

COMPARATIVE ANALYSIS OF PHYTOCHEMICALS PRESENTS IN SEEDS OF FOUR MEDICINAL PLANTS USED IN CONTROL OF DIABETIC MELLITUS

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Plants are commonly used in the treatment of diseases in complementary, alternative healthcare and medical practices. There is a varied diversity of compounds particularly secondary metabolites extracted from plants and researches have shown that these compounds have anticancer, antibacterial and antidiabetic activities. No comparative laboratory studies and scientific approach of efficacy related to phytochemicals found in seeds of medicinal plants are yet reported. The aim of this study is qualitative and quantitative analysis of phytochemicals present in seeds extracts of four medicinal plants such as *Syzygium cumini*, *Brassica alba*, *Trigonella foenum* and *Nigella sativa* used in the treatment of diabetic mellitus in Sri Lanka. Seeds of above medicinal plants were collected and ethanolic extraction was carried. The qualitative phytochemicals were screened using generally accepted laboratory techniques. Flavonoids, Tannins, Phenols, Alkaloids, Saponins found in the seed extracts of all plants. Terpenoids, Anthraquinones and Quinones were only found in *Syzygium cumini* and *Nigella sativa*. Glycosides was found only in *Syzygium cumini*. *Syzygium cumini* contains all the phytochemicals examined and found to a greater extent than other plants. The quantitative analysis was carried out for Phenols, Tannins, Flavonoids and Alkaloids. Tannin was found in all seed extracts examined with the highest quantities obtained in *Syzygium cumini* (34.04 µg/ml) and *Brassica alba* (33.04 µg/ml). *Syzygium cumini* seeds which contain exceptionally highest phenolic content (416.01 µg/ml). Highest flavonoid content found in *Syzygium cumini* (527.77 µg/ml) followed by *Trigonella foenum* (194.66 µg/ml). Highest alkaloid content was found in *Syzygium cumini* (81.07 µg/ml) and the lowest found in *Nigella sativa* (22.12 µg/ml). This study revealed that ethanolic extracts of seeds of all plant species contain basic phytochemicals. Quantitative phytochemical analysis showed that *Syzygium cumini* is richer with important specific phytochemicals. The use of each medicinal plant, especially *Syzygium cumini*, can be used in the traditional system of medicine and to prepare ready to use functional products using seeds.

Keywords: Medicinal plants, Phytochemicals, Qualitative, Quantitative, Seeds, *Syzygium cumini*,