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RESEARCH ARTICLE

In vitro Antioxidant and Antimicrobial Activities of Flowers Extract of *Aegle marmelos*

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ABSTRACT:
Medicinal plants have various therapeutic and nutraceutical properties from the ancient times to the current scenario. These plants have been consistently noted for the presence of its bioactive compounds which has a significant effect on human. Plants have been traditionally and extensively used to cure disease. *Aegle marmelos* plant belonging to Rutaceae family found in various parts of India, Srilanka, Pakistan, Burma, and Bangladesh is used in treating variety of diseases. Antioxidant and Antimicrobial activity of Methanol and Aqueous extracts was evaluated. Flower extract of *A.marmelos* exhibits significant antioxidant and possess antibacterial activity against *E.coli*, *S.aureus*, and *K.pneumoniae*. Thin Layer Chromatography was performed and the results revealed that spots were observed in crude methanol and aqueous extract.

KEYWORDS: *Aegle marmelos*, Rutaceae, Pharmacology, Antioxidant, Antimicrobial.

INTRODUCTION:
Medicinal plants, the endowment from nature is the untapped resource of therapeutic compounds from the ancient days to present century. According to World Health Organization (WHO), chemical compounds that are synthesized from plants find its application in treating numerous diseases[1]. Drugs that are produced from herbal plants have merits compared to other resources in treatment[2,3]. Understanding the nature and the different chemical constituents of the herbal plants is an important factor in drug discovery[4]. *Aegle marmelos* belongs to the Rutaceae family is considered as the important plants with numerous therapeutic and nutraceutical properties[5,6]. Nowadays, this plant is available across the globe, but the native country where it originated is India[7]. It is a slow growing, medium sized, subtropical tree[8,9]. Whole part of this tree starting from root to fruit is used in various applications[10,11]. It is a source of phytomedicine.

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It has many medicinal properties like antimicrobial, antiulcer, antioxidant, anticancer, anti-inflammatory, analgesic, antidiabetic, antipyretic activities[12,13]. Different studies conducted by researchers on bael across worldwide revealed that plant is rich in phytoconstituents as well as nutritional compounds impart plenteous health benefits to humans[14].



Figure 1 *A.marmelos* flower

In Ayurvedic tests, *Aegle marmelos* is considered to be the important plant as it has therapeutic properties. Inspite of that, various investigations in this plant are going on[12,15]. The *Aegle marmelos* flower in the plant possess both stamens and carpels and it is bisexual and hypogynous in nature, pleasant and fragrant scent,