavailability of the active components. Therefore, this study is focused on understanding the role of bioavailability enhancers embedded in Unani concept. Drugs with Hot and Dry temperament that act as *Muqawwi e Meda* (Stomachic), *Kasurriyah* (Carminative) and *Muqawwi e Hazm* (Digestive) are believed to act as bio-enhancers and thus, the single drugs such as *Ajwain* (Carom seeds), *Badiyan* (Fennel seeds) and *Zeera* (Cumin seeds) which possesses these properties have been found to increase the bioavailability of chief ingredient by improving the overall assimilation and absorption. Classical texts on Unani Medicine, Modern texts of pharmacology, Books, Scientific Journals, Review articles and Web searches (PubMed and Google Scholar databases) were thoroughly studied. The search terms (“Bio enhancers” “Bioavailability Enhancers”, “single drugs used as bio enhancers” etc.) were used without narrowing or limiting search elements. Only English language research studies were considered in the review. This review study shows that carom seeds, fennel seeds, and cumin seeds have been incorporated into compound drugs as supportive ingredients in order to improve the digestion and absorption of active ingredients. It is apparent that these supportive ingredients act collectively and synergistically to overcome the poor absorption of the active therapeutic moieties and increase their levels in the bloodstream.

Keywords: Supportive ingredients, Carom seeds, Fennel seeds, Cumin seeds and Bio-enhancers