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Dr. N. SENTHILKUMAR, Ph.D.,
Principal

**M.Pharm [Pharmacognosy] Students under taking Project
work/Field work / Internship for the Academic Year 2023-2024.**

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

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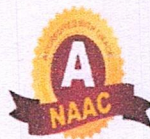
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CERTIFICATE OF HEAD OF INSTITUTION

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Dr. N. SENTHILKUMAR, Ph.D.,
Principal

TO WHOMSOEVER IT MAY CONCERN

Number of Students undertaking **Project work/Field work / Internship** for the Academic Year **2023-2024** is **8**.

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




Dr. N. SENTHILKUMAR,
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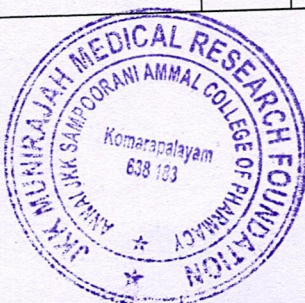
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Dr. N. SENTHILKUMAR, Ph.D.,
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This to certify that the List of **M.Pharm [Pharmacognosy]** Students under taking **Project work/Field work / Internship** for the Academic Year 2023-2024 are given below.

S. No	Reg.No & Name of the student	Name of the Guide	Year	Project Work-Topic	Field work	Intern ship
1.	S.SANTHOSH H 26172150750 7	DR.P.SATHEESH KUMAR	II	FORMULATION DEVELOPMENT AND STABILITY STUDY OF SUNSCREE GEL WITH HERBAL CONSTITUENTS	-	-
2.	PARAMESH WARI.L. 26172150750 5	DR.N.SENTHIL KUMAR	II	IN VITRO EVALUATION OF ANTI-OXIDANT, ANTI-INFLAMMATORY AND ANTI-EPILEPTIC ACTIVITY OF PAVONIA PROCUMBENS LEAVES EXTRACT	-	-
3.	SURYADEVI .M. 26172150750 8	DR.E.THILAGAM	II	FORMULATION AND EVALUATION OF TRANSDERMAL PATCH IN THE AQUEOUS EXTRACT OF ANTHURIUM ANDRAEANUM LIND FOR TREATMENT OF INFLAMMATION	-	-
4.	GOWTHAMR AJ S 26172150750 2	DR.E.THILAGAM	II	EVALUATION OF IN VITRO ANTI-DIABETIC AND ANTI-OXIDANT ACTIVITY OF STACHYTARPHETA URTICIFOLIA SIMS LEAVES EXTRACTS	-	-
5.	PRICNCY JEMIMA.J. 26172150750 6	DR.E.THILAGAM	II	PHARMACOGNOSTIC, PHYTOCHEMICAL SCREENING AND PHARMACOLOGICAL	-	-



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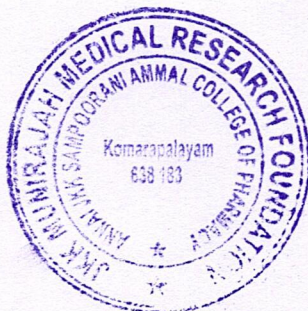
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Dr. N. SENTHILKUMAR, Ph.D.,
Principal

				EVALUATION OF PHYSALIS MINIMA LINN		
6.	TAMILARA SAN 26172150750 9	DR.P.SATHEESH KUMAR	II	PHARMACOGNOSTIC, PHYTOCHEMICAL SCREENING AND IN-VITRO STUDIES ON ANTI- ARTHRITIC AND ANTI- OXIDANT ACTIVITY OF SPERMACOCE HISPIDA	-	-
7.	AJITHKUM AR.A. 26172150750 1	DR.N.SETHIL KUMAR	II	EVALUATION OF IN VITRO ANTI-OXIDANT AND ANTI- CANCER ACTIVITY OF SECURNEGA LEUCOPYRUS LEAVES EXTRACT	-	-
8.	J.LILLY JUDI 26172150750 4	DR.P.SATHEEH KUMAR	II	FORMULATION AND EVALUATION OF BRYOPHYLLM PINNATUM (LAMP)KURZ GEL FOR WOUND HEALING TOPICAL APPLICATION	-	-



Dr. N. SENTHILKUMAR,
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NAMAKKAL DISTRICT, TAMILNADU.

FORMULATION DEVELOPMENT AND STABILITY STUDY OF SUNSCREEN GEL
WITH HERBAL CONSTITUENTS

Dissertation submitted to
THE TAMIL NADU 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
PHARMACOGNOSY

Submitted by

S. SANTHOSH

Reg. No. 261721507507

Under the guidance of

Dr. P. Satheesh Kumar M. Pharm., Ph.D.,

Associate Professor

Department Of Pharmacognosy



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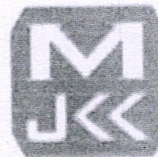



Dr. N. SENTHILKUMAR,
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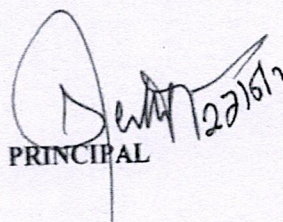
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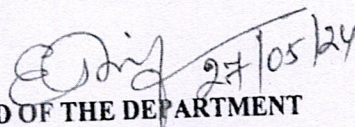


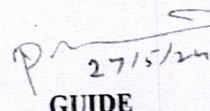
CERTIFICATE

This is to certify that the dissertation work "**FORMULATION DEVELOPMENT AND STABILITY STUDY OF SUNSCREEN GEL WITH HERBAL CONSTITUENTS**" is the bonafide work carried out by, **Mr. S. SANTHOSH (Reg. No.261721507507)** under the guidance and supervision of **Dr. P. Satheesh Kumar M. Pharm., Ph.D.**, Associate professor in the Department of Pharmacognosy, JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam.

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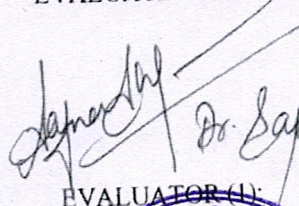

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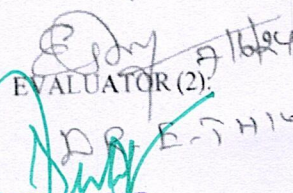
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DATE: 27/5/2024

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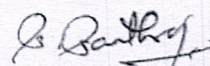
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NAMAKKAL DISTRICT, TAMILNADU.

DECLARATION

I hereby declare that this dissertation entitled "**FORMULATION DEVELOPMENT AND STABILITY STUDY OF SUNSCREEN GEL WITH HERBAL CONSTITUENTS**" is a bonafide work carried out by me under the guidance and supervision of **Dr. P. Satheesh Kumar M. Pharm., Ph.D.**, Associate Professor in the Department of Pharmacognosy, JKKMMRF'S – Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam submitted to The Tamilnadu Dr. M.G.R. Medical University Chennai in partial fulfillment and requirement of university rules and regulations for the award of Degree **Master of Pharmacy** in B during the academic year 2023-2024.

I further declare that this work is original and has not been submitted to this dissertation previously for the award of any degree.


S. Santhosh,

Reg. No. 261721507507

DATE: 27/5/24.....

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Dr. N. SENTHILKUMAR,
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CONCLUSION

In culmination, our study represents a significant advancement in the field of pharmacognosy, particularly in the formulation of herbal-based sunscreen products utilizing state-of-the-art Nano emulsion technology. Through meticulous experimentation and thorough analysis, we have successfully developed a sunscreen gel that harnesses the antioxidant potential of herbal ingredients, specifically thymol and cinnamon oil, encapsulated within a nanoemulgel matrix.

Our research journey commenced with the standardization of thymol and cinnamon oil, essential steps to ensure the consistency and potency of the active ingredients in the final formulation. The subsequent evaluation of antioxidant activity revealed thymol's remarkable efficacy in scavenging free radicals, surpassing that of cinnamon oil. Furthermore, both extracts exhibited promising peroxide scavenging capabilities, with thymol emerging as the more potent antioxidant.

The demonstrated reducing power of thymol and cinnamon oil extracts underscores their potential as effective antioxidants, holding significant implications for skin health and protection against oxidative stress-induced damage.

The successful formulation of the nanoemulsion, characterized by its high zeta potential and nano-sized particles, represents a pivotal achievement in ensuring stability and enhanced skin penetration of the active herbal components. These attributes are paramount in guaranteeing the efficacy and longevity of the sunscreen gel upon application.

Moreover, the comprehensive evaluation of the nanoemulgel encompassed an array of physical properties including color, fragrance, viscosity, spreadability, and pH, all of which fell within acceptable ranges, further affirming the formulation's suitability for topical use.

As we conclude this thesis, it is evident that our research has not only contributed to the development of a novel herbal sunscreen formulation but has also shed light on the potential of pharmacognosy in harnessing nature's bounty for skincare applications. Moving forward, further studies may delve into optimizing the formulation for specific skin types and exploring additional herbal essential oils with synergistic antioxidant properties, paving the way for safer and more efficacious sunscreen products rooted in natural ingredients. Thus, our journey in pharmacognosy continues, fueled by a commitment to innovation and the pursuit of harnessing nature's therapeutic potential for human well-being.




Dr. N. SENTHILKUMAR,
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NAMAKKAL DISTRICT, TAMILNADU.

Department of Pharmacognosy

JKKMMRF'S College of Pharmacy

EVALUATION OF *IN VITRO* ANTI-OXIDANT AND ANTI-CANCER
ACTIVITY OF *SECURNEGA LEUCOPYRUS* LEAVES EXTRACT

Dissertation submitted to

THE TAMILNADU Dr.M.G.R. MEDICAL UNIVERSITY,
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In partial fulfillment of the requirements for the award of the degree of

MASTER OF PHARMACY
IN
PHARMACOGNOSY

Submitted by

AJITH KUMAR A

Reg. No. 261721507501

Under the guidance of

Dr. N.SENTHIL KUMAR, M.Pharm., Ph.D.,

Principal/Professor

Department of Pharmacognosy



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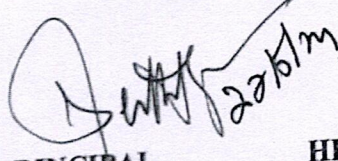
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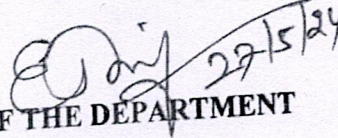


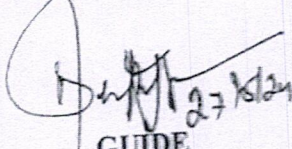
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This is forwarded to the TamilNadu Dr.M.G.R Medical University, Chennai, for the partial fulfillment of requirements for the Degree of Master of Pharmacy in Pharmacognosy (2023-2024).


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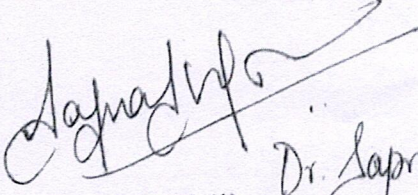
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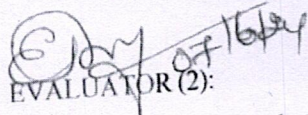
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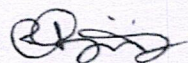
Dr. E. S. HILACAM



DECLARATION

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AJITH KUMAR A

(Reg. No. 261721507501)

Date: 27/05/2024

Place: Komarapalayam



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ETHIRMEDU, KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMILNADU.

CONCLUSION

Securinega leucopyrus leaf organoleptic characteristics, microscopic features, and physio-chemical properties provide valuable insights into the botanical and chemical composition of the plant. Plant morphological characteristics are determined by its trifoliate leaves with distinctive anatomical features, including epidermal cell counts, stomatal indices, palisade ratios, and vein terminations.

An analysis of the phytochemical composition of the ethanolic extract revealed that it contained alkaloids, flavonoids, glycosides, sterols, terpenoids, and tannins. It is also possible to quantify the plant's total phenolic and flavonoid content, which adds to our understanding of the potential health benefits it may possess.

This extract contains quercetin, further supporting its medicinal value, according to chromatographic analysis. An in vitro study of the ethanolic extract showed that it demonstrated remarkable cytotoxic activity against DAL, MCF-7, and melanoma cells. *Securinega leucopyrus* may hold therapeutic potential, especially in the treatment of cancer, due to its cytotoxicity and antioxidant properties.

There is evidence that the alkaloids in *S. leucopyrus* can scavenge free radicals and have diverse biological activities, making it a potential source of pharmacologically active compounds. As a result of the study findings, further studies in vivo are warranted to validate and explore the efficacy of *S. leucopyrus* in the treatment of cancer. A valuable contribution to the pharmaceutical industry and medical research is this research, which emphasizes the multifaceted health benefits of *Securinega leucopyrus*.




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SURYADEVI.M

Registration No: 261721507508

Under the guidance of

Dr.E.THILAGAM, M.Pharm.,Ph.D.,
Professor and Head

DEPARTMENT OF PHARMACOGNOSY



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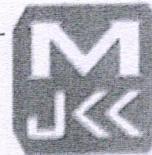



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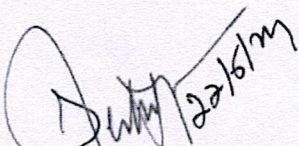
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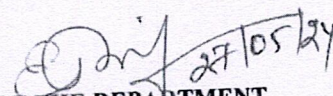


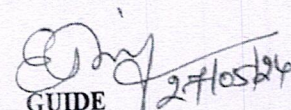
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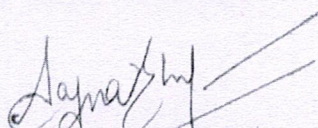

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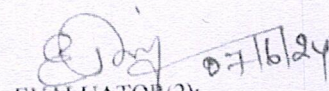

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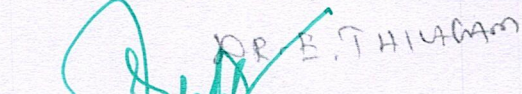
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ETHIRMEDU, KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMILNADU.

DECLARATION

I hereby declared that this dissertation entitled “**FORMULATION AND EVALUATION OF TRANSDERMAL PATCH IN THE AQUEOUS EXTRACT OF *ANTHURIUM ANDRAEANUM* Lind FOR TREATMENT OF INFLAMMATION**” was carried out by me, under the guidance of **Dr.E.THILAGAM, M.Pharm.,Ph.D.**, Professor and Head in the Department of Pharmacognosy, JKKMMRF's – Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam submitted to The Tamil Nadu Dr. M.G.R. Medical University Chennai in partial fulfillment and requirement of university rules and regulations for the award of Degree **Master of Pharmacy in Pharmacognosy** during the academic year (2023-2024).

I further declare that this work is original and has not been submitted to this dissertation previously for the award of any degree.

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8. SUMMARY AND CONCLUSION

Herbal medicines have been widely used all over the world since ancient times and have been recognized by physicians and patients for their better therapeutic value as they have less side effects as compared with modern medicines. The drugs of Ayurvedic origin can be utilized in a better form with enhanced efficacy by incorporating in modern dosage forms. Phytotherapeutics deliver the components in a novel manner to increase patient compliance and avoid repeated administration. More plants and their combinations should be explored to get reliable, safe and effective formulations that can compete with synthetic drugs.

In the present study, the medicinal plant *Anthurium andraeanum* was established for the treatment of inflammation, it was selected and formulated as transdermal patches.

Prior to preformulation and formulation development, the selected aqueous plant extract were subjected to phytochemical screening after successive solvent extraction. Qualitative chemical examination of extracts revealed the presence of alkaloids, flavonoids, steroids and tannins. Based on phytochemical studies, aqueous extract was selected and subjected to formulation development.

The various formulation parameters, Drug-Polymer ratio and permeation enhancers were optimized to get thin, transparent, smooth, stable and high permeable transdermal patches. The FTIR graphs of drug, excipients and formulations showed that there are no extra peaks (or) broadening of peaks and thus it indicates that there is no incompatibility between the drug and excipients.

HTP of aqueous extracts of *Anthurium andraeanum* transdermal patches were prepared by solvent casting technique. The GC - MS analysis showed the presence of different phytocomponents of medicinal importance in the aqueous extract of HTP.



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IN VITRO EVALUATION OF ANTI-OXIDANT, ANTI-INFLAMMATORY AND
ANTI-EPILEPTIC ACTIVITY OF PAVONIA PROCUMBENS LEAVES
EXTRACT

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

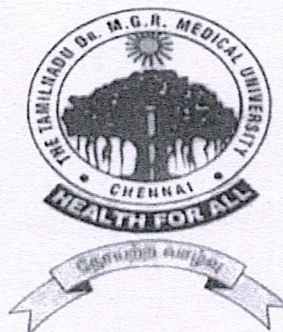
MASTER OF PHARMACY
IN
PHARMACOGNOSY

Submitted by

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Under the guidance of

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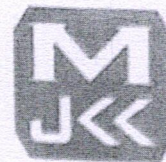

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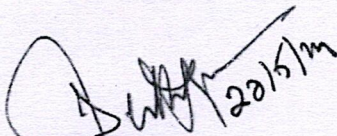
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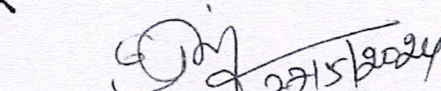


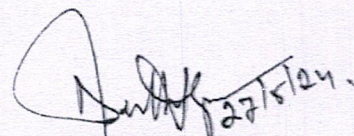
CERTIFICATE

This is to certify that the dissertation work "*IN VITRO* EVALUATION OF ANTI-OXIDANT, ANTI-INFLAMMATORY AND ANTI-EPILEPTIC ACTIVITY OF *PAVONIA PROCUMBENS* LEAVES EXTRACT" is the bonafide work carried out by, Ms. PARAMESHWARI. L (Reg. No.261721507505) under the guidance and supervision of Dr.N. SENTHIL KUMAR., M.Pharm., Ph.D., Principal, JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam.

This is forwarded to the TamilNadu Dr.M.G.R Medical University, Chennai, for the partial fulfillment of requirements for the Degree of Master of Pharmacy in Pharmacognosy (April 2024).


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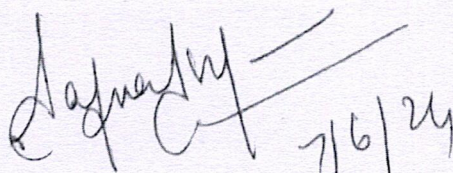

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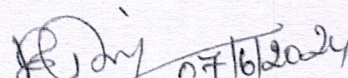

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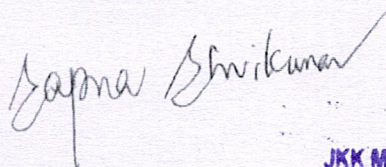
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7. CONCLUSION

This study sheds light on the potential therapeutic implications of Pavonia leaf ethanol extract (EEPP) in the context of neurological conditions, specifically epilepsy-related anxiety. The concentration-dependent inhibition of acetylcholinesterase (AChE) and butyrylcholinesterase observed in the study aligns with the known involvement of cholinergic dysfunction in epilepsy and anxiety-related responses. Additionally, the presence of rutin in Pavonia species further emphasizes the compound's relevance in neurological contexts. The findings suggest that EEPP exhibits inhibitory actions on key enzymes involved in cholinergic transmission, offering insights into its potential as a modulator of neurotransmitter dynamics, specifically acetylcholine, implicated in anxiety responses associated with epilepsy. The correlation between the extract's actions on cholinesterases and established links between cholinergic dysfunction and epilepsy-related anxiety opens avenues for potential therapeutic interventions.

However, this work also presents areas for future exploration and improvement. One crucial aspect is the need for further elucidation of the specific neurobiological mechanisms underlying EEPP's actions on cholinesterases and its subsequent impact on cholinergic transmission in epilepsy-associated anxiety. Additionally, *in vivo* studies to validate these findings in animal models could provide more comprehensive insights into the extract's efficacy and safety profile. Moreover, detailed investigations into the bioactive components responsible for the observed inhibitory effects would enhance our understanding of EEPP's pharmacological potential. Furthermore, exploring the extract's broader neuroprotective effects and its impact on other behavioral manifestations associated with epilepsy could pave the way for a more holistic therapeutic approach.

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PHARMACOGNOSTIC, PHYTOCHEMICAL SCREENING AND *IN-VITRO*
STUDIES ON ANTI-ARTHRITIC AND ANTI-OXIDANT ACTIVITY OF
SPERMACOCE HISPIDA

Dissertation submitted to
THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI -600032.
In partial fulfillment of the requirements for the award of the degree of

MASTER OF PHARMACY
IN
PHARMACOGNOSY


Submitted by
THAMILARASAN. MR
Reg.No. 261721507509

Under the guidance of
Dr. P. Satheesh Kumar, M.Pharm., Ph.D.,
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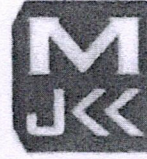



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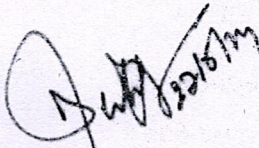
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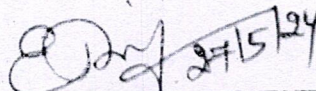


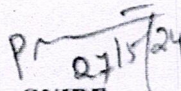
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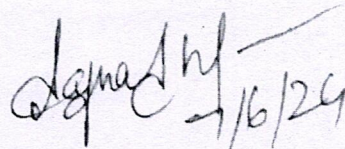

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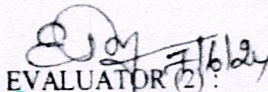
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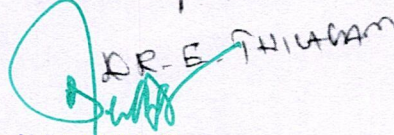
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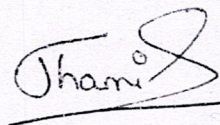

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DECLARATION

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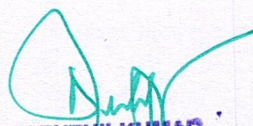
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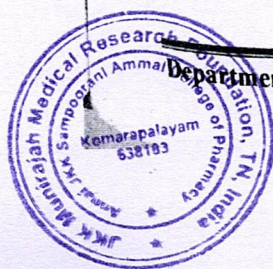
8. SUMMARY AND CONCLUSIONS

The research conducted on *Spermacoce hispida* leaves marks a significant milestone in the field of pharmacognosy, phytochemistry, and pharmacology. It represents a comprehensive effort to scientifically investigate the traditional claims associated with this plant species. By employing a range of analytical techniques including microscopy, macroscopy, determination of organoleptic characteristics, and physicochemical analysis, the study aimed to provide a thorough understanding of the plant's characteristics and chemical composition.

One of the primary objectives of the pharmacognostical study was to authenticate the plant material and distinguish it from potential adulterants or allied species. This was achieved through meticulous examination of its macroscopic and microscopic features, which revealed distinctive traits such as the opposite, decussate arrangement of leaves, elliptic-oblong to linear lanceolate shape, and the presence of auxiliary or terminal sessile flower heads. Additionally, the organoleptic characteristics, including the dark brown color and bitter taste of the powdered leaves, provided further insights into its identity.

Physicochemical analysis played a crucial role in determining the chemical composition of *Spermacoce hispida* leaves. Various parameters such as ash values, extractive values, moisture content, and pH were measured to quantify key constituents and assess the overall quality of the plant material. These data not only contribute to the botanical characterization of the plant but also serve as important reference values for future studies.

The preliminary phytochemical screening of the ethanol extract revealed the presence of a diverse array of phytoconstituents, including saponins, tannins, phenolic



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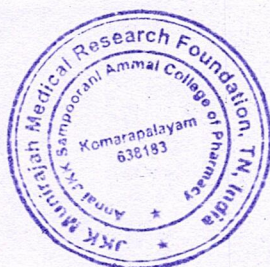
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compounds, steroids, flavonoids, terpenoids, alkaloids, carbohydrates, amino acids, proteins, and glycosides. These bioactive compounds are known to possess various therapeutic properties and may account for the traditional medicinal uses of *Spermacoce hispida*.

The pharmacological evaluation of the ethanol extract demonstrated significant *in-vitro* antioxidant and *in vitro* anti-arthritic activities. These findings validate the traditional claims associated with *Spermacoce hispida* and suggest its potential therapeutic utility in combating oxidative stress and inflammatory conditions like arthritis.

Overall, the research findings provide valuable insights into the pharmacognostical characteristics, chemical composition, and pharmacological activities of *Spermacoce hispida* leaves. They not only contribute to our understanding of traditional medicinal plants but also pave the way for further research in pharmacology, phytochemistry, and clinical applications. The study underscores the importance of scientific validation in supporting traditional medicinal practices and highlights the potential of natural products as a source of novel therapeutic agents.



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**PHARMACOGNOSTIC, PHYTOCHEMICAL SCREENING AND
PHARMACOLOGICAL EVALUATION OF *PHYSALIS MINIMA* LINN**

A Dissertation submitted to

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

MASTER OF PHARMACY

IN

PHARMACOGNOSY

Submitted by

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(261721507506)

Under the guidance of

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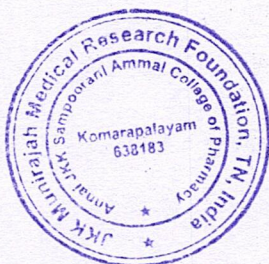


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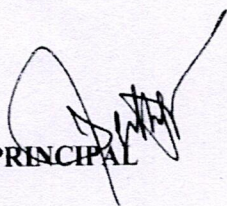
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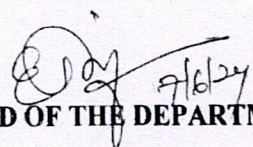


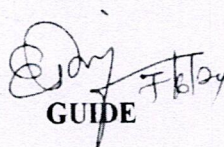
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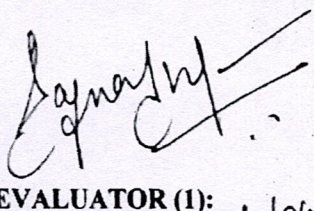

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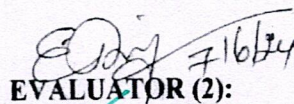
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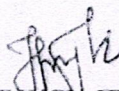

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DECLARATION

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8. SUMMARY AND CONCLUSION

- The research conducted on the leaves of *Physalis minima* aimed to explore their pharmacognostical characteristics, phytochemical composition, and pharmacological activities in alignment with traditional claims. Here's a summary of the key findings:
- Microscopy, macroscopy, physicochemical analysis, and fluorescence analysis were employed to assess the characteristics of *Physalis minima* leaves. These analyses help in determining the authenticity of the plant material and distinguishing it from adulterants or allied species.
- Preliminary phytochemical screening of petroleum ether, ethyl acetate, chloroform, and ethanolic extracts revealed the presence of alkaloids, glycosides, flavonoids, steroids, tannins, carbohydrates, and proteins. These compounds contribute to the plant's pharmacological activities.
- Thin-layer chromatography (TLC) and high-performance thin-layer chromatography (HPTLC) were utilized for qualitative analysis of extracts to identify individual or mixed phytoconstituents. This aids in understanding the chemical composition of the extracts.
- In vitro antidiabetic activity of *Physalis minima* extracts was attributed to bioactive compounds like flavonoids and alkaloids, which may regulate blood glucose levels by various mechanisms.
- *Physalis minima* exhibit anti inflammatory properties through membrane stabilization by offering alternative to synthetic NSAIDs.
- In vitro antioxidant activity demonstrated significant scavenging of free radicals, indicating potential therapeutic use in oxidative stress-related disorders.
- Based on the observed pharmacological activities, *Physalis minima* leaves could be recommended for various medicinal claims. Further research is encouraged to explore their clinical applications and validate traditional uses.



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In conclusion, this comprehensive study provides valuable insights into the pharmacognostical characteristics, phytochemical composition, and pharmacological activities of *Physalis minima* leaves, laying the groundwork for further research in pharmacology, phytochemistry, and clinical applications. These studies have reported significant antioxidant activity, suggesting the potential therapeutic use of *Physalis minima* in combating oxidative stress-related disorders. Hence, the leaf can be recommended therapeutically for the investigated medicinal claims. These observations will stimulate further research in the field of pharmacological and phytochemistry and also in the clinical application of phytoconstituents of *Physalis minima* in future.




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NAMAKKAL DISTRICT, TAMILNADU.

EVALUATION OF *IN VITRO* ANTI-DIABETIC AND ANTI-OXIDANT
ACTIVITY OF *STACHYTARPHETA URTICIFOLIA* SIMS LEAVES
EXTRACTS

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

PHARMACOGNOSY

Submitted by

GOWTHAMRAJ S

Reg. No. 261721507502

Under the guidance of

Dr. E.THILAGAM, M.Pharm., Ph.D.,

Professor and Head

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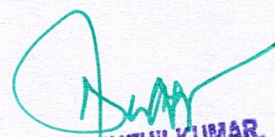


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CERTIFICATE

This is to certify that the dissertation work "EVALUATION OF *IN VITRO* ANTI-DIABETIC AND ANTI-OXIDANT ACTIVITY OF *STACHYTARPHETA URTICIFOLIA* SIMS LEAVES EXTRACTS" is the bonafide work carried out by Mr. GOWTHAMRAJ S (Reg. No. 261721507502) under the guidance and supervision of Dr. E. THILAGAM, M.Pharm., Ph.D., Professor and Head in the Department of Pharmacognosy.

This is forwarded to the Tamilnadu Dr. M.G.R. Medical University, Chennai, for the partial fulfillment of requirements for the Degree of Master of Pharmacy in Pharmacognosy (2023-2024).

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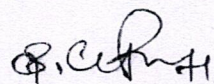
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DECLARATION

This is to certify that the dissertation work entitled “**EVALUATION OF *IN VITRO* ANTI-DIABETIC AND ANTI-OXIDANT ACTIVITY OF *STACHYTARPHETA URTICIFOLIA* SIMS LEAVES EXTRACTS**” was work carried out by me, **Mr.GOWTHAMRAJ S** (Reg.No:2617507502), under the guidance and supervision of **Dr.E.THILAGAM, M.Pharm., Ph.D.**, Professor and Head in the Department of Pharmacognosy, JKKMMRF'S – Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam. In partial fulfillment of the requirements for the award of the degree **Master of Pharmacy in Pharmacognosy** during the academic Year (2023-2024).

I further declare that this work is original and has not been submitted to this dissertation previously for the award of any degree.

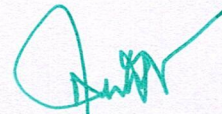


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SUMMARY AND CONCLUSION

The study aimed to investigate the antioxidant, anti-lipid peroxidation, and anti-diabetic properties of the ethanol extract of *Stachytarpheta urticifolia*. Phytochemical analysis and High-Performance Thin-Layer Chromatography (HPTLC) were employed to identify chemical constituents, while various assays assessed antioxidant activities, lipid peroxidation scavenging, and anti-diabetic potential through α -amylase and α -glucosidase inhibition.

Fresh Leaves of *Stachytarpheta urticifolia* was collected and authenticated. Extraction was performed with petroleum ether, chloroform, ethanol and water. The presence of chemical constituents in EESU was investigated using standard phytochemical screening methods. Phytochemical analysis confirmed the presence of alkaloids, flavonoids, tannins and saponins

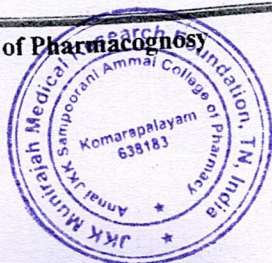
HPTLC analysis was conducted to identify specific compounds in EESU, with a focus on quercetin. HPTLC analysis revealed a significant presence of quercetin in EESU, contributing to its potential pharmacological effects

Superoxide radical scavenging activity was assessed using a standard method. EESU exhibited concentration-dependent superoxide radical scavenging activity greater than standard drug at higher concentrations. The results were statistically significant, indicating that the EESU has potent anti-antioxidant activity.

Hydroxyl radical scavenging activity was determined using a specific assay. Hydroxyl radical scavenging activity also showed a similar concentration-dependent pattern, emphasizing EESU ability to reduce oxidative stress.

The ability of EESU to scavenge lipid peroxidation was evaluated through a standardized assay. EESU demonstrated remarkable lipid peroxidation scavenging activity, showcasing its potential in preventing oxidative damage to lipids. The results obtained are consistent across different concentrations.

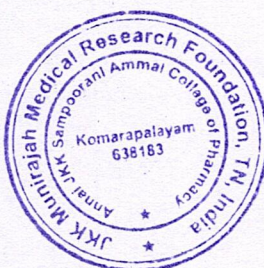
α -amylase inhibitory activity and α -glucosidase inhibitory activity was determined through a similar assay. α -amylase inhibitory activity of EESU was concentration-dependent, with the IC_{50} indicating the concentration required for 50% inhibition. Higher concentrations demonstrated increased inhibitory effects, with the known potential of plant extracts in managing diabetes through α -amylase inhibition. α -



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glucosidase inhibitory activity also displayed a concentration-dependent activity, suggesting EESU potential in controlling postprandial hyperglycemia. The comparison with the standard drug, acarbose, highlighted the effectiveness of EESU, particularly at higher concentrations. The present study revealed that the EESU will be a better choice of drug for the treatment of diabetes and reduces the oxidation stress in the body. The results in the lipid peroxidation highlight the potential effect of drug in controlling postprandial hyperglycemia. EESU showed a wide range of the promising results and therapeutic benefits, it positioning as valuable resource in natural medicine.



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**FORMULATION AND EVALUATION OF *BRYOPHYLLUM*
PINNATUM (Lam.) Kurz. GEL FOR WOUND HEALING
TOPICAL APPLICATION**

Dissertation submitted to
THE TAMILNADU Dr.M.G.R MEDICAL UNIVERSITY,
CHENNAI-32.

In partial fulfillment of the requirements for the award of the degree of
MASTER OF PHARMACY
IN
PHARMACOGNOSY

Submitted by
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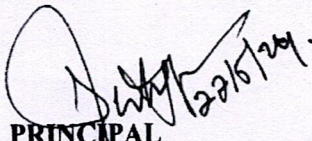


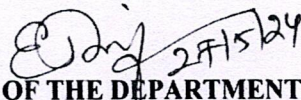
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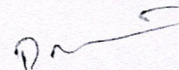


CERTIFICATE

This is to certify that the dissertation work entitled "**FORMULATION AND EVALUATION OF *BRYOPHYLLUM PINNATUM* (Lam.) Kurz. GEL FOR WOUND HEALING TOPICAL APPLICATION**" is the bonafide work carried out by, **Ms. J. Lilly Judi., Reg. No: 261721507504** under the guidance and supervision of **Dr. P. Satheesh Kumar M. Pharm., Ph.D., Associate Professor, Department Of Pharmacognosy.** This is forwarded to The Tamil Nadu Dr.M.G.R Medical University, Chennai, for the partial fulfillment of requirements for the Degree of Master of Pharmacy in Pharmacognosy (2023-2024).


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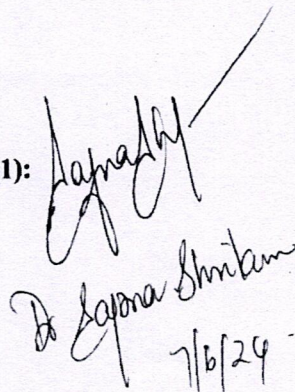

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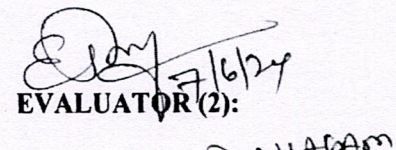
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DECLARATION

I hereby declared that this dissertation entitled "**FORMULATION AND EVALUATION OF *Bryophyllum pinnatum* (Lam.) Kurz. GEL FOR WOUND HEALING TOPICAL APPLICATION**" is a bonafide work carried out by me under the guidance and supervision of **Dr. P. Satheesh Kumar** M. Pharm., Ph.D., Associate Professor, Department of Pharmacognosy, JKKMMRF'S- Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam submitted to The Tamilnadu Dr. M.G.R Medical University-Chennai in partial fulfillment and requirement of university rules and regulation for the award of Degree Master of Pharmacy in Pharmacognosy during the academic year 2023-2024.

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CHAPTER - 8

SUMMARY AND CONCLUSION

The dissertation entitled "Formulation and Evaluation of gel using *Bryophyllum pinnatum* for wound healing" deals with macroscopical and microscopical character including phytochemical and pharmacological aspects of *Bryophyllum pinnatum*. Therapeutically *Bryophyllum pinnatum* beneficial plant in traditional claim and the in Indian medicine system, has been selected in the present work. The research survey shows that no investigation on the aspects of wound healing activity was performed on herbal extract containing *Bryophyllum pinnatum*.

The Pharmacognostical part of the research can be widely used for the determination of the crude drug from the plant. The qualitative study or physiochemical analysis was performed, and potentiality of the drug was noted.

The antioxidant activity is carried out by free radical scavenging activity by DPPH and total antioxidant phomolybdenum assay methods. The IC₅₀ value of the ethanol extract of leaves in each method were found to be nearly equal to the standard Ascorbic acid drug and demonstrated the strongest antioxidant activity. As the ethanolic extract showed highest antioxidant activity hence it is chosen for In-vitro wound healing activity.

Similarly, the wound healing activity is performed by anti-inflammatory activity and anti-microbial activity. The gel was prepared and evaluated by several methods. The extract was prepared by maceration and introduced for the study. In all the in-vitro assays the ethanol extract was found to be more effective. Having said that, *Bryophyllum pinnatum* can be widely used against wound healing, it highly full fills the healing property. Hence it can be suggested in the field of Wound medicaments.

The future work of this study presents the structural elucidation of protein components by using NMR, Mass spectroscopy, etc. Then this study undergoes animal study in future.



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