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**M.Pharm [Pharmacology]** Students under taking Project work/Field work / Internship for the Academic Year 2021-2022.

| S.NO | DESCRIPTION |
|---|---|
| 1 | Certificate of Head of Institution |
| 2 | List of **M.Pharm [Pharmacology]** Students under taking Project work/Field work / Internship-HOI |
| 3 | List of **M.Pharm [Pharmacology]** Students under taking Project work/Field work / Internship. |

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Number of Students undertaking Project work/Field work / Internship for the **Academic Year 2021-2022.**

The Students Participated in More than one activity has been counted as **ONE** only.

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| S. No | Reg.No | Name of the Student | Year | Project Work-Topic | Field work | Internship |
|---|---|---|---|---|---|---|
| 1. | 261825707 | SHYJI.S | II | ANTICONVULSANT AND ANXIOLYTIC ACTIVITY OF THE LEAVES AND ROOT ETHANOLIC EXTRACTS OF *MIRABLIS JALAPA* IN A RAT MODEL. | - | - |
| 2. | 261825714 | MUHAMMED ASLAM.P.A | II | EVALUATION OF ANTIOXIDANT AND ANTI-INFLAMMATORY ACTIVITIES OF *ACACIA SENEGAL* STEM. | - | - |
| 3. | 261925701 | S.ARUN PRASANTH | II | EVALUATION OF ANTI-HUNTINGTON EFFECT OF | - | - |

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| | | | | ETHANOLIC EXTRACT OF *PEDALIUM MUREX LINN* IN 3-NITROPROPIONIC ACID INDUCED NEURODEGENERATION. | | |
| 4. | 261925703 | BABY.R | II | ANXIOLYTIC AND ANTICONVULSANT POTENTIAL OF ETHANOLIC LEAF EXTRACT OF *CROTOLARIA PALLIDA* AITON. | - | - |
| 5. | 261925704 | BHAVADHARANI.M | II | EVALUATION OF HYPOLIPIDEMIC ACTIVITY OF FLOWER OF *LANTANA CAMARA* USED AGAINST TRITON INDUCED HYPERLIPIDEMIC RATS. | - | - |
| 6. | 261925705 | BINIL VARGHESE JOHN | II | EVALUATION OF | - | - |

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| | | | | ANTIDEPRESSANT ACTIVITY OF ETHYL ACETATE FRACTION OF *HYPERICUM HUMIFUSUM* FLOWER IN MICE. | | |
| 7. | 261925706 | DHEIVALAKSHMI.K | II | ETHANOLIC EXTRACT OF *CROTALARIA PALLIDA* LEAF AGAINST SCOPOLAMINE INDUCED MEMORY IMPAIRMENT IN RAT. | - | - |
| 8. | 261925707 | DRISHYA.T | II | ANXIOLYTIC AND ANTICONVULSANT ACTIVITY OF THE METHANOLIC EXTRACT OF FLOWER OF *MIRABLIS JALAPA.* | - | - |
| 9. | 261925708 | GANAPATHY.G | II | EVALUATION OF ANTIULCER ACTIVITY OF ETHANOLIC EXTRACT OF *CROTALARIA PALLIDA* LEAF | - | - |

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| | | | | IN WISTAR RATS. | | |
| 10. | 261925709 | LOGANATHAN.D | II | EVALUATION OF ANTI-ASTHMATIC ACTIVITY OF AQUEOU SETHANOLIC ETRACT OF *CISSUS QUADRANGULARIS* LINN STEM | - | - |
| 11. | 261925710 | MAGESHWARI.R | II | EVALUATION OF DIURESIS EFFECT OF HYDRO ALCOHOLIC EXTRACT OF *MUSA PARADISIACA PSEUDOSTEM.* | - | - |
| 12. | 261925711 | MANIMEGALAI.A | II | EVALUATION OF ANTI-ALZHEIMER EFFECT OF ETHANOLIC EXTRACT OF *BARLERIA PRIONITIS* LEAF IN LIPOPOLYSACCHARIDE (LPS) INDUCED DEGENERATION. | - | - |

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| 13. | 261925713 | M.NAVEELAN | II | EVALUATION OF ANTIUROLITHIC ACTIVITY OF AQUEOUS EXTRACTS OF *SYZYGIUM CUMINI* LEAVES IN ETHYLENE GLYCOL (EG) INDUCED UROLITHASIS IN WISTAR RATS. | - | - |
| 14. | 261925714 | SRI INDU.N | II | SEVALUATION OF ANTI-PARKINSONIAN EFFECT OF *ANACYCLUS PYRETHRUM* LINN ROOT IN MPTP INDUCED NEURODEGENERATION. | - | - |

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# "ANTICONVULSANT AND ANXIOLYTIC ACTIVITY OF THE LEAVES AND ROOT ETHANOLIC EXTRACTS OF *MIRABILIS JALAPA* IN A RAT MODEL"

***Dissertation submitted to***

**THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY,**

**CHENNAI-600 032**

***In partial fulfillment of the requirements for the award of the degree of***

MASTER OF PHARMACY

IN

PHARMACOLOGY


Submitted by

**Mrs. SHYJI. S**

**Reg. No.261825707**


***Under the guidance of***

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APRIL 2021

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# CHPTER -7

## CONCLUSION

Medicinal plants have served as sources of readily accessible, inexpensive, and effective medication since the earliest times known to man. Several ethnomedicinal plants have been found to possess neurobehavioral profile and serve as alternative to modern medicine. Biological evaluation and scientific validation of the ethnomedicinal plants are the need of thehour.

The present study on pharmacognosy of leaves and root of the Mirabalis jalapa Linn. provides useful information for quality control parameters for the crude drugs. The results of the present investigation aresignificant and encouraging towards the goal for future utilization and standardization of Mirabalis jalapaplants.

The preliminary phytochemical studies were done in the ethanolic extract of Mirabalis jalapa leaves and roots, observed the presences of alkaloids, Carbohydrate, flavonoids, phenols, steroids,glycosides and tannins.

It is the first evidence of the antianxiety and anticonvulsant properties of the leaves and root of Mirabalis jalapa ethanolic extract were effective against tonic seizure, and generalized seizure or myoclonus; these reults suggest more concentrated presence of flavonoids such as quercetin implicate major anticonvulsant response. Quercetin shows anticonvulsant effects (Nieoczym D et al., 2014).Quercetin also improved the spatial memory impairment and neuronal death induced by repeated cerebral ischemia (Pu F et al., 2007).

It is the evidence of the leaves and root of Mirabalis jalapa extract containing flavonoids and phenolic chemical constituents (Aher A.N.,et al.,2016).In the CNS several flavones bind to the benzodiazepine site on the GABA receptor resulting in sedation, anxiolytic or anti-convulsive effects. Flavonoids of several classes are inhibitors of monoamine oxidase A or B, thereby working as anti-depressants or to improve the conditions of Parkinson's patients. Flavanols, flavanones and anthocyanidins have protective effects preventing inflammatory processes leading to

nerve injury. Flavonoids seem capable of influencing health and mood. (Anna K. Jager and Lasse Saaby,2011)

**Antianxiety activity (Diazepam):**

The present study shows that the ethanolic extract of leaves and roots of Mirabalis jalapa may function in a similar manner to BZD, it is possible that the antianxiety effects might be due to significant glycinergic and GABAergic potentiating mechanisms. These two acts as inhibitory neurotransmitter in the nervous system and are associated with anxiety. The Mirabalis jalapa extracts might be inducing the release of these neurotransmitters and thus inhibiting the anxiety (Shelar M.K et al., 2018).

On the basis of our result, we conclude that higher doses (400 mg/kg bwt) of ethanolic leaves and root extraction of Mirabilis jalapa showed significant anxiolytic action.

**MES (Phenytoin) and PTZ (Diazepam):**

Earlier reports on the chemical constituents of plants and their pharmacology suggest that plants containing flavonoids, alkaloids, phenolic compoundsandtanninspossessactivityagainstmanyCNSdisorders(Bhatacharya et al.,1997). Investigations on the phytochemical screening of Mirabalisjalapaleaves and root revealed the presence of alkaloids, glycosides, steroids, tannins, phenolic compounds and flavonoids. It is possible that the mechanism of anxiolytic and anticonvulsant action of MJLE and MJRE could be mediated by these phytochemicals (Patil VP et al.,2017), (Mahendran.G et al.,2014). In vitro and in vivo studies indicated that flavonoids may pass theblood-brain barrier and have many effects on the central nervous system (Jager et al.,2011).

Since the extract delayed the occurrence and decreased the duration of convulsions induced by PTZ (Diazepam) and MES (Phenytoin), it is possible that the anticonvulsant effects might be due to enhancement of glycinergic and GABA-mediated inhibition and/or inhibition of Ca2+ currents or blockade of glutamatergic

neurotransmission mediated by NMDA receptor; which is not tested in this study. However, we conclude that the ethanolic extract of Mirabalis jalapa is a potent anticonvulsant action. (Shelar M.K et al.,2018).

Mirabalis jalapapossesses muscle relaxant activity. (Deepsikhabharali et al., 2017) Also supportive evidence of Mirabalis jalapa showing anxiolytic and anticonvulsant effects and these findings collaborate with the ethnomedicinal uses of this plant.

However, On the basis of our result, it may conclude that higher doses (400 mg/kg bwt) of ethanolic leaves and root extraction of Mirabilis jalapashowed significant anxiolytic and anticonvulsant activity. It may be concluded that neuroprotective effects of Mirabilis jalapa due to the presence of tannins, phenolic compounds and flavanoids.

Further study is required for isolation & identification of active constituents & to confirm exact mechanisms.

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NAMAKKAL DISTRICT, TAMILNADU.

# EVALUATION OF ANTIOXIDANT AND ANTI-INFLAMMATORY ACTIVITIES OF ACACIA SENEGAL STEM

***A Dissertation submitted to***

THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY

CHENNAI -600 032

***In partial fulfillment for the requirements for the award of the degree of***

**MASTER OF PHARMACY**

**IN**

**PHARMACOLOGY**

**Submitted by**

MUHAMMED ASLAM P.A

Register No: 261825714

***Under the guidance of***

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# 7. SUMMARY AND CONCLUSION

This study reports the antioxidant, and anti-inflammatory activities of *Acacia Senegal stem* 70% methanolic extract and the phytochemicals present in them. The preliminary phytochemical screening showed the presence of alkaloids, phytosterols, phenolic compounds, glycosides, saponins, carbohydrates, tannins, gums, flavonoids, fixed oils, fatty acids, and proteins. The antioxidant activity of *Acacia Senegal stem* 70% methanolic extract is capable of scavenging free radicals such as superoxide radical, ABTS radicals, hydroxyl radical and DPPH radicals. The extract also inhibited the tissue lipid peroxidation in tissue. For checking the anti-inflammatory activity of the extract both acute and chronic inflammation models were evaluated. The administration of the extract reduced both carrageenan and dextran induced acute inflammation in mice. The chronic model, induced by formalin also reduced paw edema in a dose dependent manner. The extract at dosage 250 mg/kg produced more inhibition in mice paw edema. Thus, the extract can be used as anti-inflammatory agents.

The preliminary phytochemical analysis of the extract showed the presence of several bioactive compounds *viz* phytosterols, phenolic compounds, glycosides, saponins, carbohydrates, tannins, gums, flavonoids, fixed oils, fatty acids, and proteins. The *Acacia Senegal stem*, root extracts and the biological activities now evaluated may be associated with the presence of these compounds.

The present study reveals the antioxidant, and anti-inflammatory activities of *Acacia Senegal stem* extract. However, a detailed study should be carried out to elucidate the various molecular mechanisms behind the antioxidant and anti-inflammatory effects.

# EVALUATION OF ANTI - HUNTINGTON EFFECT OF ETHANOLIC EXTRACT OF *PEDALIUM MUREX LINN* LEAF IN 3-NITROPROPIONIC ACID INDUCED NEURODEGENERATION

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## EVALUATION CERTIFICATE

This is to certify that the dissertation entitled **"EVALUATION OF ANTI - HUNTINGTON EFFECT OF ETHANOLIC EXTRACT OF *PEDALIUM MUREX LINN* LEAF IN 3-NITROPROPIONIC ACID INDUCED NEURODEGENERATION"** to the Tamilnadu Dr. M.G.R Medical University, Chennai, in partial fulfilment for the degree of **MASTER OF PHARMACY in Pharmacology,** JKKMMRF'S ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY, under the guidance and supervision of **Mr.G. MUTHUKUMARAN ,M.Pharm., Assistant Professor** Department of Pharmacology, JKKMMRF'S ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY, during the academic year of 2020-2021

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# CHAPTER 9
# CONCLUSION

In our findings, EEPML showed significant results in *in vitro* cetylcholinesterase inhibition and *in vitro* free radical scavenging activity rompted us to select the ethanol extract for pharmacological screening. In this udy, results of behavioural tests for motor coordination, agitated levels of cetylcholine level and SOD indicated that the 3-NPA lead to memory and arning problem and movement abnormalities in rats, which were found to be versed by EEPML when compared to Donezepil hydrochloride treated groups. hese results indicated that EEPML may be a potential candidate for 3-PAinduced brain damage which may be attributed to the presence of potent ntioxidants in EEPML. However, further extensive research is necessary to lentify the exact constituents and elucidation of its possible mechanism of ction underlying the anti-huntington effect of EEPML. Such new findings may e included as strategies for more effective neuroprotection in addition to urrent therapies.

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# ANXIOLYTIC AND ANTICONVULSANT POTENTIAL OF ETHANOLIC LEAF EXTRACT OF *CROTALARIA PALLIDA* AITON

***Dissertation submitted to***

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**IN**

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## CONCLUSION

A number of ethnomedicinal plants have been found as potent neurobehavioral substances and those could be served as alternatives to modern medicine. The results of the present investigation are significant and encouraging towards the goal for future utilization and standardization of *Crotalaria pallida* plant. Our *in vivo* experiment results show that the higher dose (400 mg/kg b.wt.) of ELECP has significant anxiolytic and anti-convulsant activity. The present study is the first evidence of the antianxiety and anti-convulsant properties of *Crotalaria pallida*. It is concluded that neuro-protective effects of *Crotalaria pallida* might be due to the presence of phenolic compounds and flavonoids.

## FUTURE RECOMMENDATION

This evaluation also suggested that further study is required for isolation, identification of active constituents and to confirm exact mechanisms in order to find an effective drug against anxiety and convulsion.

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# EVALUATION OF HYPOLIPIEMIC ACTIVITY OF FLOWER OF *LANTANA CAMARA* USED AGAINST TRITON INDUCED HYPERLIPIDEMIC RATS

***Dissertation submitted to***

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***In partial fulfillment of the requirements for the award of the degree of***

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# 8. SUMMARY AND CONCLUSION

The Antihyperlipidemic and antioxidant activity of the plant flower extract is studied and the significance is evaluated.

**Table 8. Superoxide Radical Scavenging activity**

| Conc. (µg/ml) | Ascorbic acid | Ethanolic Extract | Aqueous extract |
|---|---|---|---|
| 25 | 73.50±0.70 | 46.46±0.34 | 24.23±1.45 |
| 50 | 77.63±3.12 | 56.47±0.86 | 38.01±0.34 |
| 75 | 82.33±0.96 | 65.00±0.87 | 48.44±0.14 |
| 100 | 85.93±0.79 | 70.23±1.46 | 59.36±1.11 |
| 150 | 93.30±0.02 | 73.56±1.76 | 68.36±1.08 |
| 200 | 94.54±0.06 | 75.22±0.60 | 70.57±0.59 |

**Ascorbic acid, ethanolic extract & aqueous extract in % inhibition

All the experiments were performed in triplicates There has been an significant inhibition of free radicals has been observed with the both the ethanolic and aqueous extract as compared with the standard ascorbic acid with the concentrations of 25, 50, 75, 100, 150 & 200 µg/ml respectively. There has been an considerable inhibition of the formed free radicals with the constituents present in both the samples.

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# EVALUATION OF ANTIDEPRESSANT ACTIVITY OF ETHYL ACETATE FRACTION OF HYPERICUM HUMIFUSUM FLOWER IN MICE

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**IN**

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# 8. SUMMARY AND CONCLUSION

Depression is a heterogeneous syndrome comprised of numerous diseases with distinct causes and pathophysiology. The problems associated with available current therapy with synthetic chemicals are poor response remission and severe undesirable side effects hence the search for novel drug continues and medicinal plants become important source for new drug development for behavioral depression

A large numberof plant which were used traditionally exhibit pharmacological properties with great potential for therapeutic applications in the treatment of central nervous system disorders

*Hypericum humifusum* Flower belonging to the family Hypericaceaehas been selected based on its traditional useand itsrich flavanoid content nature

The plant were collected authenticated various extracts were prepared and ethyl acetate extract was selected based on the phytochemical studies

The preliminary phytochemical studies revealed the presence of flavanoish, anthroquinones, glycosides, terpenoids etc.

Free radicals are frequently generated in our bodyduring normal cellular metabolism as well as under certain environmental conditions these radicals are more reactive as they lack an electron and try to become neutral by accepting an electron or donate an electron to adjacent molecule and create newfree radicals. This in turn initiates a chain of reaction that can damage several molecules through accepted or donated an electron leads to degenerative diseases

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The phytochemicals such as phenolic acids, polyphenoids and flavanoids are generally known as anti-oxidants and their beneficial effectsin several chronic oilments have been reported.

The present study clearly states the significantanti oxidant activity of ethyl acetate extract of *Hypericum humifusum*as evidenced from the reducing power ability and superoxide scaverging activity

In the present study acute administrations of EAEHH showed dose dependent anti immobility effect in forced swim test and tail suspension test. The immobility which is exhibited in the FST and TST represents the behavioral despair in animals that is claimed to reproduce the situation similar to depression in chemical conditions. Reduction in the duration of immobility by a drug was considered as it posses anti-despair or anti depressant effect

Generally the drugs which enhance the psychostimulant effect show false positive results in behavioural despair model and actophotometer test is used to discriminate the psychostimulant action from anti despair effect.

In the present study ethylacetate extract of *Hypericum humifusum*did not alterthe locomoter activity made sure by actophotometer activity at the doses effects in TST and FST indicating that the anti depressant effects showed by EAEHH is due to escape directed behavior and not by central excitation


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Another major draw back of there behavioural despair models is that most of the clinically used anti depressants show positive effect after acute administration, but these drugs when used clinically, takes at least three week to produce desired therapeutic effect. Hence, further study in chronic model in required to confirm the anti depressant activity of EAEHH

In conclusion EAEHH showed anti depressant like effect in TST and FST and further studies are required to confirm the anti depressant activity the mechanism involved and to voluntary the activity moiety responsible for anti depressant activity.

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# ETHANOLIC EXTRACT OF *CROTALARIA PALLIDA* LEAF AGAINST SCOPOLAMINE INDUCED MEMORY IMPAIRMENT IN RAT

***Dissertation submitted to***

THE TAMILNADU Dr.M.G.R. MEDICAL UNIVERSITY,

CHENNAI - 600 032

***In partial fulfillment of the requirements for the award of the Degree of***

**MASTER OF PHARMACY IN**

**PHARMACOLOGY**

Submitted by

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# 7. SUMMARY AND CONCLUSION

There has been a growing interest in the alternative medicine and the therapeutic properties of the natural products derived from plants in the recent years.

*Crotalaria pallida* Aiton (Family: Fabaceae) leaves based on its traditional uses in the treatment of urinary disorders, external application as a poultice to treat painful swelling of joints and to reduce fever also reported Anti-inflammatory, antioxidant and anticholinesterase.

As far as with above data the present work was carried out to study the memory enhancing activity of *Crotalaria pallida* Aiton.

It is concluded that memory enhancing and anti-alzheimer's effect of *Crotalaria pallida* might be due to the presence of anticholinesterase activity and phenolic compounds and flavonoids.

Anti-inflammatory, antioxidant and anticholinesterase properties of *Crotalaria pallida* may be contributing favorably to the memory enhancement effect. Since scopolamine amnesia was reversed by *Crotalaria pallida*, it is possible that the beneficial effect on learning and memory was due to facilitation of cholinergic-transmission in mouse brain by inhibition of cholinesterase enzyme. However, further studies are necessitated to identify the exact mechanism of action. In the present investigation, *Crotalaria pallida* has shown promise as a memory enhancing agent in all the laboratory models employed.

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This study and its effective results may help them for find out a new active compound against adverse conditions of AD.

Further phytochemical and pharmacological studies has to be progressed to elucidate in detail the active principle and real mechanism of action of this Ethanol extract of *Crotalaria pallida*.

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# ANXIOLYTIC AND ANTICONVULSANT ACTIVITY OF THE METHANOLIC EXTRACT OF FLOWER OF *MIRABILIS JALAPA*

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# CONCLUSION

Medicinal plants have served as sources of readily accessible, inexpensive, and effective medication since the earliest times known to man. Several ethnomedicinal plants have been found to possess neurobehavioral profile and serve as alternative to modern medicine. Biological evaluation and scientific validation of the ethnomedicinal plants are the need of the hour.

The present study on pharmacognosy of the *Mirabalis jalapa* Linn. provides useful information for quality control parameters for the crude drugs. The results of the present investigation are significant and encouraging towards the goal for future utilization and standardization of *Mirabalis jalapa* flower of this plants.

The preliminary phytochemical studies were done in the Methanolic flower extract of *Mirabalis jalapa*, observed the presences of alkaloids, Carbohydrate, flavonoids, phenols, steroids,glycosides and tannins.

It is the first evidence of the antianxiety and anticonvulsant properties of the Flower a of *Mirabalis jalapa* methanolic extract were effective against tonic seizure, and generalized seizure or myoclonus: these reults suggest more concentrated presence of ***flavonoids such as quercetin*** implicate major anticonvulsant response. Quercetin shows anticonvulsant effects (**Nieoczym D *et al.*, 2014**).Quercetin also improved the spatial memory impairment and neuronal death induced by repeated cerebral ischemia **(Pu F *et al.*, 2007).**

It is the evidence of the *Mirabalis jalapa* extract containing flavonoids and phenolic chemical constituents **(Aher A.N.,*et al.*,2016).**In the CNS several flavones bind to the benzodiazepine site on the GABA receptor resulting in sedation, anxiolytic or anti-convulsive effects. Flavonoids of several classes are inhibitors of monoamine oxidase A or B, thereby working as anti-depressants or to improve the conditions of Parkinson's patients. Flavanols, flavanones and anthocyanidins have protective effects preventing inflammatory processes leading to nerve injury. Flavonoids seem capable of influencing health and mood. **(Anna K. Jager and Lasse Saaby, 2011)**

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**Antianxiety activity (Diazepam):**

The present study shows that the methanolic extract of *Mirabalis jalapa* may function in a similar manner to BZD, it is possible that the antianxiety effects might be due to significant glycinergic and GABAergic potentiating mechanisms. These two acts as inhibitory neurotransmitter in the nervous system and are associated with anxiety. The *Mirabalis jalapa* extracts might be inducing the release of these neurotransmitters and thus inhibiting the anxiety **(Shelar M.K *et al.*, 2018).**

On the basis of our result, we conclude that higher doses (400 mg/kg bwt) of ethanolic Flower extraction of *Mirabilis jalapa* showed significant anxiolytic action.

**MES (Phenytoin) and PTZ (Diazepam):**

Earlier reports on the chemical constituents of plants and their pharmacology suggest that plants containing flavonoids, alkaloids, phenolic compounds and tannins possess activity against many CNS disorders **(Bhatacharya *et al.*,1997)**. Investigations on the phytochemical screening of *Mirabalis jalapa* Flower revealed the presence of alkaloids, glycosides, steroids, tannins, phenolic compounds and flavonoids. It is possible that the mechanism of anxiolytic and anticonvulsant action of MEMJ could be mediated by these phytochemicals **(Patil VP *et al.*,2017), (Mahendran.G *et al.*,2014).** In vitro and in vivo studies indicated that flavonoids may pass the blood-brain barrier and have many effects on the central nervous system **(Jager *et al.*, 2011).**

Since the extract delayed the occurrence and decreased the duration of convulsions induced by PTZ (Diazepam) and MES (Phenytoin), it is possible that the anticonvulsant effects might be due to enhancement of glycinergic and GABA-mediated inhibition and/or inhibition of $Ca^{2+}$ currents or blockade of glutamatergic neurotransmission mediated by NMDA receptor; which is not tested in this study. However, we conclude that the methanolic extract of *Mirabalis jalapa* is a potent anticonvulsant action. **(Shelar M.K *et al.*, 2018).**

*Mirabalis jalapa* possesses **muscle relaxant activity (Deepsikhabharali *et al.*, 2017)** and **Neuroprotective** activity of fractional flower extracts of *Mirabilis jalapa* Against aluminium hydrochloride induced neurotoxicity in male wister rats **(Sitty Manohar Babu *et al.*, 2017)**, Also supportive evidence of *Mirabalis jalapa* showing anxiolytic and anticonvulsant effects and these findings collaborate with the

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ethnomedicinal uses of this plant.

However, On the basis of our result, it may conclude that higher doses (400 mg/kg bwt) of methanolic flower extraction of *Mirabilis jalapa* showed significant anxiolytic and anticonvulsant activity. It may be concluded that neuroprotective effects of *Mirabilis jalapa* due to the presence of tannins, phenolic compounds and flavanoids.

Further study is required for isolation & identification of active constituents & to confirm exact mechanisms.

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# EVALUATION OF ANTIULCER ACTIVITY OF ETHANOLIC EXTRACT OF *CROTALARIA PALLIDA* LEAF IN WISTAR RATS

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## 7.CONCLUSION

The results of this study confirms the use of the ethanolic extract of leaves of *Crotalaria pallida* in traditional management of peptic ulcer. Chemical substances derived from plants have been used to treat human diseases since the dawn of medicine. Roughly 40% of new chemical entities introduced during the past two decades are from natural products. Therefore, efforts should be directed towards isolation and characterization of the active principles and elucidation of the relationship between structure and activity.

Further research is required to isolate the active phytochemical constituents present in the extract and pharmacological studies on the healing action of drug on chronic ulcer as well as on the possible side effects. The investigation on mode of action may pave way for establishment of new anti-ulcer therapy regimen.

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# EVALUATION CERTIFICATE

This is to certify that the dissertation entitled ""**EVALUATION OF ANTI-ASTHMATIC ACTIVITY OF AQUEOUS ETHANOLIC EXTRACT OF *CISSUS QUADRANGULARIS* LINN STEM"** Submitted by **Mr D. LOGANATHAN. (Reg. No. 261925709)** to the Tamilnadu Dr. M.G. R Medical University, Chennai, in partial fulfilment for the degree of **MASTER OF PHARMACY in Pharmacology,** JKKMMRF'S ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY, under the guidance and supervision of **DR.N.SENTHIL KUMAR M.Pharm.,Ph.D.,** Principal, Department of Pharmacology, JKKMMRF'S ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY, during the academic year of 2020-2021

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# 8 CONCLUSION

This work will be useful to find new anti asthmatic drug with help of in vitro and in vivo models. Aqueous Ethanolic extract will be possess highly substantial anti-asthmatic activity by significantly inhibited the histamine induced broncho constriction of guinea pig representing its H1 receptor antagonistic activity and support the plants by its anti-asthmatic properties.

Histamine induced bronchoconstriction is the traditional immunological model of antigen induced airway obstruction. Histamine when inhaled causes hypoxia and leads to convulsion in Guinea pigs and causes very strong smooth muscle contraction, profound hypotension, and capillary dilation in cardiovascular system. A prominent effect caused by histamine leads to severe bronchoconstriction in the Guinea pigs that causes asphyxia and death. Bronchodilators can delay the occurrence of these symptoms . The results of the study confirmed the bronchodilator properties of the plant, justifying its traditional claim in the treatment of asthma. The results will be obtained in the study to be provide basic data for further progress and application of plant.

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# EVALUATION OF DIURESIS EFFECT OF HYDRO ALCOHOLIC EXTRACT OF *MUSA PARADISIACA PSEUDOSTEM*

***Dissertation submitted to***

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***In partial fulfilment of the requirements for the award of the degree of***

**MASTER OF PHARMACY**

**IN**

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***Submitted by***


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## 8.0 SUMMARY AND CONCLUSION

While the traditional medicines are derived from medicial plants, minerals and organic matter, the herbal drugs are prepared from medicinal plants only. Use of plants as a source of medicine has been inherited and is an important component of the health care system in India. In the Indian systems of medicine, most practitioners formulate and dispense their own recipes, hence this requires proper documentation and research. The major hindrance in the amalgamation of herbal medicines into modern medical practices is the lack of scientific and 170 clinical data and better understanding of efficacy and safety of the herbal products. Herbs that stimulate the kidneys were traditionally used to reduce edema. In the present investigation one medicinal plants Hydro Alcoholic Extract of *Musa paradisiaca pseudostem*. This current research work will be very beneficial in figuring out the *Musa paradisiaca pseudostem* extract diuretic effect by determining the ions and electrolyte excreted by the animals using ion selective channel inhibition. Acute toxicity studies will be performed for the species *Musa paradisiaca pseudostem* which may have not shown any toxicity, which human body could be proved with the help of obtained study results. Diurectic activity of the herb *Musa paradisiaca pseudostem has* some beneficial effect on the selected animals, the herb *Musa paradisiaca pseudostem* may be selected for the further studies to prove its clinical relevancy.


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# EVALUATION OF ANTI - ALZHEMIER EFFECT OF ETHANOLIC EXTRACT OF *BARLERIA PRIONITIS* LEAF IN LIPPOPOLYSACCHARIDE (LPS) INDUCED NEURODEGENERATION

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# CHAPTER 9
# CONCLUSION

Alzheimer's disease is a neurodegenerative disorder currently without an effective treatment. Impairment of memory is the initial and most significant symptom of AD. AD is associated with a decline in cognitive abilities. This study reveals the anti-alzhemier effect of ethanolic extract of leaves of B. prionitis Linn, which is a well-known herb in Ayurveda. Phytochemical analysis of B. prionitis shows the presence of sterols, saponins, tannins, and flavonoids. Flavonoids, sterols/triterpenoids, tannins and phenolics compounds[ReemaDheer2010] **[25]**..

From the present investigation it was concluded that EEBPL has shown promising antioxidant activity. Results from AChE enzyme inhibition activity clearly indicates that EEBPL showed very potent inhibition of AChE when compared to donezepil.

EEBPL may have several active chemicals which possess potent antioxidant and also has anticholinesterase property. This indicates that his plant have wide margin of medicinal value and also has capabilities for the production of novel drugs for the treatment of Alzheimer's disease.

However, further studies are required to isolate the active components of EEBPL and to elucidate their mechanism of action at the cellular and molecular level for memory enhancing effect of EEBPL which would facilitate the use of B. prionitis in alzhemier disease.

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# "EVALUATION OF ANTIUROLITHIC ACTIVITY OF AQUEOUS EXTRACTS OF SYZYGIUM CUMINILEAVES IN ETHYLENE GLYCOL (EG) INDUCED UROLITHIASISIN WISTAR RATS"

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# 8.0. CONCLUSION

Urolithiasis can be produced in rats by induction of acute or chronic hyperoxaluria by using a variety of agents such as ethylene glycol, sodium oxalate, ammonium oxalate, hydroxyl-L-proline and glycolic acid. Kidney being the principal target for EG induced toxicity. EG is broken down *in-vivo* into four organic acids viz., glycolaldehyde, glycolic acid, glycooxalic acid and oxalic acid leading to hyperoxaluria which is the main initiative factor for lithiasis. Therefore in the present study, EG was preferred to induce lithiasis. Administration EG to the experimental animals for 28 days resulted in substantial elevation of oxalate and deposition of microcrystal's in kidney. In addition, oxalate precipitates as a calcium oxalate crystals in kidney since the oxalate metabolism is considered almost identical between rats and humans. Calcium and phosphate play a vital role in renal calculogenesis. In EG induced rats, the urinary excretion of calcium, phosphate was significantly increased. The increase in calcium and phosphate excretion could be due to defective tubular reabsorption in the kidneys. While treatment with standard, curative and preventive regimens of *Syzygium cumin* markedly reduced the levels of these ions, suggested protective effect of *Syzygium cumin* urolithiasis. In urolithiasis, the calculi formed in the renal tissue leads to obstruction in the urinary system that decreases the glomerular filtration rate (GFR) and cause an accumulation of certain waste products like nitrogenous substances e.g., BUN, creatinine and uric acid in the blood. Marked renal damage was seen in

EG induced rats indicated by decreased GFR, significant kidney weight gain and elevated serum level of BUN, creatinine, and uric acid. However treatment with ethanolic extracts of S. virginianum plant extracts in both curative and preventive regimens caused diuresis along with loss of kidney weight and also decreased the elevated serum level of BUN, creatinine and urea. The findings of the histopathological studies suggested that no microcrystalline deposition and kidney damage in the *Syzygium cumini* extract treated groups all these observations enabled us to confirm the preventive curative potential of *Syzygium cumini* on ethylene glycol induced lithiasis. In conclusion, the aqueous extract of *Syzygium cumini* leaves has both preventive as well as curative property in urolithiasis of rats. These finding, thus prompt the necessity for further study to carry out the antilithiatic effect of *Syzygium cumini* leaves by isolation of constituents and find out the actual constituent that active against stone formation. In this

present research, the antiurolithic activity of *Syzygium cumini* leaves has been planned to evaluate for its potential towards the action. The leaves of *Syzygium cumini* leaves are beneficial in treating the various other ailments, which is also accountable for its action on renal calculi preferably at this juncture

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# "EVALUATION OF ANTI-PARKINSONIAN EFFECT OF *ANACYCLUS PYRETHRUM* LINN ROOT IN MPTP INDUCED NEURODEGENERATION"

***Dissertation submitted to***

THE TAMILNADU Dr.M.G.R. MEDICAL UNIVERSITY, CHENNAI-600 032

***In partial fulfillment of the requirements for the award of the degree of***

**MASTER OF PHARMACY**

**IN**

**PHARMACOLOGY**

Submitted by


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***Under the guidance of***

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OCTOBER-2021

## EVALUATION CERTIFICATE

This is to certify that the dissertation entitled **"EVALUATION OF ANTI PARKINSONIAN EFFECT OF *ANACYCLUS PYRETHRUM LINN* ROOT IN MPTP INDUCED NEURODEGENERATION"** Submitted by **Ms. SRI INDU. N (Reg. No. 261925714)** to the Tamilnadu Dr. M.G.R Medical University, Chennai, in partial fulfilment for the degree of **MASTER OF PHARMACY in Pharmacology**, JKKMMRF'S ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY, under the guidance and supervision of **Mr.G. MUTHUKUMARAN ,M.Pharm., Assistant Professor** Department of Pharmacology, JKKMMRF'S ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY, during the academic year of 2020-2021

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## CONCLUSION

Parkinson disease is a neurodegenerative disorder currently without an effective treatment. Impairment of motor coordination is the initial and most significant symptom of PD. The present findings indicate improvement of motor co-ordination in EEAPR treated rats validate the traditional claim of A.*pyrethrum root* as a nervine tonic in the Indian system of medicine. Considering the lack of drugs with proven effect in improving motor cocordination and muscular strength, *A. pyrethrum* can be of enormous interest for further neurochemical investigation which can unravel its mechanism of action with respect to anti-parkinsonian activity.


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