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A Review on Some Important Medicinal Plants of *Abutilon spp.*

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ABSTRACT

During past several years, there has been growing interest among the usage of various medicinal plants from traditional system of medicine for the treatment of different ailments. A number of herbs belonging to the specie *Abutilon* are noted for their medicinal benefits in traditional system of medicine. A lot of medicinally important attributes have been assigned to the plants of this specie. The important plants of this specie which have been so far explored include *A. indicum, A. theophrashti, A. grandiflorum* and *A. muticum* etc. Also, large number of reports on *Abutilon spp.* indicates continuous scientific research on it with special reference to their medicinal cultivation and biotechnological applications. In light of this, the present review aims at exploring current scientific findings on the various plants of this specie.

Keywords: *Abutilon*, scientific findings, traditional system of medicine.

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INTRODUCTION

The *Abutilon* L. genus of the Malvaceae family comprises about 150 annual or perennial herbs, shrubs or even small trees widely distributed in the tropical and subtropical countries of America, Africa, Asia and Australia [1]. Various plants of *Abutilon* species are traditionally claimed for their varied pharmacological and medicinal activities. Furthermore, different plant parts contain specific phytoconstituent responsible for their biological activity. Also, a huge literature is available stating the usefulness of various plants of this species for the treatment of pharmacological disorders and ailments.

Some of the plants belonging to the specie are amongst much acclaimed Ayurvedic herbs and in the recent past there has been a renewed scientific interest in exploring the specie. Although nearly 150 different species of *Abutilon* have been reported [1], but only a few of these find medicinal importance out of which the prominent ones are:

1. *Abutilon indicum*.
2. *Abutilon theophrashti*.
3. *Abutilon grandiflorum*.
4. *Abutilon muticum*.
5. *Abutilon pannosum*.
6. *Abutilon megapotamicum*.
7. *Abutilon eremitopetalum*.

The present review mainly covers some of the important medicinal plants belonging to the *Abutilon* spp. with special attention towards their various traditional uses, chemical constituents and medicinal properties.

Abutilon indicum L.

Abutilon indicum (local name; peely booti or karandi) is an erect, woody, shrubby plant, widely distributed in the tropical countries [2]. It is known as “Atibala” in Hindi and found in the outer Himalayan tracts from Jammu to Bhutan up to an altitude of 1500m and extending through the whole of northern and central India [3].

Traditional uses

Traditionally, the plant is used in inflammation, piles, gonorrhea treatment and as an immune stimulant. Root and bark are used as aphrodisiac, anti diabetic, nervine tonic, and diuretic. Seeds are used in urinary disorders [2]. The seeds are used as a laxative in piles and in the treatment of cough. According to the Chinese in Hong Kong, the seeds are employed as an emollient and demulcent. The bark and the root are used as a diuretic, anthelmintic, pulmonary sedative and in fever [4]. The juice from its leaves has been used to formulate into an ointment for quick ulcer healing. Its extract is also used in relieving thirst; in treating bronchitis, diarrhea,

gonorrhea, and inflammation of the bladder; and in reducing fever. In addition, it is used in cleaning wounds and ulcers; treating vaginal infections, diabetes, and hemorrhoids; and can also be used as an enema. The root of the *Abutilon indicum* Sweet plant has a diuretic property and can be taken for the relief of hematuria. It is also effective in the treatment of leprosy. The seeds from this plant are considered to be aphrodisiac and can be used as a laxative for those having hemorrhoids and in the treatment of coughs, puerperal disease, urinary disorders, chronic dysentery, and fever [5, 6].

Chemical constituents

Phytochemical investigation of *A. indicum* leaves showed the presence of amino acids, glucose, fructose and galactose. From the roots, non – drying oil consisting of various fatty acids viz. linoleic, oleic, stearic, palmitic, lauric, myristic, caprylic, capric and unusual fatty acid having C17 carbon skeleton, sitosterol, and amyrin from unsaponifiable matter were yielded [3]. Kuo et al. [7] isolated two new compounds, abutilin A and (*R*)-*N*-(1'-methoxycarbonyl-2'-phenylethyl)-4-hydroxybenzamide, as well as 28 known compounds. Extract of the whole plant is said to possess decreasing peroxidative damage in liver through free radical scavenging activity due to its flavonoids [8]. Petroleum ether extract of this plant is also a potent source of natural mosquito larvicidal agent [9]. Seven flavonoid compounds including quercetin and its glycosides have been isolated from flowers of *A. indicum* [10]. Alkaloids, flavonoids, steroids, terpenoids and saponins have been isolated and characterized from genus Abutilon. Previous phytochemical investigations of *Abutilon indicum* showed it to contain two sesquiterpene lactones, gallic acid, β-sitosterol, geraniol and caryophylline [12]. The analysis of phenolic compounds in plants is of considerable commercial importance, since it is known that they contribute to the flavour [4].

Medicinal properties

Anti-inflammatory activity

Anti-inflammatory action of *Abutilon indicum* (L.) Sweet leaves by HRBC membrane stabilization technique was investigated by Rajurkar et al. [3]. The ethanolic, chloroform and aqueous extracts of the leaves were screened for anti-inflammatory activity. They have taken the prevention of hypotonicity induced HRBC membrane lysis as a measure of anti-inflammatory activity. All Three fractions showed a biphasic effect on the membrane stabilization. Their activities were found to be comparable to that of standard drug diclofenac sodium. However their activities decreased with time. The extracts were supposed to be act either by inhibiting the lysosomal enzymes or by stabilizing the lysosomal membrane [3].

Lipid lowering activity

Giri et al. [11] studied the lipid lowering activity of *Abutilon indicum* (L.) leaf extracts in rats using triton and diet induced hyperlipidemic models. The ethanolic and water extract at

400mg/kg dose levels inhibited the elevation in serum cholesterol and triglyceride levels on Triton WR 1339 administration rats. The extracts at the same dose level significantly attenuated the elevated serum total cholesterol and triglycerides with an increase in high-density lipoprotein cholesterol in high-fat diet-induced hyperlipidemic rats. The lipid lowering activity of the EtOH and aqueous leaf extracts of *A. indicum* may be attributed to the phytoconstituents present, such as triterpenoids, flavonoids, tannins, glycosides, and saponins in it, as reported for other plant extracts [12-14]. Saponin derived from *Medicago sativa* were reported to reduce blood cholesterol by competing with cholesterol at binding sites or interfering with cholesterol biosynthesis in the liver [15]. Phenolic active principle present in *Anethum graveolens* were observed to be responsible for lowering TC and LDL-C and elevating HDL-C in hypercholesterolaemic rats [16]. Furthermore, it was supposed to be act by interfering with the biosynthesis of cholesterol and utilization of lipids [11].

Analgesic activity

Analgesic potential of various extracts of root of *Abutilon indicum* Linn was evaluated by Goyal et al. [17]. They subjected the powdered root (900 g) to successive solvent extraction with solvents in increasing order of polarity viz. petroleum ether (60-80 C°), methanol and ethanol by soxhlet apparatus for 72 hrs. They extracted marc by cold maceration for 72 hrs to obtain water soluble extract. Peripheral analgesic activity was studied using acetic acid induced writhing method in Swiss albino mice (20-30 g) while central analgesic activity was evaluated by tail flick method and tail immersion method. Results indicated that all the tested extracts except methanol extract exhibited significant analgesic activity in both animals' models. Petroleum ether extract showed higher analgesic activity. The activity may be related with central mechanism or due to peripheral analgesic mechanisms. Thus they authenticated the traditional use of *A. Indicum* [17].

Antioxidant and antibacterial activity

Kashmiri et al. [4] investigated the antioxidant and antibacterial activity of A. indicum and A. muticum. Total antioxidant activity of both oils was checked by ABTS, FRAP, DPPH and oleic acid peroxidation methods. These methods indicated the presence of both the slow reacting and fast reacting components in the seed oils of both the herbs. The seed oil of *Abutilon indicum* and *Abutilon muticum* showed broad spectrum activity as they were active against Gram-positive and Gram-negative bacteria. The findings reveal seeds of *Abutilon species*, indigenous to Pakistan to be potentially valuable herb for oil production, delivery of drugs and cosmetic active ingredients [4].

Activity on glucose absorption and insulin secretion

Krisanapun et al. [18] evaluated the antidiabetic effects of the aqueous extract derived from the Thai *Abutilon indicum* Sweet plant and to explore its effects on intestinal glucose absorption and insulin secretion. Administration of the extract (0.5 and 1 g/kg body weight) in

an oral glucose tolerance test led to a significant reduction in plasma glucose levels in 30 minutes after the administration in moderately diabetic rats, as compared with untreated rats ($P > 0.05$), and this was at a faster rate than the use of an antidiabetic drug, glibenclamide. The inhibition of glucose absorption through the small intestine was investigated using an everted intestinal sac. The results showed that the extract at concentrations of 0.156 to 5 mg/mL caused a reduction of glucose absorption in a dose response manner. The maximum response was noted at a dose of 2.5 mg/mL. The promotion of the extract on insulin secretion was confirmed by incubating β cell of pancreatic islets and INS-1E insulinoma cells with the extract at 1 to 1000 µg/mL. These observations suggested that the aqueous extract from the *A indicum* plant has antidiabetic properties, which inhibited glucose absorption and stimulated insulin secretion. Phytochemical screening also revealed that the extract contained alkaloids, flavonoids, tannins, glycosides, and saponins that could be probably responsible for observed pharmacologic effects of the plant extract [18].

Hepatoprotective activity

Hepatoprotective activity of *Abutilon indicum* on experimental liver damage in rats was studied by Porchezhian and Ansari [19]. They used carbon tetrachloride- and paracetamol-to induce hepatotoxicities in rats. *A. indicum* exhibited significant hepatoprotective activity by reducing carbon tetrachloride- and paracetamol-induced change in bio-chemical parameters that was evident by enzymatic examination. The plant extract may interfere with free-radical formation, which may conclude in hepatoprotective action. Acute toxicity studies revealed that the LD_{50} value is more than the dose of 4 g/kg body wt. They attributed the hepatoprotective activity to the inhibitory effects of drug on cytochrome P_{450} or/and promotion of its glucuronidation [19].

Hypoglycemic activity

Seetharam et al. [20] studied the hypoglycemic activity of *Abutilon indicum* leaf extracts in rats. Blood glucose level was measured by using oxidase-peroxidase method. The petrol and $CHCl_3$ extract of *A. indicum* leaves did not show a significant hypoglycemic activity. On the contrary, the alcoholic extract after oral administration of 400 mg/kg exhibited significant reduction in the blood glucose levels. Similarly, the aqueous extract had shown significant reduction in blood glucose level. The significant hypoglycemic activity was attributed to the presence of flavanoids and glycosides since, flavonoids are known to regenerate the damaged pancreatic β-cells and glycosides stimulate the secretion of insulin in β -cells of pancreas [20].

Antimycotic activity

The screening for antimycotic activity was performed by testing Minimum Inhibitory Concentration (MIC) and Disc diffusion method wherein methanolic extract of leaves of *Abutilon indicum* showed remarkable antifungal activity against *Trichophyton rubrum*. In MIC method, the extract of *Abutilon indicum* showed fungicidal activity which was further attributed

to the Quercetin content of the extract. For other strains like *M.gypseum, T. Metagrophytes, E.floccosum* and *T. rubrum* only high concentration (10mg/ml) was effective. In Disc diffusion method, extract was particularly active against *C. utilis* and *A. fumigatus*. The study further reported antifungal potential of stem and flower extracts, however they were less effective as compared to the leaf extract [21].

Anti-diarrhoeal activity

Leaf extracts of *Abutilon indicum* were evaluated for anti-diarrhoeal activity by gastro-intestinal motility, castor oil-induced diarrhoea and prostaglandin E2- induced enteropooling in rats wherein the methanolic and aqueous extracts showed significant antidiarrhoeal activity in castor oil-induced diarrhoea and prostaglandin E2- induced diarrhoea. These extracts were reported to reduce diarrhoea by inhibiting intestinal peristalsis, gastrointestinal motility and PGE_2 induced enteropooling [22].

Anti-convulsant activity

Anticonvulsant activity of *Abutilon indicum* leaf extracts was investigated by Golwala et al. [23] using Pentylene tetrazole (PTZ) and Maximum Electro Shock (MES) induced convulsions in wistar rats. In PTZ induced convulsions, 100 mg/kg and 400 mg/kg of ethanolic extract was found to increase the onset of clonic convulsions and decreased onset of tonic seizures and thus exhibited a significant anti-convulsant effect. In MES induces seizures, 100 mg/kg and 400 mg/kg of ethanolic as well as aqueous extracts showed significant protective effect by increasing the onset of clonic convulsion time and decreasing extensor time as compared to control group. This anticonvulsant effect was attributed to linoleic acid and/or flavonoid constituents present in the extracts [23].

Larvicidal activity

Larvicidal activity of crude hexane, ethyl acetate, petroleum ether, acetone and methanolic extracts of *Abutilon indicum* were assayed for their toxicity against the early fourth-instar larvae of *Culex quinquefasciatus* wherein the larval mortality was observed after 24 h exposure. All extracts showed moderate larvicidal effects. But highest larval mortality was found in petroleum ether extract. Furthermore, ^{1}H NMR, ^{13}C NMR and mass spectral data confirmed the identification of β-sitosterol as a potential new mosquito larvicidal compound with LC_{50} value of 26.67 ppm against *C. quinquefasciatus* [24].

Wound healing activity

The ethanolic extract of *Abutilon indicum* was studied for wound healing activity-using incision, excision and dead space wound models in albino rats. This extract at a dose of 400-mg/kg showed significant increase in wound contraction rate, skin breaking strength, granuloma strength and dry granuloma weight. Moreover, the decrease in epithelisation period

was observed as compared to control and standard. This pro-healing was dedicated to increase in collagenation deposition as well better alignment and maturation [25].

Anti asthmatic activity

This study reported the effectiveness of powder of dried aerial parts of *Abutilon indicum* in decreasing the severity of commonly observed symptoms of bronchial asthma i.e. dyspnoea, cough, chest tightness and wheezing. It was also found to significantly increase the pulmonary function measured as forced vital capacity (FVC), forced expiratory volume in 1 Sec (FEV1) and peak expiratory flow rate (PEFR) in patients having mild to moderate bronchial asthma [26]. In another study, methanolic extract inhibited experimentally induced rat peritoneal mast cell degranulation and edema formation. The significant decrease in carageenan induced rat paw edema at the dose of 250 and 500 mg/kg, p.o. indicated anti inflammatory activity, and this activity was postulated towards the anti-asthmatic effect [27].

Diuretic activity

Seed extract of *Abutilon indicum* (200 and 400 mg/kg) were evaluated for its diuretic effect wherein the aqueous extract at 400 mg/kg exhibited statistically significant effect when compared with reference standard Furosemide. The study further reported that the extract at doses of 200 and 400 mg/kg produced significant dose dependant increase in urinary excretion and urinary sodium loss but no effect on intrinsic potassium sparing effect. Hence, study elucidated that extract posses significant diuretic and natriuretic effect but not potassium sparing effect [28].

Immunomodulatory activity

Dashputre et al. [29] studied the immunomodulatory activity of ethanolic and aqueous extract of leaves of *Abutilon indicum* (200mg/kg and 400 mg/kg) by heamagglutination antibody (HA) titre, delayed type hypersensitivity (DTH), neutrophil adhesion test and carbon clearance test. Study revealed that extract showed a significant increase in both primary and secondary HA titre. It also showed significantly potentiated DTH reaction and increase in percentage neutophil adhesion test. The results of the study reported that both the extracts were found to have a significant immunostimulatory activity on both the specific and non specific immune mechanisms. This activity was said to be attributed to the presence of flavonoids (quercetin), alkaloids, tannins, saponin glycosides and phenolic compounds [29].

Anti-estrogenic activity

Johri et al. [30] studied the anti-estrogenic effect of methanolic extracts of *Abutilon indicum* on uterotropic and uterine peroxidase activities in ovariectomized rats. This extract was found to cause significant suppression of enzyme activity as well as uterotropic response induced by estradiol, whereas in the group, not treated with estradiol, a marginal stimulation in

peroxidase activity was observed. These changes in peroxidase activity suggested that *Abutilon indicum* must be a highly potent estrogen antagonist with an extremely low degree of estrogenicity [30].

***In-vitro* anti arthritic activity**

Water soluble extract of *Abutilon indicum* (linn.) was studied by testing three in-vitro parameters: protein denaturation, membrane stabilisation and protease inhibition. *Abutilon indicum* at doses (100 and 250 mcg/ml) provided significant protection against denaturation of proteins and hypotonic saline induced RBC membrane damage. It also exhibited significant anti-protease activity. This finding justifies its usefulness in management and treatment of inflammation associated diseases like arthritis [31].

***Abutilon theophrashti* M**

Abutilon theophrasti (medic.) is a quantitative short-day herbaceous annual that colonizes highly disturbed habitats such as agricultural fields and waste areas in eastern and central North America. Time to flowering in this species is most rapid under short photoperiods, although *A. theophrasti* does eventually flower under longer photoperiods. Under glasshouse conditions, plant height, fruit weight, internode length, and shoot weight of *A. theophrasti* plants were found to increase with increasing photoperiod [32].

Medicinal properties

Nurse et al. [33] studied the effect of varying natural photoperiod on the germinability of *A. theophrasti* seeds and seedling vigour as measured by the initial rate of radicle growth. Seeds of *A. theophrasti* exhibit physical dormancy. Differences in the growing environment of parent plants may influence the germinability of seeds and vigour of seedlings produced by this species because of variation in resource allocation to seed development. They investigated the germinability of seeds and subsequent seedling vigour for *A. theophrasti* plants grown in monoculture at a density of 4.2 plants m^2 under varying natural photoperiods in central New York State. Treatments were established by transplanting *A. theophrasti* seedlings on three dates. Seeds produced under the shorter photoperiod (13 h) weighed, on average, 1.5 mg less than seeds produced under the longer photoperiod (15 h). Contrary to expectations, seeds of *A. theophrasti* that matured under shorter photoperiods had lower germinability (80%) than seeds produced under longer photoperiods (98%). Early radicle growth, a measure of seedling vigour, did not differ between the photoperiod treatments. They have concluded that seed dormancy increased in *A. theophrasti* individuals maturing under shorter (peak 13 h) versus longer (peak 15 h) photoperiods [33].

Kremer [34] studied the antimicrobial activity of Velvetleaf (*Abutilon theophrasti*) Seeds. Seeds were bioassayed on 241 microbial isolates to assess their antimicrobial activity. Seeds placed on agar plates inoculated with test microorganisms released a diffusible substance(s)

that inhibited the growth of 117 of 202 (58%) bacteria and all of the fungi tested. Antimicrobial activity of the seeds appeared to be nonselective as the extent of inhibition was not related to type of microorganism or their origin. Hard, water-impermeable seeds had greater inhibitory activity than imbibed (soft) seeds. The intensity of inhibition was affected by prior leaching of seeds with various solvents and by the stage of seed development. Chemical analysis of diffusion zones from agar plates and seed leachates revealed the presence of phenolic compounds. The presence of antimicrobial substances in velvetleaf seeds may contribute to the persistence of viable seeds in soil by inhibiting potential seed-deteriorating microorganisms [34].

***Abutilon grandiflorum* G**

The *Abutilon* L. genus of the Malvaceae family comprises about 150 annual or perennial herbs, shrubs or even small trees widely distributed in the tropical and subtropical countries of America, Africa, Asia and Australia [1].

Medicinal properties

Abutilon grandiflorum G. Don. (equal amounts of dried and pulverized leaves and root bark, administered as a tea) is used traditionally in the Tanzania for treating malaria, infectious venereal diseases and mental disorders (a common local synonym for severe forms of malaria). The *Abutiolon* extracts showed in vivo and in vitro studies on anti-malarial effects. Sikorska et al. [1] reported for the first time the presence of flavanoids and phenolic acids in the leaves of *Abutilon grandiflorun* G. Don. On the other hand, the most interesting flavonoids, which structures were elucidated by means of acid hydrolysis and spectroscopic methods were hypolaetin and isoscutellarein 8- O-β-glucuronopyranoside 3-O-sulfates, together with hypolaetin 8-O-β-glucuronopyranoside found in *A. indicum* leaves. Flavones: luteolin, chrysoeriol together with luteolin, chrysoeriol, apigenin 7-O-β-glucopyranosides were found only in the flowers of *A. indicum* [1].

Abutilon muticum

Abutilon muticum basically occurs in plains through out Pakistan especially more common in Sindh, however it is also observed in India especially in the Vidharbha region of Maharashtra [4]. *A. muticum* is an erect, 1.5 - 03 meter tall perennial herb to shrub. Leaves are 04- 13 cm across, broadly ovate, 7-9 nerved, they are irregularly and minutely to coarsely serrate or crenate, usually cordate at base, shortly acuminate at apex. Leaves are stellate pubescent on both sides, scabrous above and more densely hairy and velvety beneath. Petiole is 2-12 cm long, stellate pubescent, velvety. Stipules are 6-8 mm long, 1 mm broad and linear. Yellow flowers appear in racemes or panicles in terminal branches by the reduction of leaves. Pedicel is 1-3.5 cm long, uniformly hairy, articulate from below the middle to near the apex [35]. Calyx is 7-8 mm long, in fruit up to 10 mm, fused to the middle, pubescent on both sides; lobes ovate to deltoid acuminate, 4-5 mm broad. Corolla is 2-2.6 cm across, yellow to orange-

yellow, 2-2.5 times the length of calyx. Petals are 10-12 mm across, obovate, claw hairy on the margin. Staminal tube is 4-5 mm long, stellate pubescent. Fruit is usually globose, sometimes truncate, 9-12 mm in diameter. Mericarps are 27-39, usually obtuse, 6-7 mm long, 5-6 mm broad, separating after dehiscence. Fruit has about 25 carpals, each of which contains 3 tasteless kidney shaped seeds [36].

Traditional uses

Leaves are used as a remedy for piles and as demulcent tonic. A decoction of *A. muticum* is used in bronchitis, catarrhal bilious diarrhoea, gonorrhoea, inflammation of the bladder and fever [37]. The flowers and leaves are used as a local application to boils and ulcers [38]. Seeds are used in treatment of cold, cough and bronchial infection, inflammation of the urinary tract, gonorrhea, diarrhoea, and ulcers. Seeds are also used as diuretic and demulcent [39]. The seeds cakes are used for dairy cattle and fertilizer [40].

Chemical constituents

Preliminary phytochemical screening showed the presence of Alkaloids, cardiac glycosides and steroids [39]**.** Mutiniside, new phenolic glucoside, and the flavonoidal glucoside cephacoside have been isolated from the n-butanol soluble fraction. Seven known compounds namely, lupeol, beta-sitosterol, stigmasterol, methyl-4-hydroxybenzoate, taraxacin, ursolic acid, and beta-sitosterol-3-O-beta-D-glucopyranoside, have been isolated from the EtOAc soluble fraction of *Abutilon muticum* [38].

Medicinal properties

Antimicrobial activity

20 g of the leaves of *A. muticum* (Malvaceae) were extracted using petroleum ether, chloroform and 80% methanol. The methanolic extracts were partitioned using ethyl acetate and n-butanol. Agar diffusion assay was used to test the extracts against human pathogenic bacteria and fungi. The chloroform extracts of the leaves of *A. muticum* showed significant activity against *Bacillus subtillus.* The ethyl acetate fraction showed significant activity against *B. subtillus*, *Escherichia coli*, *Proteus. vulgaris* and *Staphylococcus aureus* [41].

The seed oil of Abutilon muticum was active against both gram positive as well as gram negative bacteria and thus showed broad spectrum activity (Kashmiri et al, 2009). In another study, methanol and acetone extracts were evaluated for antimicrobial activity against Gram positive and Gram negative bacteria and three fungi strains. Antibacterial activity was shown by methanolic extract against Staphylococcus aureus, Klebsiella pneumonia and Proteus mirabilis as well as all three fungal strains i.e Candida tropicalis, Cryptococcus luteolus and Candida albicans. Study reported that methanolic extracts were more potent than acetone extracts [39].

Antioxidant activity

The seed oil of A. muticum exhibited significant antioxidant activity assayed by ABTS, FRAP, DPPH and linoleic acid peroxidation method. These methods indicated the presence of both slow and fast reacting components in the seed oil [4]. In another study, the methanolic extract and its subsequent n- butanol soluble fraction revealed significant antioxidant activity. Further phytochemical studies reported the isolation of a new phenolic glucoside named mutiniside and flavonoidal glucoside cephacoside from the n-butanol soluble fraction out of which mutiniside showed significant antioxidant activity and moderate inhibitory activity was observed against the enzyme lipoxygenase [37].

CONCLUSION

Plenty of medicinal plants are used from traditional system of medicine for the treatment of varied ailments. Many herbs belonging to the specie *Abutilon* are documented for their various medicinal benefits. Also, the plants from *Abutilon spp.* are claimed for other medicinal properties for the treatment of different disorders, but still they are not satisfactorily exploited. Furthermore, phytochemical investigation of the plant extracts is an important tool for the determination of the phytochemicals, responsible for specific pharmacological activity. The various plants of the *Abutilon spp.*, because of their different phytochemicals, possesses different pharmacological activities and hence used for the treatment of associated disorders.

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