



Abstract

# Phytochemical Screening and Antioxidant Activity of *Trichosanthes cucumerina*, *Momordica charantia* var *muricata* and *Luffa acutangula*<sup>†</sup>

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**Keywords:** phytochemical; cucurbits; soxhlet method; free radical scavenging activity; antioxidants; oxidative stress



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**Background—**TC, LA and MCM plants(family: Cucurbitaceae) are widely used in traditional medicine and are important sources of vegetables in the world. Many of these are known to have important medicinal properties and have been recommended in traditional medicine for various ailments [1]. **Objectives—**This study aimed to evaluate the phytochemical constituents of test plants (TA, LA and MCM) of 95% ethanolic whole-plant extracts, as well as to study the antioxidant activity using DPPH assay. **Materials and Methods—**The plants were powdered and mechanically extracted using the soxhlet apparatus [2], which was followed by phytochemical screening of the extracts. Various classes of phytochemicals (viz., alkaloids, phenols, steroids, glycosides and saponins) were screened using standard methods [3–5]. The antioxidant activity was determined using DPPH assay [6]. **Results—**The phytochemical screening revealed the presence of glycosides in TC, saponins in MCM and LA and alkaloids in TC and MC plants. However, phenols and steroids were found in all three plant species (TC, LA and MCM). The DPPH assay to test the antioxidant activity involved the measurement of IC<sub>50</sub> and percentage inhibition with respect to AA. Results showed that the DPPH free radicals were scavenged by all the extracts in a concentration-dependent manner. **Conclusions—**These dietary cucurbits showed appreciable antioxidant activity and are good sources of natural antioxidants. Future pharmaceutical uses can be deduced from these findings.

**Supplementary Materials:** The presentation material of this work is available online at <https://www.mdpi.com/article/10.3390/IECBM2022-13694/s1>.

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### Abbreviations

TC: *Trichosanthes cucumerina*, LA: *Luffa acutangula*, MCM: *Momordica charantia-muricata*, DPPH: 2,2-Diphenyl-1-picrylhydrazyl, AA: Ascorbic Acid.

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