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Qualitative and quantitative phytochemical analysis of leaves and flowers of the medicinal plant *Ocimum tenuiflorum* L.

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Abstract: In Traditional Medicine, different parts of *Ocimum tenuiflorum* Linn. (Lamiaceae) have been recommended for the management of respiratory system related diseases. Phytochemicals from medicinal plants are a significant source of conventional medical treatments. The goal of the current study was performed to assess for the occurrence of phytochemical compounds in leaves and flowers of *Ocimum tenuiflorum* L., which were collected from Jaffna district. The shade dried plant materials were ground and extracted with alcohol and water via the cold extraction procedure. These extracts of each part powder were used to detect the presence of phytochemicals. The total phenolic and tannin contents were estimated by the colorimetric technique. These assays were conducted in triplicate and the statistical values were expressed mean with standard deviation. Flavonoids, tannins, terpenoids, phenol, coumarins, aromatic amino acids and anthocyanin were found in ethanolic, methanolic and aqueous extracts of leaves and flowers of this plant. Highest total phenolic contents (μg GAE/g); methanolic leave, methanolic flower, ethanolic leave and ethanolic flower extracts were found to be 422.12$\pm$66.69, 386.06$\pm$14.44, 228.48$\pm$8.82 and 199.39$\pm$61.92 respectively. The total tannin contents (μg TAE/g) of all extracts were almost similar except for the methanolic extract of leaves which was higher (1.160$\pm$0.14). The present study revealed that the methanolic and ethanolic extract of leaves and flowers contains basic phytochemicals, and total phenol and tannin contents are higher in the methanolic extract of leaves and flowers of *Ocimum tenuiflorum* than in other extracts. Therefore, it can be used as therapeutic potential of nutraceuticals in the management of respiratory tract diseases.

Keywords: Ethanolic extract, Methanolic extract, *Ocimum tenuiflorum*, Phytochemical screening, Quantitative analysis