1. Rai N., et al., (2016) the author investigated analgesic action *Ficus racemosa* leaves using chloroform extract. The leaves were collected from local area, shade dried, cleaned and size reduced in mechanical grinder. Then extracted by soxhlet apparatus using chloroform as solvent. The filtrate was dried under reduced pressure. The extracts were fractionated with alcohol and acetone. The alcohol and chloroform insoluble fraction were passed through column chromatography using chloroform as eluent and stationary phase silica. The eluent of it was collected and dried to get the whitish powder (FRE).

Phytochemical estimation of the fractions was done for confirmation of presence of chemical constituents. Suspension of FRE is prepared using 2% gum acacia as vehicle. The analgesic activity was evaluated by using acetic acid writhing method. Different groups of mice were treated with FRE 50ml per kg, orally, 100ml per kg, orally and 200ml per kg, orally, diclofenac was given as std. drug. Pain was induced by administration of 1% V/V glacial acetic acid by intra peritoneal route. The numbers of writhing were counted 20 minutes after administration of FRE extract. It was observed that the FRE shows significant analgesic action at 100 mg/kg and 200mg/kg dose level.

2. Amin M. M., et al., (2016). Evaluated ethanolic extract of fruits of *F. racemosa* for covering damages of pancreas in diabetic condition. Induction of diabetes was done by administration of alloxan monohydrate by intraperitoneal route and induction of diabetes was checked by investigation of blood level. Glibenclamide were given as standard. Ethanolic extract of fruits were given as 250mg per kg of body weight orally once in a day for 30days. After that the mice were sacrificed and pancreas were isolated and compared with pancreas of positive control and negative control of diabetes. It was observed that pancreas of normal group does not show any morphological change but pancreas of diabetic mice shows degenerated and
pale colored pancreas. It also found that extract treated pancreas of mice does not shows and abnormalities as compare to negative control group of mice.

3. **Gupta A. et al., (2016).** In the present investigation the fresh leaves of all three plants were collected, washed with water and dried by shade drying method. The powder is poured in methanol and shaken for some time. Filtrate is collected, 3 ml of sulphuric acid and 2 ml of chloroform were mixed and reddish brown color formation indicates terpenoid availability in selected parts of the crude drug. Crude terpenoids were collected by collection of macerate of alcohol. Collected filtrate further partitioned with pet. ether in separating funnel. Thus collected ether fraction is counted as total terpenoidal content.

These terpenoids further evaluated for immunosuppressent activity by using total blood count in case of HBsAg at 10 µl and 20 µg/ml, and it showed prominent decrease in the number of monocytes as well as granulocyte count. It also shows prominent decrease in CD14 monocyte surface marker and also showed decline in HBsAg specific immune response. Thus we can conclude that the terpenoidal content isolated from leaves has dose dependent inhibition and highly significant immunosuppressive activity.

4. **Hiremath V., et al., (2016).** The author extracted powdered drug with 95%V/V by using continuous hot extraction, extract was concentrated by using solvent evaporation and stored in air tight container. The memory enhancing effect of whole plant C₂H₆OH extract of *C. reflexa* was performed on experimentally induced dementia in rats by scopolamine by using elevated plus maze model. It was observed that the ethanolic extract possess prominent Memory enhancing activity.

5. **Balakrishna G. V. et al., (2016).** *Albizzia lebbeck* and *Syzygium cumin* roots were tested for anti-allergic action on various animals using
aqueous and methanolic extracts. The effect was analyzed for Clonidine induced degranulation of mast cell. The extracts were compared with d-disodium chromoglycolate as standard. The extracts gave prominent decrease in mast cell degranulation. It proves possible anti-allergic and antihistaminic effect.

The extract causes cataleptic timing reduction when animals were pretreated with clonidine. Catalepsy generates histaminic or allergic action. Extracts protects against toxicity caused due to Clonidine. Diphenhydramine causes reduction in clonidine induced catalepsy and Diazepam reduces Milk induced Leukocytosis when compared with extract. Leukocytosis takes place due to administration of milk when given by subcutaneous route.

Antiallergic drugs inhibit milk induced leucocytosis in experimental animals. The extracts decreases the Milk induced Leukocytosis but less than diazepam and Dexamethasone. These all evaluation shows that aqueous, methanolic and ethanolic fraction of aqueous extracts possess anti allergic effects. All the extracts show prominent protection against all the models, which indicates antiallergic effect of extracts.

6. Priya J. F., et al., (2016). In this present investigation fresh root bark of Ficus racemosa were collected, washed with plane water as well as distilled water and subjected to extraction by using water as solvent at temperature of 60°C mixture is cooled and filled in amber colored container. This extract is used for phytochemical screening for confirmation of possible chemical constituents like alkaloids, tannins, flavonoids, glycosides, Saponins terpenoids, anthraquinones, anthocyanins, sterols as well as for carbohydrates and proteins. Silver nanoparticles were prepared by mixing 5-10% extract and silver nitrate solution on a magnetic stirrer.

The formation of silver nanoparticles was checked by color change from reddish brown to dark brown depending upon the concentration of extracts. The evaluation of nanoparticles was done by UV- Vis spectroscopy analysis,
SEM analysis, EDAX measurement. Antimicrobial activity was performed by disc diffusion method, by using E. coli on nutrient agar plate for microbes and Candida albicans on potato dextrose agar for fungi. Then sterile filter paper dipped in crude extract (50 µl, 100 µl, 150 µl ) were kept on the surface of petri plates and kept for incubation at 37°C for 24 Hrs. in case of E. coli and at room temp (30 °C) for 24-48hrs for yeast. It was found that the silver nanoparticle synthesized from bark of Ficus shows maximum zone of inhibition.

7. Dr. Borah M. et al., (2015). In the present study evaluation of antioxidant, Antidiabetic and antihyperlipidaemic activities of ethanolic extract of Leucas linifolia leaf were performed. Leucas linifolia leaves were collected, dried and powdered and then extracted with ethanol by continuous hot percolation method. Extracts were dried and then evaluated for antihyperlipidaemic, Antidiabetic and antioxidant activities. The anti diabetic and antihyperlipidaemic activity was evaluated by using different models like change in body weight, blood glucose estimation, estimation of serum insulin, serum lipid profile.

Antioxidant activity was studied by estimation of enzymatic assay of CAT, estimation of serum MNA (Malondialdehyde). A preliminary phyto-chemical estimation shows availability of flavoniods, alkaloids, phenols, tannins & Saponins. It was found that the extract at a dose of 250mg/ kg and 500 mg/kg shows prominent decrease in blood glucose level, prominent increase in catalysis activity and decrease in MDA levels. It reveals that the extract possess significant activities as compare to standards.

8. Thomas S. et al., (2015). Evaluated defatted ethanolic extract of whole plant of Cuscuta reflexa. Anxiolytic activities were determined on mice by elevated plus maze, light and dark chamber models at a dose of 200mg/kg and 400mg/kg. Diazepam is used as standard. it was found that the extract at 400mg/kg shows more prominent effect in closed arms as compare to open
arm. And 200mg/kg dose does not show significant variation. At the same time methanol extract at dose of 400mg/kg shows increase in number of crossings into dark and light chamber and increase in time spent in light chamber.

9. **Umarani V. et al., (2015)**. Dementia is one of the symptomatic characteristic of Alzheimer’s disease. Nootropic moieties are used clinically in treatment of learning abilities disorder and in improvement of behavior, mood and memory. In the current research work Quercetin was evaluated to assess its effectiveness on different cognitive functions in animals by use of Morris water maze model, passive avoidance paradigm, rota rod test, locomotor activity and elevated plus maze model. And to evaluate behavioral changes occurring due to acetylcholine. The Quercetin was evaluated for noradrenaline mediated behavior using clonidine-induced hypothermia, dopamine mediated behavior by haloperidol-induced catalepsy. The effects were compared with standard drug piracetam at a dose of 200 mg/kg.

Quercetin showed significant time reduction in identification of closed arm in elevated plus maze model at 50 and 100mg/kg as compare to normal animals. It also showed good performance in scopolamine impairment with related to retention and acquisition of memory working and in spatial memory tests in evaluation of Morris water maze model, decrease in latency of paradigm in passive avoidance, improvement in grip strength during rota rod test as well as increase in locomotor action. It was observed that quercetin having prominent capacity of memory improvement as well as it can used as a one of the compound in Alzheimer’s disease and dementia management.

10. **Ariharan V. N. et al., (2015)**. In the present article the authors collected the fruits of soap nut dried it and seeds were removed. Powder of seeds was extracted with pet. Ether to remove the oil present in the seeds. And solvent is removed to isolate the oil. The collected oil is mixed in conventional petroleum diesel with two different proportions. In one mixture
10% biodiesel and 90% conventional petroleum diesel named as B10 and in another mixture 20% biodiesel and 80% conventional petroleum diesel were mixed and named as B20. Both the oil blends were evaluated for different physicochemical properties along with general physical parameters like specific gravity, viscosity, pH, density, total dissolve oxygen, flash point, cloud point, smoke point, and relaxation time. It was observed that the total oil content of the seed is about 30%. After evaluation of all the different parameters it was revealed that the blend of B20 shows significant properties for use as a biodiesel. So one can use it as a potential source of biodiesel.

11. Dangi N. B., et al., (2015). The author collected dried pericarp of *Sapindus trifoliatus* and extracted with 1:1 water:ethanol mixture by maceration for about seven days with occasional shaking. The extract were collected and dried by solvent evaporation.

The effect of hydro-alcoholic extracts of pericarp of *Sapindus trifoliatus* were evaluated by different tests and methods like locomotor activity, Motor coordination test, Elevated plus maze test, Morris water maze test, Passive avoidance test, Y-maze test along with this all author also performed oxidative parameters in brain tissue homogenate, acetylcholinesterase activity and histopathology. Aluminium chloride was used to induce alzheimer’s disease in rats. It was observed that in these different parameters the hydro alcoholic extract shows significant effects as well as helps in maintaining the biochemical enzymes within the normal range. At the same time it does not gives any histopathological changes as compare to the rats treated with AlCl$_3$.

12. Dangi A., et al., (2015). In present evaluation, the author studied the bronchodilator effect of ethanolic extract of *Adhatoda vasica* on histamine and acetylcholine induced bronchoconstriction in guinea pigs. due to pretreatment with *Adhatoda vasica* Significant increase was observed in preconvulsion time when guinea pigs were treated with either histamine or Ach aerosol. The effect of *Adhatoda vasica* was compared to standard drug
ketotifen. It was known that *Ocimum sanctum* and *Albizzia lebbeck* has same mechanism of action as anti-asthmatic herbal drugs. *Adhatoda vasica* was evaluated for its spasmolytic effect, by using ethanolic extract on Ach and histamine caused contractions occurred on guinea pig ileum. It was found that it shows dose dependent contraction inhibitions caused by administration of Ach and histamine. The pharmacological action of *Adhatoda vasica* shows that it gives symptomatic improvement on functional parameters lungs in asthmatic situation. It might cause blocked of Ach receptors and H2 receptors which further causes in effectiveness of smooth muscles so that it does not have any effect of histamine and Ach causing spasm which further leads to bronco-constriction inhibition. The author concluded that the *Adhatoda vasica* shows prominent effectiveness as anti-microbial of pet. Ether extract at the same time asthmatic, anti-inflammatory and analgesic effect was observed for ethanolic extract.

13. Debajit K. et al., (2014). The author performed a survey for different traditional plants mainly used by tribal community in treatment of snake bite in Morigaon District of Assam. Medicinal plants belongs to Amaranthaceae, Compositae, Apiaceae, Araliaceae, Asperagaceae, Bignoniaceae, Leguminosae and Lamiaceae families which are commonly used in snake bite treatment. Leaf is most commonly useful part of plant in treatment but along with leaves, roots, tubers, fruits and seeds are also used as an antidote for treatment in snake bite. Generally aqueous extract or paste of parts of plants were prepared and given orally or applied at the site of bite, depending upon the severity of the bite. The survey included parts of plants used along with type of preparation and route of administration were collected. They found that the freshly prepared juice of immature leaves of *L. linifolia* can be used in the form of eye drop as one of the snake bite remedy.
14. **Hossain M. S., et al., (2014).** Author investigated antibacterial effect of *F. racemosa* fruits methanolic extract on different microbes like bacteria and fungi. The methanolic extract of *F. racemosa* bark were prepared by cold maceration technique and dried extract were dissolved in distilled water and further 100µg, 150µg and 200µg dilutions were prepared.

For antibacterial activity nutrient agar was prepared and for antifungal activity Potato dextrose sugar media were prepared. Antimicrobial activity was analyzed by using Disc diffusion method using kanamycin as standard for antibacterial activity. Nystatin used as a standard for antifungal activity. Effect was observed by measurement of inhibition of zone of inhibition. It was found that methanolic extract shows significant antibacterial activity on gram negative as well as gram positive bacteria.

15. **Kambli J., et al., (2014).** The plants having antioxidant, anticancer and antibacterial activity gives an alternative therapy for different infections occurred by oxidative stress, dreadful diseases like cancer, drug resistant bacteria and some other physiological disorders. In the present study, ethanolic extract was evaluated for different biological properties of leaves; fruits and bark of *F. racemosa* were studied for investigating antioxidant, antibacterial and cytotoxic effect and phytochemical study. The fruits, leaves, and barks were collected, dried, powdered and then soxhlet extraction was done by cold and hot extraction method. In cold extraction method powder is kept in ethanol in closed condition with occasional shaking for about 48 hrs., filtered and then the extract were concentrated by evaporation of solvent. In hot soxhlet extraction method extraction were done by using soxhlet apparatus and using ethanol as solvent. And extract were obtained by evaporation of solvent in vaccum drier. Further it was investigated for phytochemical analysis and different activities.

In the phytochemical analysis alkaloid, flavonoid and total phenolic content were analyzed. It was found that the cold bark extract contains more phenolic
content as compare to cold extract of leaf. Bark extract contains more concentration of alkaloids as compare to others. Flavonoids are present in more concentration in cold extract of fruits. The antibacterial activity was evaluated by agar well diffusion method as well as disc method. The dilutions were prepared by addition of 2% dimethyl sulphoxide at different concentrations of extracts 100, 200 & 300µg/ml. incubation of petri plates was done at 37°C for about 24 hrs. Zone of inhibition formed surrounding the wall was measured for confirmation of antibacterial effect.

The cold extract of bark shows maximum activity as compare to leaves and fruits. Antioxidant effect was evaluated by DPPH, ABTS and TAC method. It was observed that hot ethanolic extract of bark shows more prominent effect in TAC. At the same time cold ethanolic extract of bark shows high radical scavenging activity. The cytotoxic activity was determined by XTT assay. All extracts possess significant cytotoxic effect.

16. Bhogaonkar P. Y. et al., (2014). Investigated nutritional potential of *F. racemosa* in comparison with other species of *Ficus*. The receptacles of *ficus* having taste same as anjeer. Vegetables can be prepared from unripe receptacles. It was found that *F. racemosa* contains more percentage of protein, carotene, carbohydrates, ascorbic acid, anthocynins, lycopene, chlorophyll, starch, reducing and non reducing sugars, phosphorus and iron as compare to other species.

17. Vasantha K. P. (2014). Asthma is non communicable disease in the world which affects lungs. About 235 million people were affected all over the world. Anti-asthmatic effect was evaluated for bronchodilator & mast cell stabilizing effect. Maha punnai ver kuligai is a minero herbal medicine containing equal quantity of mineral and herbal as constituents. The present study contains evaluation of anti-asthmatic property of Siddha minero herbal compound Maha Punnai Ver Kuligai (MPVK) using various models.
The present study shows that the medicine has potent mast cell stabilizing activity along with broncho dilator property. MPVK significantly decreased total leukocytes as well as eosinophil count induced by milk as compare to disease control group at dose of 200 mg per kg in mice. In bronchial asthma inflammatory changes of the airways causes broncho construction. The effect of MPVK on reducing bronchial inflammation through reducing the increased leucocytes and eosinophils counts in mice. Bronchial dilation occurs due to prevention or reduction of inflammation of bronchial airways. MPVK proved for its bronchial dilation effect in the asthma management.

In allergic & non-allergic asthmatic condition mediators derived from Mast cells play an imp role. Due to inhalation of specific allergens activation of mast cells occurs which generates degranulation of mast cells. These mast cells secretes inflammatory mediators like leukotrienes, eosinophils, histamine, neutrophils and platelet activating factors which causes bronchoconstriction and inflammation of airways. On exposure to egg albumin mast cell releases inflammatory mediators after degranulation.

Different pathological features of bronchial asthma can form by these mediators formed by mast cells. MPVK act as broncho dilator by inhibiting bronchial & tracheal muscles tone. It gives prostaglandin synthesis inhibition. Standard drug Sodium chromoglycate prevented mast cell degranulation significantly when compared with the control group. In absence of intracellular calcium, histamine cannot get absorbed in cell membrane and degranulate.

It protected mast cell degranulation by protecting mast cell degranulation induced by egg albumin and thus stabilizing inflammatory pathway in airway. It causes blockage of calcium channels which are regulated by IgE in respiratory passages causes mast cell stabilizing effect. This takes place by prevention of release of different inflammatory mediators. This all proves that it have strong mast cell stabilizing effect.
18. **Debasish P. (2014).** Investigated antioxidant and anticancer activity of different fraction of methanolic extract of leaves of *S. trifoliatus*. It was observed that methanolic extract ethyl acetate fraction shows strong antioxidant activity with moderate anticancer activity due to the high percentage of phenolic content.

19. **Naik S. R. et al., (2013).** In the current research the author evaluated ethanolic extract of *Zizyphus jujube* belonging to family Rhamnaceae for anti-allergic activity. It was also evaluated for its mechanism of action. Ethanolic extract of Z. Jujube was evaluated for allergy and asthma using different models like mast cell degranulation induced by compound 48/80; leukocytosis and eosinophilia induced by milk and passive and active cutaneous anaphylaxis for various doses given orally. The extract was also studied for in vivo effect on sensitized guinea pig ileum and invitro for tracheal chain preparation of goat.

It was observed that the extract shown significant prevention of degranulation of mesenteric mast cells caused due to compound 48/80; milk-induced eosinophilia and decrease in passive cutaneous and active anaphylactic reactions. Z. Jujube extract also inhibited histamine as well as acetylcholine induced contraction of tracheal chain and contraction of sensitized guinea pig ileum induced by antigen. It also possesses free radicals scavenging activity. It was observed that the extract shown anti- anaphylactic and anti-allergic activity mainly due to mast cell stabilization of cell membrane as steroidal saponins and flavonoids was present as phyto constituents in the Z. Jujube extract.

20. **Beidokhti M. N. et al., (2013).** In the present study four plants; *Leucas linifolia, Occimum canum, Occimum adscndens* and *Thymus vulgaris* belonging to lamiaeceae family were selected. Powdered crude drugs were extracted by using sonication apparatus. Folin- Ciocalteu reagent was used to determine the phenolic content. ABTS and DPPH methods were used for
antioxidant assay. It was observed that *T. vulgaris* possess highest antioxidant activity and anti-inflammatory activity. And other plants show moderate anti-inflammatory and antioxidant activity.

21. **Rai V. M. et al., (2013).** In the present investigation the author performed phytochemical estimation of different plants belonging to Lamiaceae family. Ethanol, Chloroform and methanol extracts of leaves of *Pogestemon patchouli, Coleus aromaticus* and *L. linifolia*, were estimated for qualitative and quantitative evaluation of different constituents.

These extracts were evaluated for qualitative evaluation for presence or absence of Flavonoids, steroids, alkaloids, tannins, proteins, terpenoids, carbohydrates, Saponins and amino acids. Quantitative evaluation was done for total phenolic content, total flavonoidal content and estimation of alkaloids, tannins, Saponins, protein and steroids. It was found that all the extracts contain presence of steroids. Most of the extracts contain carbohydrates, alkaloids, tannins, Flavonoids. It was found that the ethanol extract contains different constituents as compare to other extracts.

22. **Namita et al., (2013).** Formulated a hair shampoo containing aqueous extracts of *Nardostachys jatamansi* (Valerianaceae), *Azadirachta indica* (Meliaceae), *S. trifoliatus* (sapindaceae), *Aloe vera* gel, *Eclipta alba* (Asteraceae) and *Phyllanthus emblica* (phyllanthaceae). The formulation of two types of shampoos were prepared first containing 1% of all extracts and PEG400 and aloe vera gel, another formulation containing CAPB (Coco amido proply betain) and polyquaternium-7 along with 1.5% of all the extracts.

Herbal shampoo were evaluated for different parameters like active detergent content, foam height determination, pH determination, microbial content of shampoo percentage of solid content along with viscosity and surface tension and also for hair washing and conditioning activity. It was found that the 1% formulation containing each extract shows excellent result in washing and
conditioning and the formulation is stable at accelerated stability testing. Both the formulation passes all the parameters with significant results.

23. Bais N. et al., (2013). The sample was collected from both the host plants, dried and powdered. The powdered crude drugs were extracted by soxhlet technique by solvents ethyl acetate, pet. Ether, water and methanol with less to high polarity of solvent. All extracts concentrated under reduced pressure and stored in airtight container. Methanol was used as solvent to dissolve ethyl acetate extract, centrifuged and injected for GCMS analysis. About sixteen and eighteen no. of constituents were observed. It was observed that different chemical constituents are present in different plants and it is depending on the nature of host plant.

24. Md. Aunik Mahmood et al (2013). The author evaluated different constituents of the seed oil of Sapindus trifoliatus. The author collected three varieties of Sapindus for comparative study from different regions of Bangladesh. The seeds were cleaned to remove any particulate matter. The seeds were dried and crushed to form fine powder. The volatile oil was extracted by hydro distillation method i.e. clavenger apparatus. The volatile oil collected by using acetone as solvent and dried in desiccators. And stored in refrigerator at 5°C. The fixed oils and fatty acids were extracted by using volatile oil free powder with help of petroleum ether (40-60°C) in soxhlet extraction using water as solvent at 80-90°C. Fatty oil was separated by removal of solvent in rotary vacuum evaporator and dried in oven at 110°C.

The physiochemical characteristics and chemical composition were detected by FTIR, GCMS. The physicochemical properties were confirmed by evaluation of ash value, acid value, iodine value, moisture, optical activity, saponification value. The analysis shown that different species contains some similar constituents as well as some different constituents. These differences in constituents might be due to different factors like maturity, climatic
condition, genetic variation, collection time, composition of water, soil as well as composition of fertilizers used.

25. **Rai P. et al., (2013).** In the present study the author tried to explore the traditional benefits of *Sapindus trifoliatus* (ST) fruits which were used in folk medicine for controlling the child birth. The present evaluation contains acclaimed the post-coital pregnancy interception of *Sapindus trifoliatus*, and possible toxicity profiles as well as to check its impact on reproductive hormones in mice. The extraction of pericarp was done using 50% hydro alcohol and further fractionation of extract with n-butanol. The n-butanol fraction was dried by rotary evaporator. The fraction thus obtained can be used by dilution with water to prepare sufficient dilutions.

The estrogenic activity and post-coital intraceptive activity for pregnancy were evaluated by observation of vaginal smear under microscope for different phases. The pregnant mice were separated and evaluated further for activity and the uterine horns were counted and then waited till delivery of mice. And then the no of born litters were counted. The 20 mg/kg extract shown prominent anti-estrogenic activity as well as prominent hormone. It reduced gonadal hormones in blood serum and elevated gonadotropic hormones.

The extract produced prominent decrease in uterotropic effect of ethinyl estradiol. The extract also changes the hormonal situation favourable for the implantation of fertilized ovum in uterus and increased the LH and FSH levels. This investigation confirms that the traditional use of pericarp of soap nut as interceptive in pregnancy. It might be due to blastocytotoxic, antizygotic or anti-implantation activity. It decreased the progesterone and estrogen levels in animals which makes the animal uterus unresponsive for pregnancy. The significant changes in carbohydrate and lipid levels also revels confirmation as antifertility drug having minimum risk factors.
26. **Wanjari S. P. et al., (2013).** The author evaluated addition of *Sapindus trifoliatus* powder in concrete admixtures. This research gives idea about use of organic material to improve the characteristics of concrete. *Sapindus trifoliatus* powder mainly used in different preparations due to its cleansing and foaming properties. In this study the authors studied the effect of reetha powder concrete in comparison with air entraining admixtures (AEC) and super plasticizers (SPC) on various engineering and microscopic properties. The mixtures with different concentrations of reetha powder were prepared and evaluated for different parameters like flow and work ability of concrete, density and air content of concrete, compressive strength, microstructure study of concrete. It was observed that the use of the reetha powder in concrete significantly reduced the plasticizer concrete as well as air entertainment concrete. It gives excellent flow ability to concrete which gives new idea about use of reetha powder in concrete admixture. The contractors can use Reetha powder as an additive when flowable concrete is required like plumbing concrete, long retention and self-compacting concrete work.

27. **Latha M. et al., (2013).** In the present evaluation the author evaluated antiasthmatic effect of ethanolic extract from *Symplocos racemosa* bark on histamine induced bronchospasm in guinea pigs and isolated guinea pig ileum preparation. The bark was collected from the sathuragiri hills, shade dried and macerated in 90% methanol at normal temperature for a week. Then extract was dried by vacuum distillation and stored in desiccators. The in-vivo antiasthmatic activity was evaluated by using ileum isolated from guinea pig. Guinea pig ileum were isolated and kept in organ bath containing Tyrode solution along with continuous aeration at room temp. The dose response curve of histamine with and without drug extract were taken and observed. The percentage protection was determined. The in-vitro antiasthmatic activity was evaluated in guinea pigs by induction of bronchospasm by histamine. The Pre-convulsion (PCT) time was recorded by keeping animals in histamine chamber and then exposing to aerosol containing 0.2% Histamine diphosphate initially without treatment of extract
and after 2.5 hours later animals was treated with standard drug Chlorpheniramine maleate 2 mg/kg orally, and extracts at dose of 250 mg/kg and or 500 mg/kg orally. After one and half hr of treatment again exposure to aerosol containing 0.2% Histamine diphosphate was done and PCT were observed.

It was observed that the extract given muscle relaxant effect against isolated ileum preparation and increased the PCT time in histamine chamber as compare to control group. From the present investigation it was confirmed that *Symplocos racemosa* bark extract shows prominent antiasthmatic activity.

28. *Das A. J.*, (2012). Studied different extracts of leaves of *Leucas linifolia* for antibacterial activity by using *E. coli* bacteria by using paper disc method for investigation of antibacterial activity. Collection and cleaning of *L. linifolia* Leaves were done. Then sterilization was done with 0.1% HgCl₂ solution for 20 sec. and again cleaned by distilled H₂O thrice. Dried in air then powdered into powder.

The powdered leaves were extracted by percolation with ethanol for about two weeks. The extract was filtered and concentrated at 40 °C in rotary evaporator. The same powder were extracted by using distilled water as solvent and concentrated at 40°C temperature by using hot air oven. Both the extracts were checked for antimicrobial activity by using Norfloxacin as standard and nutrient agar is used as a culture medium. It was found that the aqueous extract of leaves shows prominent antimicrobial activity as compare to ethanolic extract of leaves.

29. *Anarthe S. et al.*, (2012). In this crude methanol and ethyl acetate extracts of aerial parts of *Leucas linifolia* have been evaluated for central nervous system activities. Antinoceptive effect was determined by hot plate and acetic acid writhing method. As well as locomotor activity were evaluated by photoactometer and rota rod apparatus. Pentazocine was used as
standard in Hot plate method. Paracetamol is used in acetic acid writhing test at the same time diazepam is used as standard in locomotor activity. It was found that it shows significant peripheral and central nociceptive effect for both extracts. Both extracts shows significant decrease in motor activity along with significant sedative effect along with potentiating phenobarbitone induced sleeping time.

30. Mehta D. M. et al., (2012). Studied effect of aq. extract for wound healing and inflammatory models. Aqueous extract was prepared by boiling powdered crude drug along with distilled water in the water bath for $75^\circ\text{C}$ for 5-10 minutes same process was repeated thrice and the content was kept aside for 24 hrs. Filtered and again the remaining powder added in another fresh distilled water complete extraction is repeated twice. All filtrate is mixed together and concentrated on a water bath.

The wound healing activity were analysed by incised and full thickness excised wounds. Sub acute inflammation by hind paw edema induced by Formaline, acute inflammations by hind paw edema induced by carageenan. It was found that aq. extract of $F.\text{ }\text{racemosa}$ bark shows wound healing as well as anti-inflammatory activity but not shows prominent effect on wound healing activity and shows anti-inflammatory activity but does not suppress the activity.

31. Ramakrishna H. et al., (2012). Whole aerial parts of the $\text{Leucas linifolia}$ was collected cleaned with distilled water and dried it normal room temperature. Whole plant is size reduced and protein extract was prepared by homogenizing the powder with chilled acetone. Slurry is collected and filtered under vaccum to obtain powder.

The protein extract is further obtained by using different steps. Antioxidant activity of crude protein extract of $\text{Leucas linifolia}$ was subjected to evaluate DPPH and Hydroxyl radical scavenging activity. Chilled protein extract of
Leucas linifolia possess dose dependent antioxidant activity in both Hydroxyl radical scavenging and DPPH radical scavenging activity.

32. **Jayasree T. et al., (2012).** In his research article the evaluation was done on pericarp of fruits of *Sapindus trifoliatus*. Aqueous extract was prepared by using soxhlet technique, dried in vaccum and stored at room temp away from direct light. Rotarod apparatus and actophotometer were used as models for estimation of muscle relaxant activity on mice, using standard drug diazepam at 10mg per kg dose and normal saline at 10 ml per kg dose as negative control.

The activity was determined by administration of aqueous extract of *Sapindus trifoliatus* at a dose of 50, 100, 200 mg per kg by oral route. The animals were evaluated for their retaining time on the rotating rod after two hours of administration of the doses of all the drugs. And the difference in the fall off time from the rotarod was observed in between drug administered animals and control administered animals.

The spontaneous locomotor activity was evaluated by using actophotometer. The animals were observed in a closed square field area for about 5 minutes. The closed area contains six photocells in the outer wall. So that disturbances in the photo cell beam could be counted as a locomotor effect. These readings were taken as initial readings. The control, standard drug diazepam and different doses of extract were given to the animals orally and after one hour the response were determined again for about five minutes and difference were determined. It was found that there is significant reduction in the locomotor activity as compare to control, and the reduction was dose dependent manner. It also shows significant increase in muscle relaxant activity as compared to standard drug diazepam.

33. **Kalaivanan M. et al., (2012).** Studied ethanolic extract of *Tragia plukenetii* for the antiasthmatic activity and other different activities. Crude
drug material was dried, extracted by soxhlet extraction method using ethanol as solvent. The extract was collected by evaporation of the solvent and stored in amber colored bottles.

The antiasthmatic activity was determined by using broncho-constriction induced by histamine as well as isolation of ileum from guinea pig. Ileum was separated, kept in tyrode solution with continuous aeration. The histamine responses were recorded for about 5 minutes. Dose responses were determined after taking histamine dose response curve, with presence of extracts at dose of 10µg/ml to 100µg/ml as well as in absence of extract. Along with standard drug CPM (2mg/kg body weight).

In determination of broncho-constriction induced by Histamine, CPM 2mg per kg body weight was taken as std. animals were exposed to 0.2% histamine aerosol in histamine chamber and pre-convulsion time was recorded till start of convulsions and animals immediately removed in fresh air. After 24 hours animals were given required dose of drug control and standard, and after one hour again subjected to histamine exposure and pre convulsion time were recorded and percentage protection were calculated. It is observed that the ethanolic extract shows prominent decrease in contractions of guinea pig ileum as well as it increases latent periods of convulsions in histamine induced bronchospasm.

34. **Suralkar A. A. et al., (2012).** In the present investigation the author evaluated the ethanolic extract of roots of *Boerhaavia diffusa* for its antihistaminic effect. The effect was evaluated by using isolated goat tracheal chain preparation and histamine induced bronchoconstriction in Guinea pig at a dose of 100mg/kg, 200mg/kg and 400mg/kg orally. Using standard drug chlorpheniramine maleate at a dose of 2mg per kg and preconvulsive dyspnea time (PCD) was observed. It was found that *Boerhaavia diffusa* decreased contractile effect of histamine significantly. By competitive antagonism process in between drug and histamine.
35. Parmar Sachin et al., (2012). In the present research paper author evaluated antiasthmatic effect of a polyherbal formulation with the help of several experimental models. Guinea pigs and rats were used for animal study. Mast cell stabilization was evaluated on albino rats and bronchospasm induced by histamine and acetylcholine was examined on guinea pigs.

*Murraya koenigii, Caesalpinia bonduc, Solanum xanthocarpum* and *Aegle marmelos* leaves were collected, shade dried, cleaned and size reduced. Further extracted with pet ether for defatting, and then further extracted in soxhlet apparatus by solvent 95% ethanol. The concentration of extracts was done by evaporating solvents crude extract.

Poly herbal formulations were prepared by addition of 50 mg of extracts of *Aegle marmelos, Solanum xanthocarpum* and *Caesalpinia bonduc* and 100mg of *Caesalpinia bonduc* and *Murraya koenigii*. The guinea pigs were fasted for one day for evaluation of bronchospasm induced by Histamine, standard drug Mepyramine (8 mg per kg) was taken and 300 mg per kg poly herbal formulation were administered by intraperitoneal route to animals. After 30 minutes animals were kept in histamine chamber and exposed to histamine dihydrochloride (2%) in aerosol form. In bronchospasm induced by Acetyl-choline the same method is applied as histamine induced branchospasm only animals was subjected to exposure to acetylcholine aerosol (0.5%).

In mast cell degranulation method cervical dislocation technique was used to scarify male albino rats and 15 ml buffered salt solution was injected immediately in peritoneal cavity, gentle massage was done at peritoneal region for 1-1.5 minutes to facilitate cell recovery. Then peritoneum was exposed and peritoneal fluid was collected, centrifuged at 1000 rpm for about 5 minutes, the settled pale cell pellet were collected and resuspended in buffer and again centrifuged. Further staining done with toluidine blue 1%,
counterstaining with light green 0.1%. Counting of mast cells was done by observing stained slides. These mast cells were incubated in the polyherbal formulation with (1, 10, 100 µg/ml) to study the effect of formulation on mast cells.

And again the mast cell count was done and percentage of degranulation was determined. In the present study it was found that polyherbal formulation shows stabilization of mast cells, as well as antihistaminic and anticholinergic effect by showing bronchospasmolytic activity.

36. P. Odaya Kumar et al., (2012). In the present study the author evaluated Anti-asthmatic activity of different extracts of Cyclea peltata. The plant was collected and shade dried, powdered and extracted by continuous hot percolation method by solvents with increasing polarity. Pet. Ether, chloroform, acetone and ethanol were used as solvents for soxhlet extraction. The marc remained after ethanol extraction was subjected for preparation of aqueous extract by maceration method using chloroform water (0.25%) as solvent. All the extracts were concentrated by evaporation of solvents. And dried extracts were stored in desiccators.

The Antihistamine effects were observed on isolated ileum of Guinea pigs, bronchoconstriction induced by histamine aerosol. Isolation of guinea pig ileum the guinea pig was sacrificed and abdomen was dissected, and ileum was separated from oleo-caecal junction after opening caecum. The isolated ileum was immediately transferred into tyrode solution with proper aeration at 37°C. 2-3 cm ileum was separated and placed in organ bath with sufficient tension (0.5gm) and allowed to stabilize for half an hour. The responses were recorded when histamine (1 µg/ml) was given for about four to five doses. Then the tissue preparation were exposed to extracts of 250mg/ml for about half an hour in a tyrode solution within the organ bath and allowed to stabilize. Again on the extract treated tissues the responses of histamine were recorded and the difference in the contraction rate is determined.
In another method exposure of guinea pigs was done to aerosol of histamine by using 0.2% histamine diphosphate in a histamine chambers using nebulizer. As animals got nebulization it starts coughing then shallow breathing and then animals fall down and gave convulsive attacks. As animals stared convulsions it immediately taken away from chamber and exposed to fresh environment for recovery. The duration taken by animals from the exposure to histamine aerosol till the start of convulsive attack was measured. It was called as exposition time.

After one hour animals were administered 100 mg per kg dose of ethanolic and aqueous extracts orally and standard drug Promethazine hydrochloride was given orally at 300μg/kg. Same process was repeated after one hour, and time from exposure to histamine aerosol till start of convulsions were determined. The percentage protections of extracts were determined by difference between exposition time before and after administration of the extracts.

It was observed that the animals shown convulsions within 3 minutes initially without dose of extract and after the dose of extract the time for start of convulsions were increased significantly. This indicates that the extracts show prominent antihistaminic activity.

37. Kulkarni P. A. et al., (2011). Asthma can said as a chronic disorder of inflammatory airways which mainly identified by acute dyspnoea, coughing, chest tightness and wheezing. In asthmatic condition overnight decrements and Nocturnal symptoms are the most common syndromes in clinical manifestation of asthma. The advanced study has shown that combination therapy of bronchodilator and glucocorticoid mainly Salbutamol and Prednisolone is much more effective in treatment of asthma. The author manufactured and evaluated disintegrating tablets for fast relief from asthma, with use of combine form of Prednisolone and Salbutamol.
About twelve formulations were prepared by using different conc. of Salbutamol and Prednisolone using Avicil 102 & Starlac as filler binder and other Excipients were kept constant. These formulations were studied for dissolution and disintegration time. The author also evaluated Drug-Excipients and Drug-Drug interaction. No such interaction was found in any formulation. All the tablet formulations have good physical properties. Release of drug was evaluated by in vitro dissolution testing; and further analysing solution at 230 nm using UV-spectrophotometer for both drugs.

It was observed that effect of Avicil pH 102 is more than Starlac when used as diluents in manufacturing of tablets. Formulations F6 to F10 does not showed any significant action on release of drug from the tablet. It also shows less disintegration time than F1 to F5 formulations but its physical properties are not upto the mark for these tablets. When hardness and friability testing was evaluated it confirmed that Avicel containing formulations are much better than Starlac. The formulation having maximum quantity of super disintigrant along with Avicil pH 102 gave optimized evaluation parameters i.e. it have high dissolution rate in short time and very less disintegration time. So F5 was considered as optimized formulation. F5 formulation was effective in Preclinical evaluation.

38. Taur D. J., et al., (2011). This activity was evaluated by evaluation of haloperidol and Clonidine induced Catalepsy. The roots were collected, dried and powdered. Then extraction was done by 95% ethyl alcohol by continuous hot percolation method and dried in water bath. The antihistaminic effect was evaluated by Clonidine and haloperidol induced catalepsy in mice. Catalepsy was determined by bar test.

Animals were administered extract with different doses along with standard chlorpheniramine maleate. Half an hour after administration of extracts all animals were treated with Clonidine and the catalepsy was observed in all
animals at interval of 30 minutes. The extracts shown significant inhibition of catalepsy induced by Clonidine but animals treated with haloperidol do not show any inhibition in catalepsy. This might be due to the antagonism of H1 receptor and not by H2 receptor.

39. Mateen A., et al., (2011). Evaluated antibacterial activity against *Staph. aureus, E. coli, Proteus vulgaris, Pseudomonas aeruginosa, Salmonella typhi, salmonella paratyphi, Shigella sonnei* and *Klebsiella pneumonia*. The *C. reflexa* and *Abutilon indicum* extracts were prepared by maceration technique with different solvents like chloroform, ethanol, ethyl acetate and water. The antibacterial activity was evaluated by agar diffusion assay by well forming in *Mueller Hinton Agar plates* and activity were measured by size of zone of inhibition in mm. Chloramphenicol was used as standard. Author was observed that the ethanol and chloroform extracts shows greater activity against all the organisms and ethanol extract of *C. reflexa* exhibited better activity against *E. coli* and *Shigella sonnei*.

40. Zha U. et al., (2011). The author prepared hydroalcoholic extract by percolation method. Extract was concentrated under reduced pressure and dried in desiccators at 50°C. The heptoprotective activity was evaluated for fixed dose 400 mg per kg orally for 5 days. On completion of 5 days dosing, paracetamol was given 200mg per kg. Animals were sacrificed after 48h of paracetamol dosing. Blood glutathione, liver Na+K+ ATPase activity, serum bilirubin, serum marker enzyme, reduced liver glutathione and liver thio barbutiric acid reactive were estimated by using std. method. Hydro alcoholic extract of *Cuscuta reflexa* shows increase in glutathione in blood and liver, Na+K+ATPase activity. It was observed that the hydro alcoholic extract shows hepatoprotective activity.

41. Patil S. D. et al., (2011). In this research article the author collected fruits, shade dried it and mesocarp were removed and then powdered. Methanol was used as solvent for maceration, for about 24 hours on
mechanical shaker. The extraction was repeated two times, filtrate of macerate were mixed & evaporated to dryness. The methanol extract were fractioned with n-butanol with help of separating funnel. Solvent were evaporated in vaccum evaporator below 50°C. The activity was evaluated by active paw anaphylaxis, passive paw anaphylaxis, histamine and acetyl choline induced bronchospasm in guinea pig ileum and isolated goat tracheal strip preparation.

In active paw anaphylaxis and passive paw anaphylaxis it showed gradual decrease in eosinophil count as well as mast cell degranulation. n-butanol fraction inhibits the contractions in guinea pig ileum in a dose dependent manner and isolated goat tracheal strip preparation. Thus the n-butanol fraction of methanolic extract shows prominent inhibitory effect in a dose dependent manner.

42. Taur D. J. et al., (2011). The author studied antiasthmatic activity of Ricinus communis roots to confirm its folk uses. In this study different methods were utilised to check the activity like passive cutaneous anaphylaxis, milk induced eosinophilia and leukocytosis, mast cell degranulation at a dose of 100-150mg/kg. Ethanolic extract was prepared by continuous hot percolation method. The extract was tested for phytochemical study. The standard drug dexamethasone was given at 50 mg per kg dose. It was observed that the extract contains saponins, glycosides, alkaloids and flavonoids.

The ethanolic extract of Ricinus communis shows prominent inhibition of eosinophilia and leukocytosis induced by milk at 100-150mg/kg dose. At the same time it also inhibits the dye leakage area in cutaneous anaphylaxis in rats when compared with standard drug disodium cromoglycate. Thus the author proved that the ethanolic extract shows prominent antiasthmatic effect on mice as well rats.
The author studied antiasthmatic effect of dried *Clitoria ternatea* roots. The roots were collected washed with water dried in shade and coarsely powdered and subjected to extraction by continuous hot percolation method with 95% ethanol. Drying of extract was done. The preliminary phytochemical tests of ethanolic extract of *Clitoria ternatea* were performed to study the presence of different constituents.

The antiasthmatic activity was determined by different methods like Passive cutaneous anaphylaxis, leucocytosis and eosinophilia induced by Milk, and degranulation of Mast cells. For investigation of milk induced eosinophilia & leucocytosis, collection of blood was done retro orbital plexus of mice. Extracts were given by intraperitoneal route at 100, 125, and 150mg per kg dose and dexamethasone was given as standard 50mg per kg dose intraperitoneally. Leucocytosis & Eosinophilia were induced by administration of boiled and cooled milk immediately after dose. The blood was collected before and after 24 hrs. of drug administration for determination of the leukocyte and eosinophil count.

In passive cutaneous anaphylaxis the rats were treated with 12 mg of aluminium hydroxide and 100 mg egg albumin for one, three, five and tenth day. Blood was collected from the sensitized animals and antiserum was separated and stored below- 20°C. The antiserum was administered in back of rats. Extract was given 100, 125, 150mg per kg dose and standard drug sodium cromoglycate 50 mg per kg dose intraperitoneally. 30 minutes after treatment of doses of standard & drugs, equal quantity of 0.5 ml of 1% egg albumin and 0.5% Evan blue was injected through tail vein. The effect was determined by leakage of the blue dye spots on skin of rats.

The degranulation of mast cells was determined by change in mast cell number before and after administration of extract at different doses and standard drug received sodium cromoglycate by i. p. route. One day after administration of these doses peritoneal fluid were collected, mast cells were
separated and exposed to egg albumin 100 µg/ml and incubated at 37 °C for 10 min. and then degranulation of mast cells was compared with mast cells of controlled group of animals.

The author observed that *Clitoria ternatea* root ethanolic extract shown prominent antiasthmatic effect for all the models. Maximum decrease in eosinophils and leucocytes count was observed in eosinophilia and leucocytosis induced by milk. In mast cell degranulation the extract protected mast cells from degranulation. In Passive cutaneous anaphylaxis the percentage of inhibition of blue dye leakage was determined. And it was observed that it shown effect in a dose dependent manner.

44. Kishore D.V. et al. (2011). Author performed collection and drying of Matured leaves of *Sapindus trifoliatus* and powdered. Further subjected for maceration technique of extraction using methanol as solvent and water for soxhlet extraction method. Drying of both the extracts was done. Preliminary phytochemical testes were carried out for detection of different constituents. The suspensions of both extracts were prepared by using sodium CMC as suspending agent Ranitidine (0.6 % W/V) 30 mg per kg orally and Sucralfate (0.6 %W/V) 400 mg per kg orally body weight were given as Standard drugs. And extracts were given at 100, 200, 400 mg per kg body weight dose. On 7th day 90 % ethanol was given as ulcerating agent. After scarification of animals stomach of all animals were separated washed with tap water and stomach are observed for different ulcer sores and mucosal erosions. The ulcerative index was calculated by observation of presence of hyperemia, edema, sub mucosal hemorrhagic lesions with small lesions, as well as deep ulcers with invasive lesions and erosions, and single sub mucosal punctiform haemorrhage.

It was found that methanolic extract (68.94%) and aqueous extract (76.03%) shows prominent antiulcer effect at 400mg per kg of body weight dose as compare to Ranitidine (65.42%), but less than Sucralfate (80.50%). It
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indicates that both extracts can be use as antiulcer drugs for treatment in ulceration.

45. Fernandes J. et al., (2011). The evaluation of ethanolic extract of fruits of *Sapindus trifoliatus* were done for anti inflammatory effect using paw oedema in rats induced by carrageenan and granuloma technique using cotton pellet. Riped and dried fruits was collected powdered and extracted with soxhlet extraction method using ethanol as solvent for 24-48 hours. The extract was concentrated and solvent evaporated by flash evaporator.

The rat carrageenan induced paw oedema was determined by administration of carrageenan (1%) as irritant into the hind paw of the rats and paw volume were measured which was taken as initial volume. Then extract was given in different doses 100mg/kg, 200mg/kg, and 300mg/kg by oral route indomethacin at dose of 10mg/kg was given as standard. After half an hour the carrageenan (1%) was given and again volume of paw was measured. Percentage inhibition of oedema was calculated as difference.

In cotton wool granuloma method the animals were treated with different doses of extracts and anaesthetized by phenobarbitone. Incisions were given on lumbar region of rats and pre weighed, sterile cotton pellets was inserted on the groin and axillae region. The animals were treated till 9th day and then again animals were anesthetized and pellets were separated from animals cleaned, dried for about 6-7 hours and weighed. Difference in weight of pellets was determined. It was found that the ethanolic extract shows prominent anti-inflammatory effect in both the models.

46. Kota C. S. et al., (2011) Researcher evaluated S. trifoliatus seed for anthelmintic effect using methanolic extract against using adult earthworm, *Pheritima posthuma*. In this he collected fruits then seeds separated dried and powdered in the mortar pastel. The extract was prepared by maceration technique using methanol as solvent for about 72 hours. The activity was
determined by evaluating paralysis time and death time of earthworms at a
dose of 10, 20, 30, 40mg/ml dilutions done with minimum percentage of DMF
and Albendazole was used as standard. It was found that the extract shows
prominent effect as compare to Albendazole resulting in earthworm death as
well as for paralysis of earthworms.

47. **Taur D. J. et al., (2011).** The leaves of *Abrus precatorius* were
collected and dried and then first subjected to extraction with pet ether to
remove fat content. Then dried powder was extracted by ethanol using hot
percolation extractor. Extract was analysed for asthma management by
eosinophilia & leukocytosis induced by milk at a dose 100mg/kg, 125mg/kg
and 150mg/kg using dexamethasone as standard drug. Total eosinophil and
leukocyte count was performed before and after treatment of the different
doses of extracts, standard drug dexamethasone and control. It was observed
that the extract shows significant decrease in eosinophilia and leukocytosis
induced by milk at 100-150mg/kg i. p. dose in a dose dependent manner.

48. **Rahman J. et al., (2011).** have performed comparative evaluation
of Olopatadine Hydrochloride & Rupatadine Fumarate in prevention of
seasonal allergic symptoms of rhinitis generally occurring during variation in
season. The comparative evaluation was mainly based on decrease in
intensity of symptoms associated with allergic rhinitis. 70 patients were
selected and randomly divided into two groups. One group was supplied with
Rupatadine Fumarate and another with Olopatadine Hydrochloride for two
weeks. During this period the patients were observed for changes in
differential and total leucocyte count, serum immunoglobulin level & total
nasal symptoms score. It was observed that both the groups showed
prominent reduction in total & differential leukocyte count. Olopatadine HCl
shown more reduction in adverse reaction & serum immunoglobulin as
compare to Rupatadine treated patients. So it can concluded that Olopatadine
HCl is the good drug of treatment as compare to Rupatadine HCl in case of
season allergic condition due to its more effectiveness and more safety.
49. Hosny N. et al., (2014). Investigated HPTLC technique for some antihistaminic drug combination like loratadine, ketotifen and fexofenadine with acetaminophen or pseudoephedrine, these combinations are widely available in treatment of allergic chronic urticaria, conjunctivitis and rhinitis. In the present work six combinations were selected ketotifen and pseudoephedrine, loratadine and pseudoephedrine, loratadine and acetaminophen, fexofenadine and pseudoephedrine, ketotifen and acetaminophen and fexofenadine with acetaminophen. The HPTLC was done on precoated silica plates (G 60 F254) with variable mobile phases; so that both drugs gave compact bands. The HPTLC gave satisfactory Rf values for all the combinations. This technique was validated for different parameters like precision, accuracy, recovery and robustness. This method was found to be selective for specific combinations and also given reproducible observations.

50. Patel J. I. et al., (2013). The research was evaluated for isolation and identification of active constituent present in leaves of Vitex negundo for its effect on hyper responsiveness of bronchi. In the present study aqueous extract was prepared first and then further different sub fractions were prepared using acetone, chloroform, water as solvents. These fractions were treated for effect as hyper responsiveness of bronchi and bicarbonate level of serum by using guinea pigs and egg-albumin-induced asthma. These leaves subfractions also evaluated for different spectroscopic techniques like FT-IR, UV spectroscopy, mass spectroscopy, along with H1 NMR spectroscopy. It was observed that aqueous subfraction showed significant decrease in serum bicarbonate level as compare to other groups and fractions, at the same time it also shows decrease in eosinophils count. The histopathology study of lungs shown marked increase in inflammatory cells like neutrophils and eosinophils it mainly caused due to lung inflammation. Animals exposed to aqueous extract at does of 200mg/kg shows bronchoalveolar space, blood vessels and normal airway. From the above evaluation it was observed that
aq. Subfraction of *Vitex negundo* leaves shows prominent antineoplastic activity due to reduction in bronchial hyper responsiveness. The analytical effect shows that it contains 5-hydroxy-3,6,7,3',4'-pentamethoxy flavones molecule, it might be effective in asthmatic treatment.

51. D. Kumar (2010). In the present article the author evaluated antiasthmatic activity of *Ailanthus excels* by in-vivo as well as in-vitro models. The stem bark was collected, dried, powdered and extracted with soxhlet apparatus by using methanol as solvent. Extract was dried by vacuum evaporator. The effect was estimated by using guinea pig isolated ileum of and broncho constriction induced by histamine.

In ileum preparation isolated from guinea pig, the isolated ileum was kept in tyrode solution in water bath at normal room temp. The histamine dose response curve was obtained and then ileum was exposed to methanolic extract of *Ailanthus excels* and again same dose of histamine was given along with extracts and determination of responses was done. CPM was given as standard at dose of 10µg/ml was used and responses were observed.

In Guinea pigs histamine induced bronchoconstriction was determined by exposing animals to aerosol of histamine in aerosol chamber by ultra-sound nebulizer till formation of pre-convulsive dyspnoea, immediately animals were isolated in fresh environment to become normal. PCT time was recorded for each animal and animals were kept at normal environment for about 24 hours. The animals were exposed to methanolic extract at dose of 100, 200 and 400 mg/kg, orally. And after one hour again animals were exposed to histamine aerosol at different intervals of 1, 4 and 24 hours and pre convulsion time was recorded. The prevention of guinea pigs from pre convolution was determined by difference between PCT of with and without extract and standard drug CPM.
Author concluded that methanolic extract exhibited prominent decrease in contraction in isolated ileum preparation of guinea pig. Methanolic extract prolonged time of convulsions in Histamine induced broncho constriction when exposed to histamine aerosol in presence of extract and standard drug CPM.

52. **M. S. Prajapati et al., (2010).** The present research was done mainly to evaluate the antiasthmatic effect of *Sphaeranthus indicus* leaves. In this evaluation the aerial parts of the plant were collected and cleaned, dried at normal temp., powdered and stored in a airtight container. The powder was extracted with the methanol with the help of reflux below 80 °C. The extract was dried (25%w/w). The extract was suspended in Tween 80 and was used to check the effect as antiasthmatic agent.

The effects were observed by using histamine and Egg albumin induced bronchospasm. In bronchospasm induced by histamine, guinea pigs were selected and divided in different groups. Then preconvulsion dyspneic time was noted for all animals by exposure to 0.1% histamine hydrochloride using aerosol. As PCD happened the animals were removed in fresh air and kept as it is for 15 days for washing period. After 15 days animals were administered extract suspension with a dose of 150, 300 and 450 mg/kg orally and animals again exposed in histamine chamber to aerosol of histamine after two hours of extract administration & PCD time was recorded. And effectiveness of extract was determined depending upon improvement in PCT time.

In bronchospasm induced by Egg albumin, animals were divided in different groups and one group was treated with 150mg/kg of methanolic extract of *Sphaeranthus indicus* once in a day orally for 15 days. Before start of the dosing the animals were treated with egg albumin at a dose of 1 ml, 10% W/V. on 15th day animals were administered with 0.5ml, 2%W/V dose of egg albumin. After two hours of the administration or death of animal the lungs were washed with 10ml normal saline and 2000rpm centrifuged five min. the
pellets were collected and diluted with 0.5 ml saline and geimsa stain 0.2 ml in saline buffer at pH 6.5. After five minutes the leucocyte count of fluid was determined under microscops. And the count was compared with leucocyte count of normal guinea pig leucocyte count. It was found that the methanolic extract shows prominent effect against asthmatic conditions.

53. Balakrishnan B. R. et al., (2010). The author extracted powdered *Cuscuta reflexa* by soxhlet extraction method using methanol as solvent. Extract were dried at reduced pressure and stored in desiccators. The phytochemical evaluation of the extract done for identification of different constituents like tannins, flavonoids, alkaloids and cardiac glycosides. Hepatotoxicity was evaluated by for isoniazid and rifambicin induced hepatotoxicity in rats. And the results were analysed by biochemical estimation and histopathological study on rats. The author found that the methanol extract reduces the ALP as well as total bilirubin levels and maintains the enzyme level to normal and prevents alterations. Thus it shows protective effect on liver an improvement of its functional efficacy.

54. Bhujbal S. S. et al., (2009). The author evaluated roots of *Hemidesmus indicus* for antiasthmatic action using ethanolic extract of at 25, 50, 100 mg per kg dose using catalepsy induced by Clonidine, passive paw anaphylaxis in rat, isolated chain preparation of goat trachea. It was observed that methanolic extract possess prominent antiasthmatic activity.

55. Nagore D. H. et al., (2009). In the present investigation author extracted fruits of *Cassia sophera* by soxhlet extraction method using ethanol as solvent and further fractionation was done by using solvents chloroform, ethyl acetate and ethanol with increasing polarity. These different fractions of ethanolic extracts were evaluated for antiasthmatic activity with the help of different models like, broncho constriction induced by histamine in rats, passive paw anaphylaxis in mice, milk induced eosinophilia and leukocytosis, paw edema induced by carrageenan in rats, haloperidol and clonidine induced
catalepsy in mice. It was observed that *Cassia soporia* fruits shown prominent antiasthmatic activity.

56. **Rahmatullah M. et al., (2009).** In present investigation *C. reflexa* stem and *Calotropis procera* leaf was evaluated for glucose-induced hyperglycemia using chloroform and methanolic extracts. It was observed that both extracts of *C. reflexa* possess oral hypoglycemic activity but *Calotropis procera* does not possess any oral hypoglycemic activity.

57. **Pradhan D. et al. (2009).** The present investigation was done for evaluation of antitumor activity. The fruit pericarps of *S. trifoliatus* collected, dried and powdered. The powder was used for extraction process for preparation of the aq. Extract. The powder was mixed in chloroform water for about 14-16 hrs. Then filtered and dried by lyophilization process. The extract was evaluated for phytochemical study. The extract reduced ascetic fluid and ascetic cell content in mice when treated against transplantable marine tumor cell line. The extracts decreases the white blood cell count to normal and increases the RBC count as well as SGOT, SGPT value become normal.

58. **Ghaisas M. M., et al., (2009).** The author evaluated methanolic extract of *Calotropis gigantean* roots for clonidine and haloperidol induced catalepsy to check anti-cataleptic effect in mice. The methanolic extract acts on catalepsy induced by Clonidine in mice at different doses. It causes significant reduction in Clonidine induced catalepsy. But it does not shown significant reduction in catalepsy induced by haloperidol. It indicated that methanolic extract of *Calotropis gigantean* roots shows antihistaminic activity. This indicates that *Calotropis gigantean* roots with methanolic extract inhibited catalepsy caused by clonidine-induced but it did not inhibited catalepsy caused by haloperidol. Clonidine releases histamine release through mast cells and roots of *Calotropis gigantean* with methanolic extract possesses antihistaminic activity by stabilizing mast cells. But it does not possess
antidopaminergic and antiserotonergic activity. However it does not possess antiserotonergic & antidopaminergic activity.

59. **Sachan N. K., et al., (2009).** Previously diabetes was known as a disease of rich person’s disorder, but now a day’s any person can suffer from diabetes. Author performed various extracts of *F. racemosa* bark for evaluation of antihyperglycemic effect. The bark collected from wild source and after authentication bark is dried and powdered after washing with distilled water.

The powdered drug was extracted by ethanol in soxhlet process. Further extract prepared by concentrating it in rotary vacuum evaporator to form solid mass. Distilled water used for preparation of aqueous extract. Both the extracts were kept in refrigerator at a temp below 10°C. Alloxan monohydrate injection by tail vein was used for induction of diabetes in rats. Streptozotocin was used as standard. Diabetes was confirmed by testing blood glucose level after 48 hr of Streptozotocin administration for a week. Then ethanolic extract 400 mg per kg dose and aqueous extracts by gastric incubation were given to rats and blood glucose level was determined by an electric semi-auto analyzer. It was found that oral administration of ethanolic extract at a dose of 400 mg/kg shows prominent Antidiabetic potential by its glucose lowering activity.

60. **Patil V. V. et al., (2009).** The author investigated anti-hyperglycemic action of leaves of *Ficus racemosa* using pet. ether and ethanolic extracts on diabetes induced rats at 300 mg per day orally. Streptozotocin 50mg per kg dose given by intra-peritoneal route for induction of diabetes. It was found that the ethanolic extract shows prominent decrease in blood sugar level as compare to petroleum ether extract. Petroleum ether extract does not shown prominent decrease in the blood sugar level at 300mg per kg dose.
61. Gautam P. (2007). In the present evaluation, aqueous extract of Clerodendron phlomidis (AEC) was checked by in vitro and in vivo for antiasthmatic activity. Aqueous extract of Clerodendron phlomidis decreased contraction in isolated goat tracheal chain induced by Histamine in dose dependent manner. It also caused reduction of about 68% in eosinophil count and 74% protection in degranulation of mast cells when compared to controlled group. AECP decreased 63% in capillary permeability evaluated by optical density of the eye. AECP has positive effect on mast cell stabilizatin, decrease in capillary permeability and antihistaminic property, hence it can concluded that the extract have potential property as anti asthmatic effect.

62. Tayade P. M. et al., (2009). The author evaluated Tamarindus indica leaves for its anti asthmatic activity. The leaves were collected dried for a week and then powdered and extracted using methanol as a solvent by maceration method. The extract thus obtained was concentrated by the drying at temp below 60°C. The extract was kept away from direct sunlight and in cool place.

The Anti-asthmatic effects were evaluated by using eosinophilia and leukocytosis induced by milk and degranulation of mast cells induced by Clonidine and Clonidine induced Catalepsy in mice. In clonidine induced mast cell degranulation method, sodium cromoglycate was used as standard and extract was given 175, 350 and 700 mg per kg to animals till seven days, on 8th day from the peritoneal cavity mast cells were collected and counted for no of degranulation. The animals were treated with normal saline and after soft massage at peritoneal cavity again mast cells were collected and checked for degranulation. It shown that leaves of Tamarindus indica shown prominent anti asthmatic activity.

63. Anarthe S. et al., (2008). Studied analgesic effect of leaves, stem and root of Leucas linifolia. Different parts of plants were collected air dried and powdered. Then different extracts were prepared by using solvents like pet.
Ether, chloroform, ethyl acetate and methanol with the help of soxhlet extraction technique. These extracts were vacuum dried. Acetic acid induced writhing test and hot plate method was used to evaluate analgesic effect of these extracts. Paracetamol was used as a standard for acetic acid writhing test and pentazocine was used as standard for estimation of hot plate method.

It was found that central analgesic activity was prominently shown by stems *Leucas linifolia* stems by pet. Ether extract at 50 mg per kg intraperitoneally as compare to its roots and leaves. At the same time in acetic acid writhing, maximum inhibition was estimated for methanol extract of *Leucas linifolia* stems as compare to standard drug paracetamol and other extracts.

64. **Chandrashekhar C. H. et al., (2008).** The author evaluated *Ficus racemosa* bark for its anthelmintic action. The author collected *Ficus racemosa* bark. The powder of bark is subjected for extraction with different solvents with increasing polarity like pet. Ether, chloroform, ethanol and double distilled water. Dried extracts were obtained by drying extract in rotator evaporator. Anthelmintic activity was performed at a dose of 5, 10, and 50 mg/ml of crude extracts by using piperazine citrate as a standard drug on earthworm *Pheretima posthuma*. The time required for death as well as paralysis of earthworm is noted. It was found that aqueous extract shows prominent anthelmintic activity as compare to other extracts.

65. **Vadnere G. P. et al., (2007).** The author evaluated antiasthmatic effect of *Clerodendron phlomidis* (AECP) using aq. extract using *in vivo* and *in vitro* studies using various animal models. The antiasthmatic effect on histamine induced goat tracheal chain contractions was observed significant effect by inhibition of histamine induced contractile effect of aqueous extract of *Clerodendron phlomidis* at dose of 100 mg/kg, *i.p.* It shows dose dependent effect. The extract was also shown 68% decrease in blood eosinophilia, and 74% protection in mast cell degranulation as compared to standard and...
control. It also causes 63% decrease in blood capillary permeability by evaluation of optical density of eyes. Thus it can concluded that the extract shows prominent effect in treatment of asthma by acting as mast cell stabilizing action, antihistaminic and decrease in capillary permeability.

66. Arulmozhi D. K. et al., (2005). In the present research article the author evaluated pericarp extract of *Sapindus trifoliatus* in antihyperalgesic activity. The pericarp was collected and aqueous extract were prepared by percolation method. The extract was dried by lyophilization technique.

The antihyperalgesic activity was estimated by evaluation of morphine withdrawn induced symptoms of antihyperalgesic as acetic acid induced abdominal constrictions and tail flick hot plate method. In this method animals were received morphine containing sucrose solution with increased dose on daily basis for about 15 days so that mice became addicted to morphine. After that the solution was replaced with normal tap water. After six hours of tap water replacement mice were examined for hot plate method in which the removal of paw or tail was recorded as measure of latency.

It was observed that it decreased significant pain threshold in mice. As well as in acetic acid induced rhything in mice were examined. It shown decrease in number of contractions. In both investigations prochlorperazine was used as standard. The author also evaluated apomorphine induced climbing behavior in mice. It was observed that the aq. Extract of *S. trifoliatus* shown prominent antihyperalgesic activity by dopamine D2 antagonism.

67. Arulmozhi D. K. et al., (2005). The author prepared lyophilized aqueous extract of pericarp of *S. trifoliatus* were prepared by percolation method. The anti inflammatory effects were investigated for different models of invivo and invitro study. It was checked by using 5-lipoxygenase assays, Carrageenan, histamine or serotonin-induced rat pedal inflammation,
Zymosan induced mice paw inflammation, TPA induced mice ear inflammation, capsaicin induced mice ear inflammation as well as oxazolone or dinitro fluorebenzene induced mouse ear inflammation. It was found that the extract shows significant inhibition in inflammation of all phases in experimentation.

68. Moinuddin R. et al., (2004). Has performed comparative evaluation of different drugs which mainly used in prevention of allergic symptoms of rhinitis. This comparative evaluation was performed using random volunteers & in parallel way. One group of Volunteers was administered fexofenadine & pseudoephedrine dose and another group has received dose of loratidine & montelukast for two weeks. During the dose period and after two weeks duration all the patients were observed for their symptoms and allergic reactions. It was observed that fexofenadine - pseudoephedrine dose and loratidine – montelukast dose gives effective result for nasal track interference & relieving symptoms in case of periodically occurring allergy rhinitis & in case of refinement insufficiency during sleep. In case of fexofenadine-pseudoephedrine treated group causes insomnia it might be due to the similar effect of pseudoephedrine.

69. McGill J. et al., (2004). Has evaluated use of Olopatadine in case of allergic conjunctivitis. Ocular allergy severely affects the vision of person. The intensity of allergic reaction might changes from acute to chronic situation due to ocular allergies. Maximum persons suffer from these types of allergies and it is completely based upon season and different medicines delivered in association with the symptoms are very safe and simple. These allergic situation causes degranulation of mast cells. This required some drug treatment. This treatment should such a way that it should decrease primary mediator like histamine. Histamine causes ocular allergies and Olopatadine cures the ocular allergies by stabilizing the mast cells.
70. Samiulla D. S. et al, (2001). The author performed evaluation on following way. They collected leaves of Bacopa monnieri dried it and powdered it and extracted with soxhlet apparatus using different solvents petroleum ether, chloroform methanol and water with increasing polarity. The extracts were dried and analysed for stabilizing activity in mast cell at dose 10 µg/ml. It was observed that all the extracts show significant inhibition in process of mast cell degranulation.

71. Singh G. S. et al., (1973). The author investigated the pharmacological effect of ethanolic extract of Cuscuta reflexa on Dog blood pressure, tracheal chain of isolated guinea pig, ileum isolated from guinea pig, isolated rabbit duodenum and frogs profused heart. It shows various effects of aerial parts of C. reflexa using ethanolic extract on heart, blood pressure and on smooth muscle. It was observed that it has positive ionotropic and positive chronotropic effects on heart and decrease in blood pressure and having direct depressant action on smooth muscles.