INTRODUCTION
Herbal plants are used in traditional medicine systems because of its medicinal values. These plants are the source of raw material in pharmaceutical industries. Melothria maderaspatana Linn. is one among them. It belongs to the family Cucurbitaceae. It is an annually monoecious herb which was found in India at hilly region. The myths of medicine claim that it is a good diuretic stomachic, gentle claims anti-inflammatory, antipyretic sudorific, and antiflatulent besides its use in biliousness and vertigo. A preliminary study was conducted to characterize phytochemicals present in M. maderaspatana, a plant drug used in traditional medicines [1]. It is called Musumusukkai in Tamil [2]. It is used in Siddha medicine against a variable disease [3]. An ethno botanical study of medicinal plants used in Villupuram regions of Tamil Nadu was conducted [4]. This review paper deals with the pharmacological studies which have been exploded.

ANTIBACTERIAL ACTIVITY
Harshiny et al. synthesized silver nanoparticles using leaf extract of M. maderaspatana and conjugate ceftriaxone. Results showed conjugated ceftriaxone with silver nanoparticles have better antioxidant and antimicrobial effect as compared to unconjugated nanoparticles [5]. Riyazullah et al. conducted the study that showed soil and environment were major factors which have tendency to affect the activity of medicinal plants. They collected M. maderaspatana from India and Sri Lanka and tested their antibacterial and antifungal activity using different organic extracts and result proved that ciprofloxacin used as a standard for antibacterial activity and clotrimazole used as a standard for antifungal activity [6]. Hemamalini and Varma proved antimicrobial activity of methanolic leaf extract and petroleum ether extract and results showed that methanolic extract was more effective [7].

ANTIOXIDANT ACTIVITY
Harshiny et al. confirmed the antioxidant activity of M. maderaspatana by 2,2-diphenyl-1-picrylhydrazil (DPPH) assay [5]. They studied antioxidant activity of Melothria on sham-operated and uninephrectomized DOCA-salt-induced hypertensive rats. They concluded that M. maderaspatana showed antioxidant activity [8]. This study showed that aqueous extract of M. maderaspatana was evaluated in vitro antioxidant activity by radical scavenging assays against DPPH, hydrogen peroxide, hydroxyl radical, and ABTS and result proved that Melothria extracts effectively scavenge all radicals [9]. Examined the antioxidant activity using a methanolic leaf extract to evaluate DPPH assay and results showed that EC 50 value was <10 μg/mL [10]. They evaluated different fractions of Melothria and concluded ethyl acetate fraction showed a better activity. Confirmation was done by measuring the flavonoid content using total phenolic content and DPPH assay [11].

Studied antioxidant activities from roots, stems, leaves, and fruits of M. maderaspatana using acetone and methanol extracts and results showed methanolic extract gave a higher yield than an acetone extract [12]. They studied free radical scavenging activity of Melothria and found that the leaves were showing maximum dose-dependent activity [13].

LARVICIDAL ACTIVITY
Chitra et al. tested the larvicidal activity of silver nanoparticles were synthesized using leaf aqueous extract against Culex quinquefasciatus and Aedes aegypti. Result showed synthesized silver nanoparticles have predominant larvicidal activity [14].

ANTIULCEROGENIC ACTIVITY
Gomathy et al. investigated the precautionary effect of ethanolic extract of M. maderaspatana against doxethacin-induced gastric ulcer in rats. Results proved that the ethanolic extract of Melothria has the ability to decrease acidity and increase mucosal defense in gastric area [15].

ANTIDIABETIC ACTIVITY
Srilatha and Ananda investigated in vitro anti-diabetic activity of the phenolics and extract such as phloroglucinol and quercetin and results proved that it can be used as an antidiabetic nutraceutical [16]. Balaraman et al. evaluated antihyperglycemic effect of M. maderaspatana in the streptozotocin (STZ) diabetic rats and compared with activity Coccinia indica [17]. Petrus tested the antidiabetic activity of M. maderaspatana [18].

ANTHYPERLIPIDEMIC EFFECT
Veeramani et al. studied crude ethanolic extract of M. maderaspatana leaf to test its antihyperlipidemic effect in DOCA-salt hypertensive rats and concluded that it can be used in protecting the liver, kidney, and heart against DOCA-salt [19]. Balaraman et al. evaluated the hypolipidemic effect of aerial parts of M. maderaspatana in the STZ-diabetic rats and result proved that extract showed effective recovery of biochemical parameters and decreased body weight in treating animals [17]. Pandey et al. studied that the evaluation of hypolipidemic
**ANTIHYPERTENSIVE EFFECT**

Veeramani et al. investigated the antihypertensive effect of *M. maderaspatana* and *O. octandra*. They found that

**ANTITUMOR POTENTIALS**

Jayantilaka et al. studied the potential of an aqueous extract of *M. maderaspatana* against CCl4-induced hepatic injury. They concluded that the aqueous extract reduced the damage caused by CCl4.

**ANTIBACTERIAL EFFECT**

Chitra et al. tested the antibacterial activity of *M. maderaspatana* against *C. albicans* and *E. coli*. They found that the extract inhibited the growth of these bacteria.

**ANTIFUNGAL EFFECT**

Balaraman AK, Singh J, Dash S, Naskar A, Maity TK, Evaluation of antioxidant activity of different fractions of *M. maderaspatana*. Asian J Chem 2011;23(5):2207-11.

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