# J.K.K.MUNIRAJAH MEDICAL RESEARCH FOUNDATION'S
## ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY
Ethirmedu, **B.Komarapalayam** – 638 183, Namakkal Dist. Tamilnadu. India
Approved by : Pharmacy Council of India, New Delhi & The Tamilnadu Dr.M.G.R Medical University, Chennai.
Website : www.jkkmmrfpharmacy.edu.in |E-Mail : principal@jkkmmrfpharmacy.edu.in
Contact No. : +919789456750, +919943069944, +919943066944


**B.Pharm** 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 **B.Pharm** Students under taking Project work/Field work / Internship-HOI |
| 3 | List of Students under taking Project work/Field work / Internship. |

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## CERTIFICATE OF HEAD OF INSTITUTION

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


## TO WHOMSOEVER IT MAY CONCERN

Number of Students undertaking **Project work** /Field work / Internship for the Academic Year 2021-2022 **is 97.**

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

JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY
Komarapalayam 638 183

Dr. N. SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION'S
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**Dr N.SENTHIL KUMAR. M.Pharm.,Ph.D.,**
**Principal**


## TO WHOMSOEVER IT MAY CONCERN

This to certify that the List of **B.Pharm** Students under taking Project work/Field work / Internship for the Academic Year 2021-2022 are given below.

| S. No | Reg.No | Name of the Student | Year | Project Work-Topic | Field work | Internship |
|---|---|---|---|---|---|---|
| 1. | 561758001 | S.AAKASH | IV | SIMULTANEOUS ESTIMATION OF FLUOXETINE HCl AND OLANZAPINE IN BULK DRUG AND PHARMACEUTICAL FORMULATION BY USING UV-VISIBLE SPECTROSCOPY. | - | - |
| 2. | 561758004 | S.AKILANDESWARAN | IV | | - | - |
| 3. | 561758005 | A.AMARNATH | IV | | - | - |
| 4. | 561758012 | I.T.BALAGURU | IV | | - | - |
| 5. | 561758022 | N.P.ESHWARAN | IV | | - | - |
| 6. | 561758002 | V.ABINAYA | IV | FORMULATION AND EVALUATION OF SUSTAINED RELEASE TABLETS OF GEMIFLOXACIN USING NATURAL POLYMERS. | - | - |
| 7. | 561758010 | S.ARUN PRAKASH | IV | | - | - |
| 8. | 561758046 | S.KIRUBANITHI | IV | | - | - |
| 9. | 561758072 | P.RAMAKRISHNAN | IV | | - | - |
| 10. | 561758088 | T.SURESH | IV | | - | - |
| 11. | 561758006 | R.ANANTH | IV | REGULATORY AFFAIRS – AN OVERVIEW | - | - |
| 12. | 561758049 | V.LAVANYA | IV | | - | - |
| 13. | 561758059 | A.MOHAMMED RAFI | IV | | - | - |
| 14. | 561758060 | A.MOHAMMED HAKKIM NAVAS | IV | | - | - |

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|---|---|---|---|---|---|---|
| 15. | 561758087 | M.SUPRIYA | IV | | - | - |
| 16. | 561758007 | S.ANBUDURAI | IV | FORMULATION AND EVALUATION OF MOUTH DISSOLVING TABLETS OF AMBROXOL HYDROCHLORIDE. | - | - |
| 17. | 561758064 | S.PARTHEEPAN | IV | | - | - |
| 18. | 561758067 | S.PRAKASH | IV | | - | - |
| 19. | 561758073 | V.RANGANATH | IV | | - | - |
| 20. | 561758091 | P.SURYAMATHI | IV | | - | - |
| 21. | 561758008 | K.ARJUNAN | IV | LARVICIDAL ACTIVITY OF ABUTILON INDICUM. | - | - |
| 22. | 561758009 | R.ARUN KUMAR | IV | | - | - |
| 23. | 561758035 | B.JOSHUA GNANASEELAN | IV | | - | - |
| 24. | 561758051 | M.MAHESHWARAN | IV | | - | - |
| 25. | 561758062 | M.MOULEESHWARAN | IV | | - | - |
| 26. | 561758063 | P.NAVEENKUMAR | IV | | - | - |
| 27. | 561758066 | K.PAVITHRAN | IV | | - | - |
| 28. | 561758077 | S.K.SANTHOSH RAJ | IV | | - | - |
| 29. | 561758011 | R.AYYASAMY | IV | SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF METFORMIN AND TENELIGLIPTIN IN SOLID DOSAGE FORMS. | - | - |
| 30. | 561758025 | M.GOKULAKANNAN | IV | | - | - |
| 31. | 561758026 | V.GUNA | IV | | - | - |
| 32. | 561758099 | P.YUVA PRASANTH | IV | | - | - |
| 33. | 561758100 | S.YUVARAJ | IV | | - | - |
| 34. | 561758013 | D.CHANDRU | IV | FORMULATION AND | - | - |

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|---|---|---|---|---|---|---|
| 35. | 561758018 | M.DHILEEP | IV | EVALUATION OF SIDDHA MEDICINE – KUNDIRIKA THAILAM. | - | - |
| 36. | 561758033 | P.JEEVA | IV | | - | - |
| 37. | 561758040 | S.KARTHIK KUMAR | IV | | - | - |
| 38. | 561758058 | M.MOHAMMED HUSSAIN | IV | | - | - |
| 39. | 561758014 | P.DEEPA | IV | *IN-VITRO* EVALUATION OF METHANOLIC EXTRACTS OF *TEPHORSA PURPUREA* FOR THEIR ANTI-DIABETIC AND ANTI-OXIDANT ACTIVITY. | - | - |
| 40. | 561758027 | S.HARISH SRIDA | IV | | - | - |
| 41. | 561758029 | A.HEMALATHA | IV | | - | - |
| 42. | 561758031 | P.JAIKUMAR | IV | | - | - |
| 43. | 561758034 | G.JEEVITHA | IV | | - | - |
| 44. | 561758015 | R.DEEPIKA | IV | *IN-VITRO* ANTHELMINTIC ACTIVITY OF ETHANOLIC EXTRACT OF *LACTUCA SATIVA L.* IN INDIAN ADULT EARTHWORMS (*PHERETIMA POSTHUMA*) | - | - |
| 45. | 561758016 | P.B.DEVASHRI | IV | | - | - |
| 46. | 561758054 | K.MARUDHASALAM | IV | | - | - |
| 47. | 561758084 | V.SRINIVAS | IV | | - | - |
| 48. | 561758017 | K.DHARMASEELAN | IV | ANALYTICAL METHOD DEVELOPMENT AND VALIDATION OF FEXOFENADINE HYDROCHLORIDE BY RP-HPLC. | - | - |
| 49. | 561758020 | A.DIVAKAR | IV | | - | - |
| 50. | 561758052 | P.MANIKANDAN | IV | | - | - |
| 51. | 561758071 | S.RAGUNATH | IV | | - | - |
| 52. | 561758094 | M.UDHAYAKUMAR | IV | | - | - |
| 53. | 561758019 | B.DINESH KUMAR | IV | PHYTOCHEMICAL SCREENING AND *IN-VITRO* ANTI-DANDRUFF ACTIVITIES OF LEAF EXTRACT OF *AZADIRACHTA INDICA.* | - | - |
| 54. | 561758041 | M.KARTHIKEYAN | IV | | - | - |
| 55. | 561758044 | G.KAVINRAJ | IV | | - | - |
| 56. | 561758056 | A.MELKISETHEK SOUNDIRAPANDIYAN | IV | | - | - |
| 57. | 561758093 | R.UDHAYABALAJI | IV | | - | - |
| 58. | 561758021 | K.DIVYA | IV | PHARMACOLOGICAL | - | - |

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| 59. | 561758042 | R.KATHIRVEL | IV | EVALUATION OF ANTI-INFLAMMATORY ACTIVITY ON *LAGERSTROEMIA SPECIOSA* LEAF EXTRACT IN *IN-VITRO* MODEL. | - | - |
| 60. | 561758047 | V.KIRUTHIKA | IV | | - | - |
| 61. | 561758048 | R.LANCY JENIFER | IV | | - | - |
| 62. | 561758070 | S.PRIYADHARSHINI | IV | | - | - |
| 63. | 561758028 | K.HARSHA VARDHINEE | IV | SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF DOMPERIDONE AND ESOMEPRAZOLE IN SOLID DOSAGE FORMS. | - | - |
| 64. | 561758030 | C.JAGADESWARAN | IV | | - | - |
| 65. | 561758076 | M.SANTHOSH | IV | | - | - |
| 66. | 561758085 | D.SUBHASHINI | IV | | - | - |
| 67. | 561758090 | T.SURYA | IV | | - | - |
| 68. | 561758032 | M.JAWAHAR | IV | DESIGN AND CHARACTERIZATION OF DICLOFENAC SODIUM TRANSDERMAL PATCHES. | - | - |
| 69. | 561758068 | C.PRAVEEN KUMAR | IV | | - | - |
| 70. | 561758074 | P.SAKTHIVEL | IV | | - | - |
| 71. | 561758083 | R.SHASHIKUMAR | IV | | - | - |
| 72. | 561758086 | A.SUHEAL | IV | | - | - |
| 73. | 561758036 | R.KABILAN | IV | STANDARDISATION OF AYURVEDIC FORMULATION – BRAHMI CHURNA. | - | - |
| 74. | 561758055 | M.MEENAKSHI | IV | | - | - |
| 75. | 561758057 | J.MOHAMED AZARUDEEN | IV | | - | - |
| 76. | 561758075 | D.SAMYUKTA | IV | | - | - |
| 77. | 561758081 | P.SENTAMIL | IV | | - | - |
| 78. | 561758038 | A.KAMALRAJ | IV | *IN-VITRO* ANTI-DIABETIC ACTIVITY OF *ECBOLIUM VIRIDE(FORSK)* ALSTON LEAVES. | - | - |
| 79. | 561758043 | M.KAVIN | IV | | - | - |
| 80. | 561758079 | M.SEETHARAM | IV | | - | - |
| 81. | 561758089 | S.SURESHMANI | IV | | - | - |
| 82. | 561758097 | T.VIMALRAJ | IV | | - | - |

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|---|---|---|---|---|---|---|
| 83. | 561758098 | P.VINOTH | IV | | - | - |
| 84. | 561758053 | M.MANJUNATH | IV | COVID-19 REVIEW ARTICLE. | - | - |
| 85. | 561758061 | M.MOHAMMED IBRAHIM SIFFAN | IV | | - | - |
| 86. | 561758082 | P.SHANMUGAVEL | IV | | - | - |
| 87. | 561758095 | M.VASANTH | IV | | - | - |
| 88. | 561758096 | S.VATHENDIRAN | IV | | - | - |
| 89. | 561758078 | M.SATHISH KUMAR | IV | ASSESMENT OF SELF MEDICATION AMONG PATIENT ATTENDING COMMUNITY PHARMACIES AND PERCEPTION OF COMMUNITY PHARMACIST OF SELF MEDICATION. | - | - |
| 90. | 561758092 | R.TAMILVANAN | IV | | - | - |
| 91. | 561858091 | S.AVINASH | IV | | - | - |
| 92. | 561858092 | P.RAMKUMAR | IV | | - | - |
| 93. | 561758003 | M.AJAY KUMAR | IV | STUDY ON DRUG DISPENSING PATTERN IN COMMUNITY PHARMACIES. | - | - |
| 94. | 561758039 | A.KANNAN. | IV | | - | - |
| 95. | 561758045 | D.KAVIARASAN | IV | | - | - |
| 96. | 561758050 | G.LOGESHWARAN | IV | | - | - |
| 97. | 561758080 | M.SELVABALAGAN | IV | | - | - |

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ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY
ETHIRMEDU, KOMARAPALAYAM
NAMAKKAL DISTRICT, TAMILNADU.

# SIMULTANEOUS ESTIMATION OF FLUOXETINE HCL AND OLANZAPINE IN BULK DRUG AND PHARMACEUTICAL FORMULATION BY USING UV-VISIBLE SPECTROSCOPY METHOD

*A Dissertation submitted to*

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

CHENNAI-32

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

BACHELOR OF PHARMACY

**Submitted by:**


| | |
|---|---|
| S. AAKASH | 561758001 |
| S. AKILANDESWARAN | 561758004 |
| A. AMARNATH | 561758005 |
| I. T. BALAGURU | 561758012 |
| N. P. ESHWARAN | 561758022 |


*Under the supervision & guidance of*

Dr. A. CHITRA., M. PHARM., Ph. D


DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

JKKMMRF'S ANNAI JKK SAMPOORANI AMMAL

COLLEGE OF PHARMACY

KOMARAPALYAM-638183


SEPTEMBER -2021

Dr. N. SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
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ETHIRMEDU KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMILNADU.

**Dr. A. CHITRA., M. PHARM., Ph.D.,**
Associate Professor,
Department of Pharmaceutical Chemistry,
JKKMMRF'S Annai JKK Sampoorani Ammal
College of Pharmacy,
Komarapalayam-638183

## CERTIFICATE

This is to certify that the words embodied in this Project work entitled **"SIMULTANEOUS ESTIMATION OF FLUOXETINE HCL AND OLANZAPINE IN BULK DRUG AND PHARMACEUTICAL FORMULATION BY USING UV-VISIBLE SPECTROSCOPY METHOD".** Submitted for the degree of BACHELOR OF PHARMACY in Pharmaceutical Chemistry, The Tamilnadu Dr.M.G.R Medical University, Chennai, is a bonafide work, which was carried out by

| | |
|---|---|
| **S. AAKASH** | **561758001** |
| **S. AKILANDESWARAN** | **561758004** |
| **A. AMARNATH** | **561758005** |
| **I. T. BALAGURU** | **561758012** |
| **N. P. ESHWARAN** | **561758022** |

under my Guidance and supervision during the Academic Year 2020-2021.

Dr. N. SENTHILKUMAR,
PRINCIPAL,
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ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
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**Dr. A. CHITRA., M.Pharm., Ph.D.,**
Associate Professor,
Department of Pharmaceutical Chemistry,

Place: Komarapalayam

Date: 16/4/22

**Dr. N. SENTHILKUMAR, M. Pharm., Ph.D.,**
Principal & HOD,
JKKMMRF'S Annai JKK Sampoorani Ammal
College of Pharmacy
Komarapalayam-638183,

## CERTIFICATE

This is to certify that the words embodied in this Project work entitled **"SIMULTANEOUS ESTIMATION OF FLUOXETINE HCL AND OLANZAPINE IN BULK DRUG AND PHARMACEUTICAL FORMULATION BY USING UV-VISIBLE SPECTROSCOPY METHOD".** Submitted to The Tamilnadu Dr.M.G.R Medical University, Chennai, was carried out by

| | |
|---|---|
| **S. AAKASH** | **561758001** |
| **S. AKILANDESWARAN** | **561758004** |
| **A. AMARNATH** | **561758005** |
| **I. T. BALAGURU** | **561758012** |
| **N. P. ESHWARAN** | **561758022** |

for the degree of BACHELOR OF PHARMACY in Pharmaceutical Chemistry under the Guidance of **Dr. A.CHITRA., M.Pharm., Ph.D.** Associate Professor, Department of Pharmaceutical Chemistry, JKKMMRF'S Annai JKK Sampoorani Ammal college of Pharmacy, Komarapalayam, during the Academic Year 2020-2021.

Dr. N. SENTHILKUMAR,
PRINCIPAL,
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NAMAKKAL DISTRICT, TAMILNADU.

**Dr. N. SENTHIL KUMAR M. Pharm., Ph.D.,**
Principal & HOD,
JKKMMRF'S Annai JKK Sampoorani Ammal
College of Pharmacy.

Place: Komarapalayam

Date:

# 7.SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV-Spectrophotometric method were developed as per ICH guidelines for the estimation of Fluoxetine HCl and Olanzapine in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of the fluoxetine HCl and olanzapine. The sample solution of 10µg/ml of fluoxetine and olanzapine in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400nm by using methanol as a solvent. The overlay spectra of fluoxetine HCl and olanzapine were recorded. From the spectra, Fluoxetine HCl shows maximum absorption at 164nm and Olanzapine shows maximum absorption at 252nm. By the overlaid spectrum of Fluoxetine HCl and Olanzapine in the UV spectrophotometer 233nm is selected as a isobestic point.

In simultaneous equation method, we chosen 10µg/ml of standard stock solution of Fluoxetine HCl and Olanzapine were used to determine the absorption at 264nm and 252nm.

In absorption ratio method, we chosen 10µg/ml of standard stock solution of Fluoxetine HCl and Olanzapine were used to determine the absorption at 264nm and 233nm (Isobestic point).

By the overlaid spectrum of Fluoxetine HCl and Olanzapine, in the UV spectrophotometer 233nm was selected as a isobestic point.

The percentage label claim present in tablet formulation was found to be 99.6% and 97.25% for Fluoxetine HCl and Olanzapine respectively. The percentage recovery was found to be in the range of 97.43-99.37% for Fluoxetine HCl and 99.25-100.34% for Olanzapine.

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In absorption ratio method, the wavelength ranges between and 264nm and 252nm and 233nm were selected for the estimation of Fluoxetine HCl and Olanzapine respectively. The percentage label claim present in formulation was found to be 99.49±1.5894 and 100.36±1.0945 for Fluoxetine HCl and Olanzapine respectively. The percentage recovery was found to be in the range of 98.15-99.19% for Fluoxetine HCl and 99.71-100.01% for Olanzapine.

The proposed UV spectrophotometric methods showed good agreement at estimated concentration of both the active ingredients with declared label claims. Both the estimated methods were showed good recoveries close to 100% and percentage coefficient variation was less then 2.0% for both Fluoxetine HCl and Olanzapine. The developed methods were simple, accurate, precise, reproducible, economical, which would be used to estimate fluoxetine HCl and Olanzapine in their combined in dosage form in routine analysis.

JKK Munirajah Medical Research Foundation, T.N. India
Annai JKK Sampoorani Ammal College of Pharmacy
Komarapalayam 638 183.

Dr. N. SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
ETHIRMEDU KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMILNADU.

# FORMULATION AND EVALUATION OF SUSTAINED RELEASE TABLETS OF GEMIFLOXACIN USING NATURAL POLYMERS

*A 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*
***Under the Guidance of***

BACHELOR OF PHARMACY

***Submitted by***


| | |
|---|---|
| V.ABINAYA | (561758002) |
| S.ARUN PRAKASH | (561758010) |
| S.KIRUBANITHI | (561758046) |
| P.RAMAKRISHNAN | (561758072) |
| T.SURESH | (561758088) |

**Mrs. S. KAVIBHARATHI, M.Pharm.,**

Assistant Professor Department of Pharmaceutics



**J.K.K.MUNIRAJAH MEDICAL RESEARCH FOUNDATION,**

**ANNAI J.K.K. SAMPOORANI AMMALCOLLEGE OF PHARMACY,**

**KOMARAPALAYAM - 638183.**


**SEPTEMBER –2021**

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## CERTIFICATE

This is to certify that the works embodied in this dissertation entitled **" FORMULATION AND EVALUVATION OF SUSTAINED RELEASE TABLETS OF GEMIFLOXACIN USING NATURAL POLYMERS''** submitted in the partial fulfillment for the degree of **BACHELOR OF PHARMACY**. The Tamil Nadu Dr. M.G.R. Medical University, Chennai, is a bonafide work, which was carried out by,

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under my guidance and supervision during the academic year 2020-2021.

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# 8. SUMMARY AND CONCLUSION

The present work to aim the design, fabrication and evaluation of Gemifloxacin sustained release tablets by wet granulation technique. Inthis technique Guar Gum and Xanthan Gum were used as polymers for drug released up to extended time period. The Physical mixture of drugs, polymer sand Best formulation (F3) was characterized by FTIR spectral analysis for any physical as well as chemical alteration of drug characteristics. The Formulations F3 found to satisfy the desired criteria for GEMIFLOXACIN released from the formulation. Finally to achieve a Gemifloxacin sustained released tablets and drugs released (99.87) up to 24hrs.

The Physical mixture of drugs, polymer sand Best formulation (F3) was characterized by FTIR spectral analysis for any physical as well as chemical alteration of drug characteristics. The FI-IR spectrums, it is clear that the characteristics peak are seen in both pure drugs (GEMIFLOXACIN )and polymers (Guar gum and Xanthan gum) without any changes in their position, so there is no strong interactions between excipients. polymers and Drugs.

There are several reasons for attractiveness of these dosage forms: provides increased bioavailability of drug product, reduction in the frequency of administration to prolong duration of effective blood levels. Gemifloxacin is used to treat a variety of bacterial infections. This medication belongs to a class of drugs known as quinolone antibiotics. It works by stopping the growth of bacteria. This antibiotic treats only bacterial infections. It will not work for viral infections such as common cold, flu. Using any antibiotic when it is not needed can cause it to not work for future infections.


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# STUDY ON DRUG DISPENSING PATTERN IN COMMUNITY PHARMACIES

***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***

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## CONCLUSION:

67.5% participants received medication through prescription, 32.5% participants were received the drugs by OTC, In OTC pharmacist can dispense the medication for treating minor ailments only like NSAIDS, antiulcer and antihistamine drugs .

Pharmacist need to observe keenly the peoples who are all getting OTC medication because OTC medication should not be given at longer duration, in case if it happen patient condition may develop worst and also there is the chance people may be misuse OTC drugs like some antihistamines. It should be avoided by updating pharmacist knowledge on drugs.

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# SIMULTANEOUS ESTIMATION OF FLUOXETINE HCL AND OLANZAPINE IN BULK DRUG AND PHARMACEUTICAL FORMULATION BY USING UV-VISIBLE SPECTROSCOPY METHOD

*A Dissertation submitted to*

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

CHENNAI-32

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

BACHELOR OF PHARMACY

**Submitted by:**


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# 7.SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV-Spectrophotometric method were developed as per ICH guidelines for the estimation of Fluoxetine HCl and Olanzapine in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of the fluoxetine HCl and olanzapine. The sample solution of 10µg/ml of fluoxetine and olanzapine in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400nm by using methanol as a solvent. The overlay spectra of fluoxetine HCl and olanzapine were recorded. From the spectra, Fluoxetine HCl shows maximum absorption at 164nm and Olanzapine shows maximum absorption at 252nm. By the overlaid spectrum of Fluoxetine HCl and Olanzapine in the UV spectrophotometer 233nm is selected as a isobestic point.

In simultaneous equation method, we chosen 10µg/ml of standard stock solution of Fluoxetine HCl and Olanzapine were used to determine the absorption at 264nm and 252nm.

In absorption ratio method, we chosen 10µg/ml of standard stock solution of Fluoxetine HCl and Olanzapine were used to determine the absorption at 264nm and 233nm (Isobestic point).

By the overlaid spectrum of Fluoxetine HCl and Olanzapine, in the UV spectrophotometer 233nm was selected as a isobestic point.

The percentage label claim present in tablet formulation was found to be 99.6% and 97.25% for Fluoxetine HCl and Olanzapine respectively. The percentage recovery was found to be in the range of 97.43-99.37% for Fluoxetine HCl and 99.25-100.34% for Olanzapine.

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In absorption ratio method, the wavelength ranges between and 264nm and 252nm and 233nm were selected for the estimation of Fluoxetine HCl and Olanzapine respectively. The percentage label claim present in formulation was found to be 99.49±1.5894 and 100.36±1.0945 for Fluoxetine HCl and Olanzapine respectively. The percentage recovery was found to be in the range of 98.15-99.19% for Fluoxetine HCl and 99.71-100.01% for Olanzapine.

The proposed UV spectrophotometric methods showed good agreement at estimated concentration of both the active ingredients with declared label claims. Both the estimated methods were showed good recoveries close to 100% and percentage coefficient variation was less then 2.0% for both Fluoxetine HCl and Olanzapine. The developed methods were simple, accurate, precise, reproducible, economical, which would be used to estimate fluoxetine HCl and Olanzapine in their combined in dosage form in routine analysis.

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# REGULATORY AFFAIRS-AN OVERVIEW

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**IN**

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his is to certify that the dissertation entitled " **REGULATORY AFFAIRS-AN OVERVIEW** is the bonafide work carried out by **R.ANANTH, V.LAVANYA, A.MOHAMMED RAFI, .MOHAMMED HAKKIM NAVAS, M.SUPRIYA** under the guidance of **)r.D.KRISHNARAJAN,M. Pharm., Ph.D,** Professor. Department of Pharmacy practice, KK..MRF's Annai JKK Sampoorani Ammal College of Pharmacy Komarapalayam in a artial fulfillment of requirements for the Degree of Pharmacy and this is forwarded to the 'amil Nadu Dr. MGR. Medical University, Chennai.

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## CONCLUSION

Regulatory Affairs department is constantly evolving and growing and is the one which is least impacted during the acquisition and merger, and also during recession. Regulatory Affairs departments are growing within companies. Due to the changing resources necessary to fulfil the regulatory requirements, some companies also choose to outsource or out task regulatory affairs to external service providers. In today's competitive environment the reduction of the time taken to reach the market is critical to a product and hence the company's success. The proper implementation of regulatory guidelines and laws will improve the economic growth of the company and also improves the safety of the people.

Many in the Regulatory Affairs Profession believe the New Approach to regulation will eventually be adopted for all healthcare products as it represents the best model for delivering new healthcare advances to market in a reasonable time with acceptable safety. Regulatory Affairs department is constantly evolving and growing and is the one which is least impacted during the Acquisition and Merger, and also during recession. Regulatory Affairs departments are growing within companies. Due to the changing resources necessary to fulfill the regulatory requirements, some companies also choose to outsource or out task regulatory affairs to external service providers. In today's competitive environment the reduction of the time taken to reach the market is critical to a product's and hence the company's success. The proper conduct of its Regulatory Affairs activities is therefore of considerable economic importance for the company.

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# FORMULATION AND EVALUATION OF MOUTH DISSOLVING TABLETS OF AMBROXOL HYDROCHLORIDE

*A 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*

**BACHELOR OF PHARMACY**

*Submitted by*


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# 7.SUMMARY AND CONCLUSION

In the work under taken an attempt was made to explore the use of ion exchange resins as ste masking agents and super disintegrates in the formulation & evaluation of mouth dissolving blets of Ambroxol hydrochloride. The purpose was to enhance patient compliance and provide pid onset of action.

Indion 204 and Indion 234 were used as ion exchange resins. They were mixed with the ug in different drug to resin ratios and for different times and evaluated for the extent of mplexation. Results showed that with Indion 204, drug to resin ratio of 1:5 gave maximum nount of complexation (96.5%) with 10 hours of mixing. With Indion 234, the drug-resin oportion of 1:6 acchieved equilibrium in 10 hours showing maximum of 99% complexation.

Thd drug-resinate mixtures were then converted into granules and they exhibited tisfactory values of angle of repose and bulk density. Drug content estimation showed more an 90% of the drug present. Based on the drug content, the suitable amount of drug-resinate as taken for compression. The tablets were obtained by wet granulation method.

Then subjected to evaluation studies for the parameters like general appearance, ickness, hardness, weight variation, friability, in vitro and in vivo disintegration tests. The sintegration tests conducted on these products showed that, there is rapid disintegration of the blets, taking 15 to 21 and 12 to 20 seconds, which is much less than the official limit for spersible tablets (3 minutes).

After disintegration, the dispersion produced was smooth with pleasant mouth feel, the tter taste being totally masked.

In vitro dissolution studies showed a drug release up to 95% in 1 hour, which was found be better than a commercial product (86%), further the formulations. Were subjected to ability testing for one month at temperatures 5°C. 27°C & 40° C. Results revealed that no gnificant changes in both 4th formulations.

Data obtained from kinetic treatment revealed F1,F2 and M formulations follows Korsmeyer – Peppas model. The n value obtained from 0.526 to 0.61.

Hence, we may conclude that, the weak cation exchange resins such as Indion 204 and Indion 234 have been proved to be useful as taste masking agents as well as super disintegrating agents. Thus, we are able to achieve our objective of preparing oro-dispersible tablets of Ambroxol hydrochloride with minimum excipients and simple method of manufacture.

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# LARVICIDAL ACTIVITY OF ABUTILON INDICUM

**A Dissertation submitted to**

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

**CHENNAI- 6000 032**

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

**BACHELOR OF PHARMACY**

**IN**

**BRANCH–VIII SEM –DEPARTMENT OF PHARMACUETICAL CHEMISTRY**

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## VIII. SUMMARY AND CONCLUSION

Larvicidal activity of *Abutilon indicum* is evaluated against 3rd and 4th instar larvae of *Culex quinquefasciatus,Aedes aegypti*. The present findingssupport the hypothesis that *Abutilon indicum*has potential larvicidal activity against *Culexquinquefasciatus, Aedes aegytpi* arecompared favourably with the commercial available insecticide malathion. The ethanolic extract contains larger amounts of flavanoid compounds and that activity isattributed to the flavanoids. Thus *Abutilon indicum* bark powder may prove to be an important indigenous drug in the future as larvicide. The new appreciation of the role of flavonoids provides mechanistic frame work for larvicidal activity. However futuristic studies are required for isolation of powerful toxic compound as larvicide from *Terminlia arjuna.*

There we conclude, may be the presence of flavonoid compounds in bark of *Abutilon indicum*are responsible for larvicidal activity.

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## VIII. SUMMARY AND CONCLUSION

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# FORMULATION AND EVALUATION OF SUSTAINED RELEASE TABLETS OF GEMIFLOXACIN USING NATURAL POLYMERS

*A Dissertation submitted to*

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***Under the Guidance of***

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This is to certify that the work embodied in this dissertation entitled **"FORMULATION AND EVALUVATION OF SUSTAINED RELEASE TABLETS OF GEMIFLOXACIN USING NATURAL POLYMERS '** submitted to The Tamil Nadu Dr. M.G.R. Medical University, Chennai, was carried out by ,

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for the partial fulfillment for the degree of **BACHELOR OF PHARMACY**. Under the guidance of **Mrs.S.KAVIBHARATHI. M.Pharm.,** Assistient Professor, of Pharmaceutics, J.K.K.Munirajah Medical Research Foundation College of Pharmacy, Komarapalayam, during the academic year 2020-2021.

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# 8. SUMMARY AND CONCLUSION

The present work to aim the design, fabrication and evaluation of Gemifloxacin sustained release tablets by wet granulation technique. Inthis technique Guar Gum and Xanthan Gum were used as polymers for drug released up to extended time period. The Physical mixture of drugs, polymer sand Best formulation (F3) was characterized by FTIR spectral analysis for any physical as well as chemical alteration of drug characteristics. The Formulations F3 found to satisfy the desired criteria for GEMIFLOXACIN released from the formulation. Finally to achieve a Gemifloxacin sustained released tablets and drugs released (99.87) up to 24hrs.

The Physical mixture of drugs, polymer sand Best formulation (F3) was characterized by FTIR spectral analysis for any physical as well as chemical alteration of drug characteristics. The FI-IR spectrums, it is clear that the characteristics peak are seen in both pure drugs (GEMIFLOXACIN )and polymers (Guar gum and Xanthan gum) without any changes in their position, so there is no strong interactions between excipients. polymers and Drugs.

There are several reasons for attractiveness of these dosage forms: provides increased bioavailability of drug product, reduction in the frequency of administration to prolong duration of effective blood levels. Gemifloxacin is used to treat a variety of bacterial infections. This medication belongs to a class of drugs known as quinolone antibiotics. It works by stopping the growth of bacteria. This antibiotic treats only bacterial infections. It will not work for viral infections such as common cold, flu. Using any antibiotic when it is not needed can cause it to not work for future infections.


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# SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF METFORMIN AND TENELIGLIPTIN IN SOLID DOSAGE FORMS

*A Dissertation submitted to*

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# CHAPTER 7

# SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV- Spectrophotometric method were developed and validated as per ICH guidelines for the estimation of Metformin and Teneligliptin in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of Metformin and Teneligliptin. The sample solutions of 10 µg/ml of Metformin and Teneligliptin in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400 nm by using methanol as blank. The overlay spectra of Metformin and Teneligliptin were recorded. From the spectra, Metformin shows maximum absorbance at 233 nm and Teneligliptin shows maximum absorbance at 244 nm. By the overlaid spectrum of Metformin and Teneligliptin, in the UV spectrophotometer 239nm is selected as a Isobestic point.

In Method A, Simultaneous equation method, we chosen 10µg/ml of standard stock solution of Metformin and Teneligliptin were used to determine the absorbance at 233nm and 244nm.

In Method B, Absorption ratio method, we chosen 10µg/ml of standard stock solution of Metformin and Teneligliptin were used to determine the absorbance at 233nm and 239nm (Isobestic point).By the overlaid spectrum of Metformin and Teneligliptin, in the UV spectrophotometer 239nm is selected as a Isobestic point.

The percentage label claim present in tablet formulation was found to be 98.3% for Metformin and 97.5% Teneligliptin respectively. The percentage recovery was found to be in the range of 97.96-98.73% for Metformin and 97.86-99.36% for Teneligliptin .

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In absorption ratio method, the wavelength ranges between 233nm and 244nm and 239 nm were selected for the estimation of Metformin and Teneligliptin respectively. The percentage label claim present in formulation was found to be 98.54 % and 97.63 % for Metformin and Teneligliptin. respectively. The percentage recovery was found to be in the range of 98.56-99.74% for Metformin and 99.45-99.89% for Teneligliptin.

The proposed UV spectrophotometric methods showed good agreement at estimated concentrations of both the active ingredients with declared labels claims. Both the estimated methods were showed good recoveries close to 100% and % coefficient variation was less than 2.0% for both Metformin and Teneligliptin. The developed methods were simple, accurate, precise reproducible, economical, which would be used to estimate Metformin and Teneligliptin in their combined tablet dosage form in routine analysis.


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# SIMULTANEOUS ESTIMATION OF FLUOXETINE HCL AND OLANZAPINE IN BULK DRUG AND PHARMACEUTICAL FORMULATION BY USING UV-VISIBLE SPECTROSCOPY METHOD

*A Dissertation submitted to*

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

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

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# 7.SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV-Spectrophotometric method were developed as per ICH guidelines for the estimation of Fluoxetine HCl and Olanzapine in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of the fluoxetine HCl and olanzapine. The sample solution of 10µg/ml of fluoxetine and olanzapine in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400nm by using methanol as a solvent. The overlay spectra of fluoxetine HCl and olanzapine were recorded. From the spectra, Fluoxetine HCl shows maximum absorption at 164nm and Olanzapine shows maximum absorption at 252nm. By the overlaid spectrum of Fluoxetine HCl and Olanzapine in the UV spectrophotometer 233nm is selected as a isobestic point.

In simultaneous equation method, we chosen 10µg/ml of standard stock solution of Fluoxetine HCl and Olanzapine were used to determine the absorption at 264nm and 252nm.

In absorption ratio method, we chosen 10µg/ml of standard stock solution of Fluoxetine HCl and Olanzapine were used to determine the absorption at 264nm and 233nm (Isobestic point).

By the overlaid spectrum of Fluoxetine HCl and Olanzapine, in the UV spectrophotometer 233nm was selected as a isobestic point.

The percentage label claim present in tablet formulation was found to be 99.6% and 97.25% for Fluoxetine HCl and Olanzapine respectively. The percentage recovery was found to be in the range of 97.43-99.37% for Fluoxetine HCl and 99.25-100.34% for Olanzapine.

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In absorption ratio method, the wavelength ranges between and 264nm and 252nm and 233nm were selected for the estimation of Fluoxetine HCl and Olanzapine respectively. The percentage label claim present in formulation was found to be 99.49±1.5894 and 100.36±1.0945 for Fluoxetine HCl and Olanzapine respectively. The percentage recovery was found to be in the range of 98.15-99.19% for Fluoxetine HCl and 99.71-100.01% for Olanzapine.

The proposed UV spectrophotometric methods showed good agreement at estimated concentration of both the active ingredients with declared label claims. Both the estimated methods were showed good recoveries close to 100% and percentage coefficient variation was less then 2.0% for both Fluoxetine HCl and Olanzapine. The developed methods were simple, accurate, precise, reproducible, economical, which would be used to estimate fluoxetine HCl and Olanzapine in their combined in dosage form in routine analysis.

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# FORMULATION AND EVALUATION OF SIDDHA MEDICINE – KUNDIRIKA THAILAM

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# CONCLUSION

The study shows that the *Kundirika Thailam*is to be best formulation with good quality and purity, all these investigations were may be helpful in authentication and standardization of *Kundirika Thailam*. The result of present study will also serve as reference monograph in the preparation of drug formulation.

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# *IN VITRO EVALUATION OF METHANOLIC EXTRACTS OF TEPHROSIA PURPUREA FOR THEIR ANTI DIABETIC AND ANTI OXIDANT ACTIVITY*

*Dissertation Submitted to*

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

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# SUMMARY AND CONCLUSION

The plant of *Tephrosia purpurea* belonging to family -Fabaceae has been examined to gain an insight of its Pharmacognostical, Phytochemical and pharmacological studies and activities.

The Pharmacognostical studies made on *Tephrosia purpurea* powdered ash value, loss on drying gave valuable information. Preliminary phytochemical investigation of showed the presence of Carbohydrate, Alkaloids, Phytosteroids, Flavonoids, Phenolic compounds and Tannins, Saponins, Terpenoids.

The pharmacological studies of methanol & aqueous extract was performed by following. The Biological dose of extract *Tephrosia purpurea* dose was selected 200mg/kg and 400mg/kg in this dose possessed significant antidiabetic activity.

In conclusion, in the present study on the methanolic extract of *Tephrosia purpurea* plant having antidiabetic activity compared to standard drug. This study shows that flavanoids present in this extract may be possibly responsible for the antidiabetic activities. Being a potent anti oxidant plant, the isolation of chemical compounds from this plant will be an emergence of new anti oxidant compound which will be a soon for the entire pharmaceutical industry.

Further pharmacological and biochemical investigation are to be done to find out the active constituent responsible for the antidiabetic activity. However, the future study may also include ca[illegible]ging, standardizing, for quality control and above all developing new drugs/ pharmaceuticals keeping the disease and cost factor in view.

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# *IN-VITRO* ANTHELMINTIC ACTIVITY OF ETHANOLIC EXTRACT OF *LACTUCA SATIVA L.* IN INDIAN ADULT EARTHWORMS (*PHERETIMA POSTHUMA*)

*A Dissertation submitted to*

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

**CHENNAI-32**

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

**BACHELOR OF PHARMACY**

*Submitted by:*


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# 8. CONCLUSION

The results of the present investigation are significant and encouraging towards the oal for future utilization and standardization of *Lactuca sativa* plant. Our experiment esults show that the higher dose (100 mg/ml) of ELELS has significant anthelmintic ctivity. The present study is thefirst evidence of the anthelmintic properties of *Lactuca ativa*. It is concluded that anthelmintic effects of *Lactuca sativa* might be due to the presence of phenolic compounds, tannins and flavonoids.

## UTURE 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 anthelmintic activity.

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# ANALYTICAL METHOD DEVELOPMENT AND VALIDATION OF FEXOFENADINE HYDROCHLORIDE BY RP-HPLC

*Dissertation submitted to*

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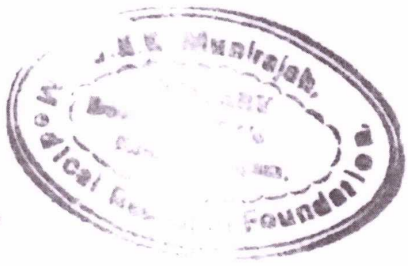

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# CONCLUSION

A simple, reproducible and efficient Reverse Phase High Performance Liquid Chromatography (RP-HPLC) method has been developed for estimation of Fexofenadine Hydrochloride and its tablet dosage form. Separation as done by using mobile phase consists of Mixture of Acetonitrile and Solution B (09:16,v/v). Chromatography separations were carried out on "Inertsil (25cmx4.6mm, 5µm packing L11)" at a flow rate of 1.5 ml/min and UV detection at 220nm and the retention time for Fexofenadine Hydrochloride is 3.6 minutes. The Linear dynamic response as found to be in the concentration of 50%-150%. The slope, intercept and correlation coefficient as found to be 0.9999 respectively. The percentage recovery of Fexofenadine Hydrochloride as found to be 98.0-102.0%. Proposed methods were found to be simple, accurate, precise and rapid and could be used for routine analysis. This condition is applied only for tablet dosage form. The statistical parameters and recovery studies were carried out by standard ICH guidelines and reported.

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# FORMULATION AND EVALUATION OF SIDDHA MEDICINE – KUNDIRIKA THAILAM

*A Dissertation submitted to*

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

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# CONCLUSION

The study shows that the *Kundirika Thailam*is to be best formulation with good quality and purity, all these investigations were may be helpful in authentication and standardization of *Kundirika Thailam*. The result of present study will also serve as reference monograph in the preparation of drug formulation.

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# PHYTOCHEMICAL SCREENING AND *IN VITRO* ANTI DANDRUFF ACTIVITIES OF LEAF EXTRACT OF *AZADIRACHTA INDICA*

***Dissertation submitted to***

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COLLEGE OF PHARMACY,

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**SEPTEMBER -2021**

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## CERTIFICATE

This is to certify that the dissertation entitled **PHYTOCHEMICAL SCREENING AND *IN VITRO* ANTI DANDRUFF ACTIVITIES OF LEAF EXTRACT OF *AZADIRACHTA INDICA*** is a bonafide work done by,

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Under my guidance and supervision in the department of Pharmaceutical Chemistry, **JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy Komarapalayam** in a partial fulfillment of requirements for the Degree of Pharmacy and this is forwarded to the **Tamil Nadu Dr. MGR. Medical University, Chennai.**

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## 6.CONCLUSION :

Both ethanolic and aqueous extracts of A. indica showed the presence of significant anti-dandruff activity against two malassezia species such as (M. globosa and M. restricta), compare to other three tested extracts. Therefore, A. indica was established good anti-dandruff activity.

This work will give background record to use *A. indica* as a potential therapeutic anti-dandruff drug and curing the fungal-related diseases.

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# ANALYTICAL METHOD DEVELOPMENT AND VALIDATION OF FEXOFENADINE HYDROCHLORIDE BY RP-HPLC

*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*

**BACHELOR OF PHARMACY**

**IN**

**PHARMACEUTICAL ANALYSIS**

*Submitted by*


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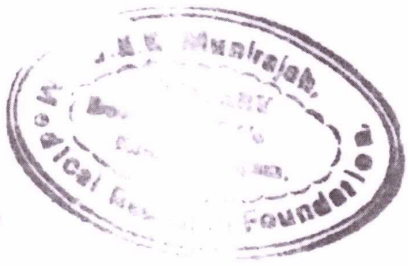

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# CONCLUSION

A simple, reproducible and efficient Reverse Phase High Performance Liquid Chromatography (RP-HPLC) method has been developed for estimation of Fexofenadine Hydrochloride and its tablet dosage form. Separation as done by using mobile phase consists of Mixture of Acetonitrile and Solution B (09:16,v/v). Chromatography separations were carried out on "Inertsil (25cmx4.6mm, 5µm packing L11)" at a flow rate of 1.5 ml/min and UV detection at 220nm and the retention time for Fexofenadine Hydrochloride is 3.6 minutes. The Linear dynamic response as found to be in the concentration of 50%-150%. The slope, intercept and correlation coefficient as found to be 0.9999 respectively. The percentage recovery of Fexofenadine Hydrochloride as found to be 98.0-102.0%. Proposed methods were found to be simple, accurate, precise and rapid and could be used for routine analysis. This condition is applied only for tablet dosage form. The statistical parameters and recovery studies were carried out by standard ICH guidelines and reported.

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# PHARMACOLOGICAL EVALUATION OF ANTI-INFLAMMATORY ACTIVITY ON LAGERSTROEMIA SPECIOSA LEAF EXTRACT IN *INVITRO* MODEL

**A Dissertation submitted to**

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

**CHENNAI- 6000 032**

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

**BACHELOR OF PHARMACY**

**IN**

**BRANCH–VIII SEM**

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This is to certify that the Dissertation entitled **"Pharmacological Evaluation of anti-inflammatory activity on Lagerstroemia speciosa leaf extract in *invitro* model."** submitted by **K. Divya (561758021), R. Kathirvel (561758042), V. Kiruthika 561758047), R. Lancy Jenifer (561758048), S. Priyadharshini (561758070)** to the Tamilnadu Dr. M.G.R Medical university, Chennai, in partial fulfilment of degree of **BACHELOR OF PHARMACY** in Department of Pharmacology, **JKKMMRF'S-ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY** , under my guidance and supervision.

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# SUMMARY AND CONCLUSION

The leaf of *lagerstroemia speciosa* belonging to family Lythraceae has been examined to gain an insight of its Phytochemical and *in-vitro* pharmacological studies.

The Phytochemical studies made on the ethanolic extract of *lagerstroemia speciosa* has done Preliminary phytochemical investigation is showed the presence of **Carbohydrate, saponins, Alkaloids, flavonoids, Steroids, phenolic compounds and tannins.**

The extract of *lagerstroemia speciosa* serves as the anti-inflammatory activity which is performed by inhibits albumin protein denaturation compared the standand drug diclofenac sodium.

In conclusion our reports clearly demonstrate that ethanolic extract of *lagerstroemia speciosa* shows a anti inflammatory activity were compare to standard drug.

These *in-vitro* results show an anti inflammatory effect on protein inhibition and this research work can be going preformed detail in future work.

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# SIMULTANEOUS ESTIMATION OF FLUOXETINE HCL AND OLANZAPINE IN BULK DRUG AND PHARMACEUTICAL FORMULATION BY USING UV-VISIBLE SPECTROSCOPY METHOD

*A Dissertation submitted to*

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

CHENNAI-32

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

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*Under the supervision & guidance of*

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This is to certify that the words embodied in this Project work entitled **"SIMULTANEOUS ESTIMATION OF FLUOXETINE HCL AND OLANZAPINE IN BULK DRUG AND PHARMACEUTICAL FORMULATION BY USING UV-VISIBLE SPECTROSCOPY METHOD".** Submitted for the degree of BACHELOR OF PHARMACY in Pharmaceutical Chemistry, The Tamilnadu Dr.M.G.R Medical University, Chennai, is a bonafide work, which was carried out by

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# 7.SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV-Spectrophotometric method were developed as per ICH guidelines for the estimation of Fluoxetine HCl and Olanzapine in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of the fluoxetine HCl and olanzapine. The sample solution of 10µg/ml of fluoxetine and olanzapine in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400nm by using methanol as a solvent. The overlay spectra of fluoxetine HCl and olanzapine were recorded. From the spectra, Fluoxetine HCl shows maximum absorption at 164nm and Olanzapine shows maximum absorption at 252nm. By the overlaid spectrum of Fluoxetine HCl and Olanzapine in the UV spectrophotometer 233nm is selected as a isobestic point.

In simultaneous equation method, we chosen 10µg/ml of standard stock solution of Fluoxetine HCl and Olanzapine were used to determine the absorption at 264nm and 252nm.

In absorption ratio method, we chosen 10µg/ml of standard stock solution of Fluoxetine HCl and Olanzapine were used to determine the absorption at 264nm and 233nm (Isobestic point).

By the overlaid spectrum of Fluoxetine HCl and Olanzapine, in the UV spectrophotometer 233nm was selected as a isobestic point.

The percentage label claim present in tablet formulation was found to be 99.6% and 97.25% for Fluoxetine HCl and Olanzapine respectively. The percentage recovery was found to be in the range of 97.43-99.37% for Fluoxetine HCl and 99.25-100.34% for Olanzapine.

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In absorption ratio method, the wavelength ranges between and 264nm and 252nm and 233nm were selected for the estimation of Fluoxetine HCl and Olanzapine respectively. The percentage label claim present in formulation was found to be 99.49±1.5894 and 100.36±1.0945 for Fluoxetine HCl and Olanzapine respectively. The percentage recovery was found to be in the range of 98.15-99.19% for Fluoxetine HCl and 99.71-100.01% for Olanzapine.

The proposed UV spectrophotometric methods showed good agreement at estimated concentration of both the active ingredients with declared label claims. Both the estimated methods were showed good recoveries close to 100% and percentage coefficient variation was less then 2.0% for both Fluoxetine HCl and Olanzapine. The developed methods were simple, accurate, precise, reproducible, economical, which would be used to estimate fluoxetine HCl and Olanzapine in their combined in dosage form in routine analysis.

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# SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF METFORMIN AND TENELIGLIPTIN IN SOLID DOSAGE FORMS

*A Dissertation submitted to*

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**CHENNAI-32**

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This is to certify that the words embodied in this Project work entitled **SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF METFORMIN AND TENELIGLIPTIN IN SOLID DOSAGE FORMS** is bonafide work done by

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for the degree of BACHELOR OF PHARMACY in Pharmaceutical Analysis under the Guidance of Dr. M. CHITRA., M.Pharm., Ph.D. Associate Professor , Department of Pharmaceutical Analysis , JKKMMRF'S Annai JKK Sampoorani Ammal college of Pharmacy , Komarapalayam, during the Academic Year 2020-2021.

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# CHAPTER 7

# SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV- Spectrophotometric method were developed and validated as per ICH guidelines for the estimation of Metformin and Teneligliptin in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of Metformin and Teneligliptin. The sample solutions of 10 µg/ml of Metformin and Teneligliptin in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400 nm by using methanol as blank. The overlay spectra of Metformin and Teneligliptin were recorded. From the spectra, Metformin shows maximum absorbance at 233 nm and Teneligliptin shows maximum absorbance at 244 nm. By the overlaid spectrum of Metformin and Teneligliptin, in the UV spectrophotometer 239nm is selected as a Isobestic point.

In Method A, Simultaneous equation method, we chosen 10µg/ml of standard stock solution of Metformin and Teneligliptin were used to determine the absorbance at 233nm and 244nm.

In Method B, Absorption ratio method, we chosen 10µg/ml of standard stock solution of Metformin and Teneligliptin were used to determine the absorbance at 233nm and 239nm (Isobestic point).By the overlaid spectrum of Metformin and Teneligliptin, in the UV spectrophotometer 239nm is selected as a Isobestic point.

The percentage label claim present in tablet formulation was found to be 98.3% for Metformin and 97.5% Teneligliptin respectively. The percentage recovery was found to be in the range of 97.96-98.73% for Metformin and 97.86-99.36% for Teneligliptin .

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In absorption ratio method, the wavelength ranges between 233nm and 244nm and 239 nm were selected for the estimation of Metformin and Teneligliptin respectively. The percentage label claim present in formulation was found to be 98.54 % and 97.63 % for Metformin and Teneligliptin. respectively. The percentage recovery was found to be in the range of 98.56-99.74% for Metformin and 99.45-99.89% for Teneligliptin.

The proposed UV spectrophotometric methods showed good agreement at estimated concentrations of both the active ingredients with declared labels claims. Both the estimated methods were showed good recoveries close to 100% and % coefficient variation was less than 2.0% for both Metformin and Teneligliptin. The developed methods were simple, accurate, precise reproducible, economical, which would be used to estimate Metformin and Teneligliptin in their combined tablet dosage form in routine analysis.


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# SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF METFORMIN AND TENELIGLIPTIN IN SOLID DOSAGE FORMS

*A Dissertation submitted to*

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

**CHENNAI-32**

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

**BACHELOR OF PHARMACY**

**Submitted by:**


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# CHAPTER 7

# SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV- Spectrophotometric method were developed and validated as per ICH guidelines for the estimation of Metformin and Teneligliptin in tablet dosage form.

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The percentage label claim present in tablet formulation was found to be 98.3% for Metformin and 97.5% Teneligliptin respectively. The percentage recovery was found to be in the range of 97.96-98.73% for Metformin and 97.86-99.36% for Teneligliptin .

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# *IN VITRO EVALUATION OF METHANOLIC EXTRACTS OF TEPHROSIA PURPUREA FOR THEIR ANTI DIABETIC AND ANTI OXIDANT ACTIVITY*

*Dissertation Submitted to*

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

**CHENNAI-32**

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

**BACHELOR OF PHARMACY**

*Submitted by*


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This is to certify that the dissertation work entitled "***IN VITRO EVALUATION OF METHANOLIC EXTRACTS OF TEPHROSIA PURPUREA FOR THEIR ANTI DIABETIC AND ANTI OXIDANT ACTIVITY***" is a bonafide work done by,

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# SUMMARY AND CONCLUSION

The plant of *Tephrosia purpurea* belonging to family -Fabaceae has been examined to gain an insight of its Pharmacognostical, Phytochemical and pharmacological studies and activities.

The Pharmacognostical studies made on *Tephrosia purpurea* powdered ash value, loss on drying gave valuable information. Preliminary phytochemical investigation of showed the presence of Carbohydrate, Alkaloids, Phytosteroids, Flavonoids, Phenolic compounds and Tannins, Saponins, Terpenoids.

The pharmacological studies of methanol & aqueous extract was performed by following. The Biological dose of extract *Tephrosia purpurea* dose was selected 200mg/kg and 400mg/kg in this dose possessed significant antidiabetic activity.

In conclusion, in the present study on the methanolic extract of *Tephrosia purpurea* plant having antidiabetic activity compared to standard drug. This study shows that flavanoids present in this extract may be possibly responsible for the antidiabetic activities. Being a potent anti oxidant plant, the isolation of chemical compounds from this plant will be an emergence of new anti oxidant compound which will be a soon for the entire pharmaceutical industry.

Further pharmacological and biochemical investigation are to be done to find out the active constituent responsible for the antidiabetic activity. However, the future study may also include ca[illegible]ging, standardizing, for quality control and above all developing new drugs/ pharmaceuticals keeping the disease and cost factor in view.

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# SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF DOMPERIDONE AND ESOMEPRAZOLE IN SOLID DOSAGE FORMS

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# CHAPTER 7

## SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV- Spectrophotometric method were developed and validated as per ICH guidelines for the estimation of Domperidone and Esomeprazole in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of Domperidone and Esomeprazole. The sample solutions of 10 µg/ml of Esomeprazole and Domperidone in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400 nm by using methanol as a solvent. The overlay spectra of Domperidone and Esomeprazole were recorded. From the spectra, Domperidone shows maximum absorbance at 284 nm and Esomeprazole shows maximum absorbance at 300 nm. By the overlaid spectrum of Domperidone and Esomeprazole, in the UV spectrophotometer 294nm is selected as a Isobestic point.

In Simultaneous equation method, we chosen 10µg/ml of standard stock solution of Domperidone and Esomeprazole were used to determine the absorbance at 284nm and 300nm.

In Absorption ratio method, we chosen 10µg/ml of standard stock solution of Domperidone and Esomeprazole were used to determine the absorbance at 284nm and 294nm ( Isobestic point).By the overlaid spectrum of Domperidone and Esomeprazole, in the UV spectrophcotometer 294nm is selected as a Isobestic point.

The percentage label claim present in tablet formulation was found to be 98.6% and 97.25% for Domperidone and Esomeprazole respectively. The percentage recovery was found to be in the range of 97.43-99.37% for Domperidone and 99.25-100.34% for Esomeprazole.

In absorption ratio method , the wavelength ranges between and 284 nm and 300nm and 294 nm (Isobestic point) were selected for the estimation of Domperidone and Esomeprazole respectively. The percentage label claim present in formulation was found to be 94.3% and 99.50% for Domperidone and Esomeprazole, respectively. The percentage

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recovery was found to be in the range of 98.15-99.19% for Esomeprazole and 99.71-100.01% for Domperidone.

The proposed UV spectrophotometric methods showed good agreement at estimated concentrations of both the active ingredients with declared labels claims. Both the estimated methods were showed good recoveries close to 100% and % coefficient variation was less than 2.0% for both Esomeprazole and Domperidone. The developed methods were simple, accurate, precise reproducible, economical, which would be used to estimate Esomeprazole and Domperidone in their combined tablet dosage form in routine analysis.

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# SUMMARY AND CONCLUSION

The plant of *Tephrosia purpurea* belonging to family -Fabaceae has been examined to gain an insight of its Pharmacognostical, Phytochemical and pharmacological studies and activities.

The Pharmacognostical studies made on *Tephrosia purpurea* powdered ash value, loss on drying gave valuable information. Preliminary phytochemical investigation of showed the presence of Carbohydrate, Alkaloids, Phytosteroids, Flavonoids, Phenolic compounds and Tannins, Saponins, Terpenoids.

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In conclusion, in the present study on the methanolic extract of *Tephrosia purpurea* plant having antidiabetic activity compared to standard drug. This study shows that flavanoids present in this extract may be possibly responsible for the antidiabetic activities. Being a potent anti oxidant plant, the isolation of chemical compounds from this plant will be an emergence of new anti oxidant compound which will be a soon for the entire pharmaceutical industry.

Further pharmacological and biochemical investigation are to be done to find out the active constituent responsible for the antidiabetic activity. However, the future study may also include ca[illegible]ging, standardizing, for quality control and above all developing new drugs/ pharmaceuticals keeping the disease and cost factor in view.

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# SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF DOMPERIDONE AND ESOMEPRAZOLE IN SOLID DOSAGE FORMS

*A Dissertation submitted to*

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

**CHENNAI-32**

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

**BACHELOR OF PHARMACY**

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# CHAPTER 7

## SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV- Spectrophotometric method were developed and validated as per ICH guidelines for the estimation of Domperidone and Esomeprazole in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of Domperidone and Esomeprazole. The sample solutions of 10 µg/ml of Esomeprazole and Domperidone in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400 nm by using methanol as a solvent. The overlay spectra of Domperidone and Esomeprazole were recorded. From the spectra, Domperidone shows maximum absorbance at 284 nm and Esomeprazole shows maximum absorbance at 300 nm. By the overlaid spectrum of Domperidone and Esomeprazole, in the UV spectrophotometer 294nm is selected as a Isobestic point.

In Simultaneous equation method, we chosen 10µg/ml of standard stock solution of Domperidone and Esomeprazole were used to determine the absorbance at 284nm and 300nm.

In Absorption ratio method, we chosen 10µg/ml of standard stock solution of Domperidone and Esomeprazole were used to determine the absorbance at 284nm and 294nm ( Isobestic point).By the overlaid spectrum of Domperidone and Esomeprazole, in the UV spectrophcotometer 294nm is selected as a Isobestic point.

The percentage label claim present in tablet formulation was found to be 98.6% and 97.25% for Domperidone and Esomeprazole respectively. The percentage recovery was found to be in the range of 97.43-99.37% for Domperidone and 99.25-100.34% for Esomeprazole.

In absorption ratio method , the wavelength ranges between and 284 nm and 300nm and 294 nm (Isobestic point) were selected for the estimation of Domperidone and Esomeprazole respectively. The percentage label claim present in formulation was found to be 94.3% and 99.50% for Domperidone and Esomeprazole, respectively. The percentage

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recovery was found to be in the range of 98.15-99.19% for Esomeprazole and 99.71-100.01% for Domperidone.

The proposed UV spectrophotometric methods showed good agreement at estimated concentrations of both the active ingredients with declared labels claims. Both the estimated methods were showed good recoveries close to 100% and % coefficient variation was less than 2.0% for both Esomeprazole and Domperidone. The developed methods were simple, accurate, precise reproducible, economical, which would be used to estimate Esomeprazole and Domperidone in their combined tablet dosage form in routine analysis.

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# *IN VITRO EVALUATION OF METHANOLIC EXTRACTS OF TEPHROSIA PURPUREA FOR THEIR ANTI DIABETIC AND ANTI OXIDANT ACTIVITY*

*Dissertation Submitted to*

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

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# DESIGN AND CHARACTERIZATION OF DICLOFENAC SODIUM TRANSDERMAL PATCHES

*A Dissertation submitted to*

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# 8. SUMMARY & CONCLUSION

The Transdermal drug delivery system is one of the most promising methods for drug application. The transdermal patch of diclofenac sodium with ethyl cellulose and poly ethylene glycol was prepared. Four Patches were prepared and their physical, dissolution and diffusion properties were evaluated.

Evaluation parameters like physical appearance, uniformity of weight, thickness, folding endurance, moisture content, drug content, dissolution study and diffusion study of formulations P1-P4 were found to be satisfactory. The evaluation studies shows that the patch formulation P4 having less thickness, high folding endurance, less moisture content, and have optimum uniformity of weight characteristic as compared to other formulations. At same time they also have more drug content than other formulations.

The formulation P4 also has pronounced effect when compared to other formulations. This can be confirmed by further *in-vitro* dissolution study and *in-vitro* drug diffusion study and the results obtained confirmed that there was an increased dissolution and diffusion rate when compared to other patches.

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# FORMULATION AND EVALUATION OF SIDDHA MEDICINE – KUNDIRIKA THAILAM

*A Dissertation submitted to*

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This is to certify that the works embodied in the dissertation entitled, **FORMULATION AND EVALUATION OF SIDDHA MEDICINE – KUNDIRIKA THAILAM,** Work carried out by

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# CONCLUSION

The study shows that the *Kundirika Thailam*is to be best formulation with good quality and purity, all these investigations were may be helpful in authentication and standardization of *Kundirika Thailam*. The result of present study will also serve as reference monograph in the preparation of drug formulation.

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# *IN VITRO EVALUATION OF METHANOLIC EXTRACTS OF TEPHROSIA PURPUREA FOR THEIR ANTI DIABETIC AND ANTI OXIDANT ACTIVITY*

*Dissertation Submitted to*

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

**CHENNAI-32**

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

**BACHELOR OF PHARMACY**

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# SUMMARY AND CONCLUSION

The plant of *Tephrosia purpurea* belonging to family -Fabaceae has been examined to gain an insight of its Pharmacognostical, Phytochemical and pharmacological studies and activities.

The Pharmacognostical studies made on *Tephrosia purpurea* powdered ash value, loss on drying gave valuable information. Preliminary phytochemical investigation of showed the presence of Carbohydrate, Alkaloids, Phytosteroids, Flavonoids, Phenolic compounds and Tannins, Saponins, Terpenoids.

The pharmacological studies of methanol & aqueous extract was performed by following. The Biological dose of extract *Tephrosia purpurea* dose was selected 200mg/kg and 400mg/kg in this dose possessed significant antidiabetic activity.

In conclusion, in the present study on the methanolic extract of *Tephrosia purpurea* plant having antidiabetic activity compared to standard drug. This study shows that flavanoids present in this extract may be possibly responsible for the antidiabetic activities. Being a potent anti oxidant plant, the isolation of chemical compounds from this plant will be an emergence of new anti oxidant compound which will be a soon for the entire pharmaceutical industry.

Further pharmacological and biochemical investigation are to be done to find out the active constituent responsible for the antidiabetic activity. However, the future study may also include ca[illegible]ging, standardizing, for quality control and above all developing new drugs/ pharmaceuticals keeping the disease and cost factor in view.

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# LARVICIDAL ACTIVITY OF ABUTILON INDICUM

**A Dissertation submitted to**

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**CHENNAI- 6000 032**

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

**BACHELOR OF PHARMACY**

**IN**

**BRANCH–VIII SEM –DEPARTMENT OF PHARMACUETICAL CHEMISTRY**

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## VIII. SUMMARY AND CONCLUSION

Larvicidal activity of *Abutilon indicum* is evaluated against 3rd and 4th instar larvae of *Culex quinquefasciatus,Aedes aegypti*. The present findingssupport the hypothesis that *Abutilon indicum*has potential larvicidal activity against *Culexquinquefasciatus, Aedes aegytpi* arecompared favourably with the commercial available insecticide malathion. The ethanolic extract contains larger amounts of flavanoid compounds and that activity isattributed to the flavanoids. Thus *Abutilon indicum* bark powder may prove to be an important indigenous drug in the future as larvicide. The new appreciation of the role of flavonoids provides mechanistic frame work for larvicidal activity. However futuristic studies are required for isolation of powerful toxic compound as larvicide from *Terminlia arjuna.*

There we conclude, may be the presence of flavonoid compounds in bark of *Abutilon indicum*are responsible for larvicidal activity.

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# STANDARDISATION OF AYURVEDIC FORMULATION BRAHMI CHURNA

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## SUMMARY AND CONCLUSION

- Experiment for standardization parameters such as morphological studies, physico-chemical parameters, phytochemical screening, pharmaceutical parameters, powder microscopy, fluorescence analysis were performed for the marketed product .
- These standardization parameters confirm its identity and determination of its quality and purity of Brahmi churna.
- It ensure the uniformity of Brahmi churna.
- The quality control standards of herbal formulation are important in view of commercialization of formulation.

## OUTCOME OF THE RESEARCH :

- An initiative for the development of traditional drug system was taken and the analytical methods were introduced into the ancient system of medicine.
- This will serve as a key for the upcoming researchers to standardise the other formulation which have not been standardised yet.

## FUTURE PERSPECTIVE :

- Pre formulation studies and formulation of tables from Brahmi churna can be done to improve the patient compliance.
- Qualification of the phytoconstitutents of the Brahmi churna using the standard biomarkers with the help of HPTLC technique can be done.

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# *INVITRO* ANTI-DIABETIC ACTIVITY OF *ECBOLIUM VIRIDE* (FORSK) ALSTON LEAVES

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# 9. SUMMARY AND CONCLUSION

*Ecbolium viride* leaves is one of the Indian traditional drugs widely used in the southern parts of India for treatment of diabetics. In addition, this drugs was said to effective in the treatment of diabetics related complications.

The Preliminary Phytochemical investigation of different extracts were compared. It shows good co-relation between them. The *invitro* antidiabetic investigation shows good co-relation between them.

Finally it conclude *Ecbolium viride* leaves is good biomarker for diabetic patients.

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# STUDY ON DRUG DISPENSING PATTERN IN COMMUNITY PHARMACIES

***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***

**BACHELOR OF PHARMACY**

*Submitted by*


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## CONCLUSION:

67.5% participants received medication through prescription, 32.5% participants were received the drugs by OTC, In OTC pharmacist can dispense the medication for treating minor ailments only like NSAIDS, antiulcer and antihistamine drugs .

Pharmacist need to observe keenly the peoples who are all getting OTC medication because OTC medication should not be given at longer duration, in case if it happen patient condition may develop worst and also there is the chance people may be misuse OTC drugs like some antihistamines. It should be avoided by updating pharmacist knowledge on drugs.

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# FORMULATION AND EVALUATION OF SIDDHA MEDICINE – KUNDIRIKA THAILAM

*A Dissertation submitted to*

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

**CHENNAI-32**

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

**BACHELOR OF PHARMACY**

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# CONCLUSION

The study shows that the *Kundirika Thailam*is to be best formulation with good quality and purity, all these investigations were may be helpful in authentication and standardization of *Kundirika Thailam*. The result of present study will also serve as reference monograph in the preparation of drug formulation.

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# PHYTOCHEMICAL SCREENING AND *IN VITRO* ANTI DANDRUFF ACTIVITIES OF LEAF EXTRACT OF *AZADIRACHTA INDICA*

***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***

**BACHELOR OF PHARMACY**

**IN**

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## 6.CONCLUSION :

Both ethanolic and aqueous extracts of A. indica showed the presence of significant anti-dandruff activity against two malassezia species such as (M. globosa and M. restricta), compare to other three tested extracts. Therefore, A. indica was established good anti-dandruff activity.

This work will give background record to use *A. indica* as a potential therapeutic anti-dandruff drug and curing the fungal-related diseases.

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# PHARMACOLOGICAL EVALUATION OF ANTI-INFLAMMATORY ACTIVITY ON LAGERSTROEMIA SPECIOSA LEAF EXTRACT IN *INVITRO* MODEL

**A Dissertation submitted to**

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**CHENNAI- 6000 032**

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

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**IN**

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# SUMMARY AND CONCLUSION

The leaf of *lagerstroemia speciosa* belonging to family Lythraceae has been examined to gain an insight of its Phytochemical and *in-vitro* pharmacological studies.

The Phytochemical studies made on the ethanolic extract of *lagerstroemia speciosa* has done Preliminary phytochemical investigation is showed the presence of **Carbohydrate, saponins, Alkaloids, flavonoids, Steroids, phenolic compounds and tannins.**

The extract of *lagerstroemia speciosa* serves as the anti-inflammatory activity which is performed by inhibits albumin protein denaturation compared the standand drug diclofenac sodium.

In conclusion our reports clearly demonstrate that ethanolic extract of *lagerstroemia speciosa* shows a anti inflammatory activity were compare to standard drug.

These *in-vitro* results show an anti inflammatory effect on protein inhibition and this research work can be going preformed detail in future work.

Dr. N. SENTHILKUMAR,
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# *INVITRO* ANTI-DIABETIC ACTIVITY OF *ECBOLIUM VIRIDE* (FORSK) ALSTON LEAVES

***Dissertation submitted to***

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# 9. SUMMARY AND CONCLUSION

*Ecbolium viride* leaves is one of the Indian traditional drugs widely used in the southern parts of India for treatment of diabetics. In addition, this drugs was said to effective in the treatment of diabetics related complications.

The Preliminary Phytochemical investigation of different extracts were compared. It shows good co-relation between them. The *invitro* antidiabetic investigation shows good co-relation between them.

Finally it conclude *Ecbolium viride* leaves is good biomarker for diabetic patients.

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# PHYTOCHEMICAL SCREENING AND *IN VITRO* ANTI DANDRUFF ACTIVITIES OF LEAF EXTRACT OF *AZADIRACHTA INDICA*

***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***

**BACHELOR OF PHARMACY**

**IN**

**PHARMACEUTICAL CHEMISTRY**

**Submitted by:**


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## 6.CONCLUSION :

Both ethanolic and aqueous extracts of A. indica showed the presence of significant anti-dandruff activity against two malassezia species such as (M. globosa and M. restricta), compare to other three tested extracts. Therefore, A. indica was established good anti-dandruff activity.

This work will give background record to use *A. indica* as a potential therapeutic anti-dandruff drug and curing the fungal-related diseases.

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# STUDY ON DRUG DISPENSING PATTERN IN COMMUNITY PHARMACIES

***Dissertation submitted to***

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## CONCLUSION:

67.5% participants received medication through prescription, 32.5% participants were received the drugs by OTC, In OTC pharmacist can dispense the medication for treating minor ailments only like NSAIDS, antiulcer and antihistamine drugs .

Pharmacist need to observe keenly the peoples who are all getting OTC medication because OTC medication should not be given at longer duration, in case if it happen patient condition may develop worst and also there is the chance people may be misuse OTC drugs like some antihistamines. It should be avoided by updating pharmacist knowledge on drugs.

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# FORMULATION AND EVALUATION OF SUSTAINED RELEASE TABLETS OF GEMIFLOXACIN USING NATURAL POLYMERS

*A 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*
***Under the Guidance of***

BACHELOR OF PHARMACY

***Submitted by***


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# 8. SUMMARY AND CONCLUSION

The present work to aim the design, fabrication and evaluation of Gemifloxacin sustained release tablets by wet granulation technique. Inthis technique Guar Gum and Xanthan Gum were used as polymers for drug released up to extended time period. The Physical mixture of drugs, polymer sand Best formulation (F3) was characterized by FTIR spectral analysis for any physical as well as chemical alteration of drug characteristics. The Formulations F3 found to satisfy the desired criteria for GEMIFLOXACIN released from the formulation. Finally to achieve a Gemifloxacin sustained released tablets and drugs released (99.87) up to 24hrs.

The Physical mixture of drugs, polymer sand Best formulation (F3) was characterized by FTIR spectral analysis for any physical as well as chemical alteration of drug characteristics. The FI-IR spectrums, it is clear that the characteristics peak are seen in both pure drugs (GEMIFLOXACIN )and polymers (Guar gum and Xanthan gum) without any changes in their position, so there is no strong interactions between excipients. polymers and Drugs.

There are several reasons for attractiveness of these dosage forms: provides increased bioavailability of drug product, reduction in the frequency of administration to prolong duration of effective blood levels. Gemifloxacin is used to treat a variety of bacterial infections. This medication belongs to a class of drugs known as quinolone antibiotics. It works by stopping the growth of bacteria. This antibiotic treats only bacterial infections. It will not work for viral infections such as common cold, flu. Using any antibiotic when it is not needed can cause it to not work for future infections.


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# PHARMACOLOGICAL EVALUATION OF ANTI-INFLAMMATORY ACTIVITY ON LAGERSTROEMIA SPECIOSA LEAF EXTRACT IN *INVITRO* MODEL

**A Dissertation submitted to**

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

CHENNAI- 6000 032

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

**BACHELOR OF PHARMACY**

**IN**

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**Submitted By**


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This is to certify that the Dissertation entitled **"Pharmacological Evaluation of anti-inflammatory activity on Lagerstroemia speciosa leaf extract in *invitro* model."** submitted by **K. Divya (561758021), R. Kathirvel (561758042), V. Kiruthika 561758047), R. Lancy Jenifer (561758048), S. Priyadharshini (561758070)** to the Tamilnadu Dr. M.G.R Medical university, Chennai, in partial fulfilment of degree of **BACHELOR OF PHARMACY** in Department of Pharmacology, **JKKMMRF'S-ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY** , under my guidance and supervision.

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**ıflammatory activity on Lagerstroemia speciosa leaf extract in *invitro* model"**
ubmitted by **K. Divya (561758021), R. Kathirvel (561758042), V. Kiruthika**
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# SUMMARY AND CONCLUSION

The leaf of *lagerstroemia speciosa* belonging to family Lythraceae has been examined to gain an insight of its Phytochemical and *in-vitro* pharmacological studies.

The Phytochemical studies made on the ethanolic extract of *lagerstroemia speciosa* has done Preliminary phytochemical investigation is showed the presence of **Carbohydrate, saponins, Alkaloids, flavonoids, Steroids, phenolic compounds and tannins.**

The extract of *lagerstroemia speciosa* serves as the anti-inflammatory activity which is performed by inhibits albumin protein denaturation compared the standand drug diclofenac sodium.

In conclusion our reports clearly demonstrate that ethanolic extract of *lagerstroemia speciosa* shows a anti inflammatory activity were compare to standard drug.

These *in-vitro* results show an anti inflammatory effect on protein inhibition and this research work can be going preformed detail in future work.

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his is to certify that the Dissertation entitled **"Pharmacological Evaluation of anti-**
**ıflammatory activity on Lagerstroemia speciosa leaf extract in *invitro* model"**
ubmitted by **K. Divya (561758021), R. Kathirvel (561758042), V. Kiruthika**
**561758047), R. Lancy Jenifer (561758048), S. Priyadharshini (561758070)** to the
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# SUMMARY AND CONCLUSION

The leaf of *lagerstroemia speciosa* belonging to family Lythraceae has been examined to gain an insight of its Phytochemical and *in-vitro* pharmacological studies.

The Phytochemical studies made on the ethanolic extract of *lagerstroemia speciosa* has done Preliminary phytochemical investigation is showed the presence of **Carbohydrate, saponins, Alkaloids, flavonoids, Steroids, phenolic compounds and tannins.**

The extract of *lagerstroemia speciosa* serves as the anti-inflammatory activity which is performed by inhibits albumin protein denaturation compared the standand drug diclofenac sodium.

In conclusion our reports clearly demonstrate that ethanolic extract of *lagerstroemia speciosa* shows a anti inflammatory activity were compare to standard drug.

These *in-vitro* results show an anti inflammatory effect on protein inhibition and this research work can be going preformed detail in future work.

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# REGULATORY AFFAIRS-AN OVERVIEW

*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*

**BACHELOR OF PHARMACY**

**IN**

**PHARMACY PRACTICE**

*Submitted by*


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## CONCLUSION

Regulatory Affairs department is constantly evolving and growing and is the one which is least impacted during the acquisition and merger, and also during recession. Regulatory Affairs departments are growing within companies. Due to the changing resources necessary to fulfil the regulatory requirements, some companies also choose to outsource or out task regulatory affairs to external service providers. In today's competitive environment the reduction of the time taken to reach the market is critical to a product and hence the company's success. The proper implementation of regulatory guidelines and laws will improve the economic growth of the company and also improves the safety of the people.

Many in the Regulatory Affairs Profession believe the New Approach to regulation will eventually be adopted for all healthcare products as it represents the best model for delivering new healthcare advances to market in a reasonable time with acceptable safety. Regulatory Affairs department is constantly evolving and growing and is the one which is least impacted during the Acquisition and Merger, and also during recession. Regulatory Affairs departments are growing within companies. Due to the changing resources necessary to fulfill the regulatory requirements, some companies also choose to outsource or out task regulatory affairs to external service providers. In today's competitive environment the reduction of the time taken to reach the market is critical to a product's and hence the company's success. The proper conduct of its Regulatory Affairs activities is therefore of considerable economic importance for the company.

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# STUDY ON DRUG DISPENSING PATTERN IN COMMUNITY PHARMACIES

***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***

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## CONCLUSION:

67.5% participants received medication through prescription, 32.5% participants were received the drugs by OTC, In OTC pharmacist can dispense the medication for treating minor ailments only like NSAIDS, antiulcer and antihistamine drugs .

Pharmacist need to observe keenly the peoples who are all getting OTC medication because OTC medication should not be given at longer duration, in case if it happen patient condition may develop worst and also there is the chance people may be misuse OTC drugs like some antihistamines. It should be avoided by updating pharmacist knowledge on drugs.

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# LARVICIDAL ACTIVITY OF ABUTILON INDICUM

**A Dissertation submitted to**

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

**CHENNAI- 6000 032**

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

**BACHELOR OF PHARMACY**

**IN**

**BRANCH–VIII SEM –DEPARTMENT OF PHARMACUETICAL CHEMISTRY**

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## VIII. SUMMARY AND CONCLUSION

Larvicidal activity of *Abutilon indicum* is evaluated against 3rd and 4th instar larvae of *Culex quinquefasciatus,Aedes aegypti*. The present findingssupport the hypothesis that *Abutilon indicum*has potential larvicidal activity against *Culexquinquefasciatus, Aedes aegytpi* arecompared favourably with the commercial available insecticide malathion. The ethanolic extract contains larger amounts of flavanoid compounds and that activity isattributed to the flavanoids. Thus *Abutilon indicum* bark powder may prove to be an important indigenous drug in the future as larvicide. The new appreciation of the role of flavonoids provides mechanistic frame work for larvicidal activity. However futuristic studies are required for isolation of powerful toxic compound as larvicide from *Terminlia arjuna.*

There we conclude, may be the presence of flavonoid compounds in bark of *Abutilon indicum*are responsible for larvicidal activity.

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# ANALYTICAL METHOD DEVELOPMENT AND VALIDATION OF FEXOFENADINE HYDROCHLORIDE BY RP-HPLC

*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*

**BACHELOR OF PHARMACY**

**IN**

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# CONCLUSION

A simple, reproducible and efficient Reverse Phase High Performance Liquid Chromatography (RP-HPLC) method has been developed for estimation of Fexofenadine Hydrochloride and its tablet dosage form. Separation as done by using mobile phase consists of Mixture of Acetonitrile and Solution B (09:16,v/v). Chromatography separations were carried out on "Inertsil (25cmx4.6mm, 5µm packing L11)" at a flow rate of 1.5 ml/min and UV detection at 220nm and the retention time for Fexofenadine Hydrochloride is 3.6 minutes. The Linear dynamic response as found to be in the concentration of 50%-150%. The slope, intercept and correlation coefficient as found to be 0.9999 respectively. The percentage recovery of Fexofenadine Hydrochloride as found to be 98.0-102.0%. Proposed methods were found to be simple, accurate, precise and rapid and could be used for routine analysis. This condition is applied only for tablet dosage form. The statistical parameters and recovery studies were carried out by standard ICH guidelines and reported.

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# COVID-19 REVIEW ARTICLE

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# CONCLUSION

As everyone across the globe is aware that there is no accurate medicine for Covid-19 till date, hence it is very important to prevent the spread in the society. COVID-19 outbreak has challenged almost all sectors due to the spread of the disease at an alarming rate across the globe . Notably, COVID-19 is an RNA virus that poses a threat to public health. Currently, the disease has caused a lot of infections and deaths. Ideally, the rapid spread of the ailment calls for strong investigation and isolation protocols to avert additional spread.

The main points in preventing the spread in society are isolation, proper ventilation, hand hygiene and use of personal protective equipment, mainly surgical masks, eye protection, oves, and gowns to safeguard themselves from the disease.hand hygiene, social distancing and quarantine.


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# *IN-VITRO* ANTHELMINTIC ACTIVITY OF ETHANOLIC EXTRACT OF *LACTUCA SATIVA L.* IN INDIAN ADULT EARTHWORMS (*PHERETIMA POSTHUMA*)

*A Dissertation submitted to*

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

**CHENNAI-32**

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# 8. CONCLUSION

The results of the present investigation are significant and encouraging towards the oal for future utilization and standardization of *Lactuca sativa* plant. Our experiment esults show that the higher dose (100 mg/ml) of ELELS has significant anthelmintic ctivity. The present study is thefirst evidence of the anthelmintic properties of *Lactuca ativa*. It is concluded that anthelmintic effects of *Lactuca sativa* might be due to the presence of phenolic compounds, tannins and flavonoids.

## UTURE 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 anthelmintic activity.

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# STANDARDISATION OF AYURVEDIC FORMULATION BRAHMI CHURNA

*Dissertation submitted To,*

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## SUMMARY AND CONCLUSION

- Experiment for standardization parameters such as morphological studies, physico-chemical parameters, phytochemical screening, pharmaceutical parameters, powder microscopy, fluorescence analysis were performed for the marketed product .
- These standardization parameters confirm its identity and determination of its quality and purity of Brahmi churna.
- It ensure the uniformity of Brahmi churna.
- The quality control standards of herbal formulation are important in view of commercialization of formulation.

## OUTCOME OF THE RESEARCH :

- An initiative for the development of traditional drug system was taken and the analytical methods were introduced into the ancient system of medicine.
- This will serve as a key for the upcoming researchers to standardise the other formulation which have not been standardised yet.

## FUTURE PERSPECTIVE :

- Pre formulation studies and formulation of tables from Brahmi churna can be done to improve the patient compliance.
- Qualification of the phytoconstitutents of the Brahmi churna using the standard biomarkers with the help of HPTLC technique can be done.

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# PHYTOCHEMICAL SCREENING AND *IN VITRO* ANTI DANDRUFF ACTIVITIES OF LEAF EXTRACT OF *AZADIRACHTA INDICA*

***Dissertation submitted to***

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CHENNAI- 600 032

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**IN**

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## 6.CONCLUSION :

Both ethanolic and aqueous extracts of A. indica showed the presence of significant anti-dandruff activity against two malassezia species such as (M. globosa and M. restricta), compare to other three tested extracts. Therefore, A. indica was established good anti-dandruff activity.

This work will give background record to use *A. indica* as a potential therapeutic anti-dandruff drug and curing the fungal-related diseases.

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- Pre formulation studies and formulation of tables from Brahmi churna can be done to improve the patient compliance.
- Qualification of the phytoconstitutents of the Brahmi churna using the standard biomarkers with the help of HPTLC technique can be done.

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# FORMULATION AND EVALUATION OF SIDDHA MEDICINE – KUNDIRIKA THAILAM

*A Dissertation submitted to*

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

**CHENNAI-32**

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

**BACHELOR OF PHARMACY**

**Submitted by**


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| M.DHILEEP | 561758018 |
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# CONCLUSION

The study shows that the *Kundirika Thailam*is to be best formulation with good quality and purity, all these investigations were may be helpful in authentication and standardization of *Kundirika Thailam*. The result of present study will also serve as reference monograph in the preparation of drug formulation.

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# REGULATORY AFFAIRS-AN OVERVIEW

*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*

**BACHELOR OF PHARMACY**

**IN**

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## CONCLUSION

Regulatory Affairs department is constantly evolving and growing and is the one which is least impacted during the acquisition and merger, and also during recession. Regulatory Affairs departments are growing within companies. Due to the changing resources necessary to fulfil the regulatory requirements, some companies also choose to outsource or out task regulatory affairs to external service providers. In today's competitive environment the reduction of the time taken to reach the market is critical to a product and hence the company's success. The proper implementation of regulatory guidelines and laws will improve the economic growth of the company and also improves the safety of the people.

Many in the Regulatory Affairs Profession believe the New Approach to regulation will eventually be adopted for all healthcare products as it represents the best model for delivering new healthcare advances to market in a reasonable time with acceptable safety. Regulatory Affairs department is constantly evolving and growing and is the one which is least impacted during the Acquisition and Merger, and also during recession. Regulatory Affairs departments are growing within companies. Due to the changing resources necessary to fulfill the regulatory requirements, some companies also choose to outsource or out task regulatory affairs to external service providers. In today's competitive environment the reduction of the time taken to reach the market is critical to a product's and hence the company's success. The proper conduct of its Regulatory Affairs activities is therefore of considerable economic importance for the company.

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# COVID-19 REVIEW ARTICLE

*A 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*

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**SEPTEMBER -2021**

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# CONCLUSION

As everyone across the globe is aware that there is no accurate medicine for Covid-19 till date, hence it is very important to prevent the spread in the society. COVID-19 outbreak has challenged almost all sectors due to the spread of the disease at an alarming rate across the globe . Notably, COVID-19 is an RNA virus that poses a threat to public health. Currently, the disease has caused a lot of infections and deaths. Ideally, the rapid spread of the ailment calls for strong investigation and isolation protocols to avert additional spread.

The main points in preventing the spread in society are isolation, proper ventilation, hand hygiene and use of personal protective equipment, mainly surgical masks, eye protection, oves, and gowns to safeguard themselves from the disease.hand hygiene, social distancing and quarantine.


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# LARVICIDAL ACTIVITY OF ABUTILON INDICUM

**A Dissertation submitted to**

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## VIII. SUMMARY AND CONCLUSION

Larvicidal activity of *Abutilon indicum* is evaluated against 3rd and 4th instar larvae of *Culex quinquefasciatus,Aedes aegypti*. The present findingssupport the hypothesis that *Abutilon indicum*has potential larvicidal activity against *Culexquinquefasciatus, Aedes aegytpi* arecompared favourably with the commercial available insecticide malathion. The ethanolic extract contains larger amounts of flavanoid compounds and that activity isattributed to the flavanoids. Thus *Abutilon indicum* bark powder may prove to be an important indigenous drug in the future as larvicide. The new appreciation of the role of flavonoids provides mechanistic frame work for larvicidal activity. However futuristic studies are required for isolation of powerful toxic compound as larvicide from *Terminlia arjuna.*

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**IN**

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# FORMULATION AND EVALUATION OF MOUTH DISSOLVING TABLETS OF AMBROXOL HYDROCHLORIDE

*A Dissertation submitted to*

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**CHENNAI – 600 032**

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

**BACHELOR OF PHARMACY**

*Submitted by*


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| PRAKASH.S | (561758067) |
| RANGANATH.V | (561758073) |
| SURYAMATHI.P | (561758091) |


*Under the Guidance of*

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This is to certify that the works embodied in this dissertation entitled **"FORMULATION AND EVALUATION OF MOUTH DISSOLVING TABLETS OF AMBROXOL HYDROCHLORIDE"** submitted in the partial fulfillment for the degree of **BACHELOR OF PHARMACY**. The Tamil Nadu Dr. M.G.R. Medical University, Chennai, is a bonafide work, which was carried out by,

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# 7.SUMMARY AND CONCLUSION

In the work under taken an attempt was made to explore the use of ion exchange resins as ste masking agents and super disintegrates in the formulation & evaluation of mouth dissolving blets of Ambroxol hydrochloride. The purpose was to enhance patient compliance and provide pid onset of action.

Indion 204 and Indion 234 were used as ion exchange resins. They were mixed with the ug in different drug to resin ratios and for different times and evaluated for the extent of mplexation. Results showed that with Indion 204, drug to resin ratio of 1:5 gave maximum nount of complexation (96.5%) with 10 hours of mixing. With Indion 234, the drug-resin oportion of 1:6 acchieved equilibrium in 10 hours showing maximum of 99% complexation.

Thd drug-resinate mixtures were then converted into granules and they exhibited tisfactory values of angle of repose and bulk density. Drug content estimation showed more an 90% of the drug present. Based on the drug content, the suitable amount of drug-resinate as taken for compression. The tablets were obtained by wet granulation method.

Then subjected to evaluation studies for the parameters like general appearance, ickness, hardness, weight variation, friability, in vitro and in vivo disintegration tests. The sintegration tests conducted on these products showed that, there is rapid disintegration of the blets, taking 15 to 21 and 12 to 20 seconds, which is much less than the official limit for spersible tablets (3 minutes).

After disintegration, the dispersion produced was smooth with pleasant mouth feel, the tter taste being totally masked.

In vitro dissolution studies showed a drug release up to 95% in 1 hour, which was found be better than a commercial product (86%), further the formulations. Were subjected to ability testing for one month at temperatures 5°C. 27°C & 40° C. Results revealed that no gnificant changes in both 4th formulations.

Data obtained from kinetic treatment revealed F1,F2 and M formulations follows Korsmeyer – Peppas model. The n value obtained from 0.526 to 0.61.

Hence, we may conclude that, the weak cation exchange resins such as Indion 204 and Indion 234 have been proved to be useful as taste masking agents as well as super disintegrating agents. Thus, we are able to achieve our objective of preparing oro-dispersible tablets of Ambroxol hydrochloride with minimum excipients and simple method of manufacture.

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# 7.SUMMARY AND CONCLUSION

In the work under taken an attempt was made to explore the use of ion exchange resins as ste masking agents and super disintegrates in the formulation & evaluation of mouth dissolving blets of Ambroxol hydrochloride. The purpose was to enhance patient compliance and provide pid onset of action.

Indion 204 and Indion 234 were used as ion exchange resins. They were mixed with the ug in different drug to resin ratios and for different times and evaluated for the extent of mplexation. Results showed that with Indion 204, drug to resin ratio of 1:5 gave maximum nount of complexation (96.5%) with 10 hours of mixing. With Indion 234, the drug-resin oportion of 1:6 acchieved equilibrium in 10 hours showing maximum of 99% complexation.

Thd drug-resinate mixtures were then converted into granules and they exhibited tisfactory values of angle of repose and bulk density. Drug content estimation showed more an 90% of the drug present. Based on the drug content, the suitable amount of drug-resinate as taken for compression. The tablets were obtained by wet granulation method.

Then subjected to evaluation studies for the parameters like general appearance, ickness, hardness, weight variation, friability, in vitro and in vivo disintegration tests. The sintegration tests conducted on these products showed that, there is rapid disintegration of the blets, taking 15 to 21 and 12 to 20 seconds, which is much less than the official limit for spersible tablets (3 minutes).

After disintegration, the dispersion produced was smooth with pleasant mouth feel, the tter taste being totally masked.

In vitro dissolution studies showed a drug release up to 95% in 1 hour, which was found be better than a commercial product (86%), further the formulations. Were subjected to ability testing for one month at temperatures 5°C. 27°C & 40° C. Results revealed that no gnificant changes in both 4th formulations.

Data obtained from kinetic treatment revealed F1,F2 and M formulations follows Korsmeyer – Peppas model. The n value obtained from 0.526 to 0.61.

Hence, we may conclude that, the weak cation exchange resins such as Indion 204 and Indion 234 have been proved to be useful as taste masking agents as well as super disintegrating agents. Thus, we are able to achieve our objective of preparing oro-dispersible tablets of Ambroxol hydrochloride with minimum excipients and simple method of manufacture.

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# DESIGN AND CHARACTERIZATION OF DICLOFENAC SODIUM TRANSDERMAL PATCHES

*A 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*

**BACHELOR OF PHARMACY**
**SEPTEMBER -2021**

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# 8. SUMMARY & CONCLUSION

The Transdermal drug delivery system is one of the most promising methods for drug application. The transdermal patch of diclofenac sodium with ethyl cellulose and poly ethylene glycol was prepared. Four Patches were prepared and their physical, dissolution and diffusion properties were evaluated.

Evaluation parameters like physical appearance, uniformity of weight, thickness, folding endurance, moisture content, drug content, dissolution study and diffusion study of formulations P1-P4 were found to be satisfactory. The evaluation studies shows that the patch formulation P4 having less thickness, high folding endurance, less moisture content, and have optimum uniformity of weight characteristic as compared to other formulations. At same time they also have more drug content than other formulations.

The formulation P4 also has pronounced effect when compared to other formulations. This can be confirmed by further *in-vitro* dissolution study and *in-vitro* drug diffusion study and the results obtained confirmed that there was an increased dissolution and diffusion rate when compared to other patches.

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# PHARMACOLOGICAL EVALUATION OF ANTI-INFLAMMATORY ACTIVITY ON LAGERSTROEMIA SPECIOSA LEAF EXTRACT IN *INVITRO* MODEL

**A Dissertation submitted to**

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

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**IN**

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# SUMMARY AND CONCLUSION

The leaf of *lagerstroemia speciosa* belonging to family Lythraceae has been examined to gain an insight of its Phytochemical and *in-vitro* pharmacological studies.

The Phytochemical studies made on the ethanolic extract of *lagerstroemia speciosa* has done Preliminary phytochemical investigation is showed the presence of **Carbohydrate, saponins, Alkaloids, flavonoids, Steroids, phenolic compounds and tannins.**

The extract of *lagerstroemia speciosa* serves as the anti-inflammatory activity which is performed by inhibits albumin protein denaturation compared the standand drug diclofenac sodium.

In conclusion our reports clearly demonstrate that ethanolic extract of *lagerstroemia speciosa* shows a anti inflammatory activity were compare to standard drug.

These *in-vitro* results show an anti inflammatory effect on protein inhibition and this research work can be going preformed detail in future work.

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# ANALYTICAL METHOD DEVELOPMENT AND VALIDATION OF FEXOFENADINE HYDROCHLORIDE BY RP-HPLC

*Dissertation submitted to*

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**IN**

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# CONCLUSION

A simple, reproducible and efficient Reverse Phase High Performance Liquid Chromatography (RP-HPLC) method has been developed for estimation of Fexofenadine Hydrochloride and its tablet dosage form. Separation as done by using mobile phase consists of Mixture of Acetonitrile and Solution B (09:16,v/v). Chromatography separations were carried out on "Inertsil (25cmx4.6mm, 5µm packing L11)" at a flow rate of 1.5 ml/min and UV detection at 220nm and the retention time for Fexofenadine Hydrochloride is 3.6 minutes. The Linear dynamic response as found to be in the concentration of 50%-150%. The slope, intercept and correlation coefficient as found to be 0.9999 respectively. The percentage recovery of Fexofenadine Hydrochloride as found to be 98.0-102.0%. Proposed methods were found to be simple, accurate, precise and rapid and could be used for routine analysis. This condition is applied only for tablet dosage form. The statistical parameters and recovery studies were carried out by standard ICH guidelines and reported.

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# FORMULATION AND EVALUATION OF SUSTAINED RELEASE TABLETS OF GEMIFLOXACIN USING NATURAL POLYMERS

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# 8. SUMMARY AND CONCLUSION

The present work to aim the design, fabrication and evaluation of Gemifloxacin sustained release tablets by wet granulation technique. Inthis technique Guar Gum and Xanthan Gum were used as polymers for drug released up to extended time period. The Physical mixture of drugs, polymer sand Best formulation (F3) was characterized by FTIR spectral analysis for any physical as well as chemical alteration of drug characteristics. The Formulations F3 found to satisfy the desired criteria for GEMIFLOXACIN released from the formulation. Finally to achieve a Gemifloxacin sustained released tablets and drugs released (99.87) up to 24hrs.

The Physical mixture of drugs, polymer sand Best formulation (F3) was characterized by FTIR spectral analysis for any physical as well as chemical alteration of drug characteristics. The FI-IR spectrums, it is clear that the characteristics peak are seen in both pure drugs (GEMIFLOXACIN )and polymers (Guar gum and Xanthan gum) without any changes in their position, so there is no strong interactions between excipients. polymers and Drugs.

There are several reasons for attractiveness of these dosage forms: provides increased bioavailability of drug product, reduction in the frequency of administration to prolong duration of effective blood levels. Gemifloxacin is used to treat a variety of bacterial infections. This medication belongs to a class of drugs known as quinolone antibiotics. It works by stopping the growth of bacteria. This antibiotic treats only bacterial infections. It will not work for viral infections such as common cold, flu. Using any antibiotic when it is not needed can cause it to not work for future infections.


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# 7.SUMMARY AND CONCLUSION

In the work under taken an attempt was made to explore the use of ion exchange resins as ste masking agents and super disintegrates in the formulation & evaluation of mouth dissolving blets of Ambroxol hydrochloride. The purpose was to enhance patient compliance and provide pid onset of action.

Indion 204 and Indion 234 were used as ion exchange resins. They were mixed with the ug in different drug to resin ratios and for different times and evaluated for the extent of mplexation. Results showed that with Indion 204, drug to resin ratio of 1:5 gave maximum nount of complexation (96.5%) with 10 hours of mixing. With Indion 234, the drug-resin oportion of 1:6 acchieved equilibrium in 10 hours showing maximum of 99% complexation.

Thd drug-resinate mixtures were then converted into granules and they exhibited tisfactory values of angle of repose and bulk density. Drug content estimation showed more an 90% of the drug present. Based on the drug content, the suitable amount of drug-resinate as taken for compression. The tablets were obtained by wet granulation method.

Then subjected to evaluation studies for the parameters like general appearance, ickness, hardness, weight variation, friability, in vitro and in vivo disintegration tests. The sintegration tests conducted on these products showed that, there is rapid disintegration of the blets, taking 15 to 21 and 12 to 20 seconds, which is much less than the official limit for spersible tablets (3 minutes).

After disintegration, the dispersion produced was smooth with pleasant mouth feel, the tter taste being totally masked.

In vitro dissolution studies showed a drug release up to 95% in 1 hour, which was found be better than a commercial product (86%), further the formulations. Were subjected to ability testing for one month at temperatures 5°C. 27°C & 40° C. Results revealed that no gnificant changes in both 4th formulations.

Data obtained from kinetic treatment revealed F1,F2 and M formulations follows Korsmeyer – Peppas model. The n value obtained from 0.526 to 0.61.

Hence, we may conclude that, the weak cation exchange resins such as Indion 204 and Indion 234 have been proved to be useful as taste masking agents as well as super disintegrating agents. Thus, we are able to achieve our objective of preparing oro-dispersible tablets of Ambroxol hydrochloride with minimum excipients and simple method of manufacture.

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# DESIGN AND CHARACTERIZATION OF DICLOFENAC SODIUM TRANSDERMAL PATCHES

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# 8. SUMMARY & CONCLUSION

The Transdermal drug delivery system is one of the most promising methods for drug application. The transdermal patch of diclofenac sodium with ethyl cellulose and poly ethylene glycol was prepared. Four Patches were prepared and their physical, dissolution and diffusion properties were evaluated.

Evaluation parameters like physical appearance, uniformity of weight, thickness, folding endurance, moisture content, drug content, dissolution study and diffusion study of formulations P1-P4 were found to be satisfactory. The evaluation studies shows that the patch formulation P4 having less thickness, high folding endurance, less moisture content, and have optimum uniformity of weight characteristic as compared to other formulations. At same time they also have more drug content than other formulations.

The formulation P4 also has pronounced effect when compared to other formulations. This can be confirmed by further *in-vitro* dissolution study and *in-vitro* drug diffusion study and the results obtained confirmed that there was an increased dissolution and diffusion rate when compared to other patches.

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# STANDARDISATION OF AYURVEDIC FORMULATION BRAHMI CHURNA

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## SUMMARY AND CONCLUSION

- Experiment for standardization parameters such as morphological studies, physico-chemical parameters, phytochemical screening, pharmaceutical parameters, powder microscopy, fluorescence analysis were performed for the marketed product .
- These standardization parameters confirm its identity and determination of its quality and purity of Brahmi churna.
- It ensure the uniformity of Brahmi churna.
- The quality control standards of herbal formulation are important in view of commercialization of formulation.

## OUTCOME OF THE RESEARCH :

- An initiative for the development of traditional drug system was taken and the analytical methods were introduced into the ancient system of medicine.
- This will serve as a key for the upcoming researchers to standardise the other formulation which have not been standardised yet.

## FUTURE PERSPECTIVE :

- Pre formulation studies and formulation of tables from Brahmi churna can be done to improve the patient compliance.
- Qualification of the phytoconstitutents of the Brahmi churna using the standard biomarkers with the help of HPTLC technique can be done.

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# SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF DOMPERIDONE AND ESOMEPRAZOLE IN SOLID DOSAGE FORMS

*A Dissertation submitted to*

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# CHAPTER 7

## SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV- Spectrophotometric method were developed and validated as per ICH guidelines for the estimation of Domperidone and Esomeprazole in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of Domperidone and Esomeprazole. The sample solutions of 10 µg/ml of Esomeprazole and Domperidone in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400 nm by using methanol as a solvent. The overlay spectra of Domperidone and Esomeprazole were recorded. From the spectra, Domperidone shows maximum absorbance at 284 nm and Esomeprazole shows maximum absorbance at 300 nm. By the overlaid spectrum of Domperidone and Esomeprazole, in the UV spectrophotometer 294nm is selected as a Isobestic point.

In Simultaneous equation method, we chosen 10µg/ml of standard stock solution of Domperidone and Esomeprazole were used to determine the absorbance at 284nm and 300nm.

In Absorption ratio method, we chosen 10µg/ml of standard stock solution of Domperidone and Esomeprazole were used to determine the absorbance at 284nm and 294nm ( Isobestic point).By the overlaid spectrum of Domperidone and Esomeprazole, in the UV spectrophcotometer 294nm is selected as a Isobestic point.

The percentage label claim present in tablet formulation was found to be 98.6% and 97.25% for Domperidone and Esomeprazole respectively. The percentage recovery was found to be in the range of 97.43-99.37% for Domperidone and 99.25-100.34% for Esomeprazole.

In absorption ratio method , the wavelength ranges between and 284 nm and 300nm and 294 nm (Isobestic point) were selected for the estimation of Domperidone and Esomeprazole respectively. The percentage label claim present in formulation was found to be 94.3% and 99.50% for Domperidone and Esomeprazole, respectively. The percentage

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recovery was found to be in the range of 98.15-99.19% for Esomeprazole and 99.71-100.01% for Domperidone.

The proposed UV spectrophotometric methods showed good agreement at estimated concentrations of both the active ingredients with declared labels claims. Both the estimated methods were showed good recoveries close to 100% and % coefficient variation was less than 2.0% for both Esomeprazole and Domperidone. The developed methods were simple, accurate, precise reproducible, economical, which would be used to estimate Esomeprazole and Domperidone in their combined tablet dosage form in routine analysis.

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**IN**

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This is to certify that the Dissertation entitled **"LARVICIDAL ACTIVITY OF ABUTILON INDICUM."** submitted by **K. Arjunan(561758008), R. Arun kumar (561758009), Joshua Gnanaseelan (561758035), M. Maheshwaran (561758051), M. Muleeshwaran (561758062), P. Naveenkumar (561758063), K. Pavithran (561758066), S.K. Santhosh Raj (561758077)** to the Tamilnadu Dr. M.G.R Medical university, Chennai, in partial fulfilment of degree of **BACHELOR OF PHARMACY** in **PHARMACEUTICAL CHEMISTRY, JKKMMRF'S- ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY** , under my guidance and supervision.

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## VIII. SUMMARY AND CONCLUSION

Larvicidal activity of *Abutilon indicum* is evaluated against 3rd and 4th instar larvae of *Culex quinquefasciatus,Aedes aegypti*. The present findingssupport the hypothesis that *Abutilon indicum*has potential larvicidal activity against *Culexquinquefasciatus, Aedes aegytpi* arecompared favourably with the commercial available insecticide malathion. The ethanolic extract contains larger amounts of flavanoid compounds and that activity isattributed to the flavanoids. Thus *Abutilon indicum* bark powder may prove to be an important indigenous drug in the future as larvicide. The new appreciation of the role of flavonoids provides mechanistic frame work for larvicidal activity. However futuristic studies are required for isolation of powerful toxic compound as larvicide from *Terminlia arjuna.*

There we conclude, may be the presence of flavonoid compounds in bark of *Abutilon indicum*are responsible for larvicidal activity.

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# ASSESMENT OF SELF MEDICATION AMONG PATIENT ATTENDING COMMUNITY PHARMACIES AND PERCEPTION OF COMMUNITY PHARMACIST ON SELF MEDICATION

*A Dissertation submitted to*

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

**CHENNAI-32**

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

**BACHELOR OF PHARMACY**

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## CONCLUSION

The study indicated that many of the patients were using community pharmacy for treatment of minor ailments. The potential effectiveness of self medication is questionable because of the lack of medical follow-up, inadequate information supplied to the patient by community pharmacists and above all the incorrect diagnosis or therapy. It was found that there is a significant association between frequencies of practising self-medication, reason for practicing self-education. source for the choice of drug with demographic characters. Nephropathy and drug induced gastric ulceration may be two major problems regarding self-medication with NSAIDS.

Furthermore, these irrational self medication and over the counter practices might cause serious drug interactions or adverse reactions among patients taking medications for chronic diseases. Lack of time and lack of interest of patients were the reasons which we found in the study which drags away community pharmacist from patient counselling.

This can be overcome by increasing the number of pharmacists in the pharmacy and creating awareness about complications of self-medication without proper diagnosis to the patients while dispensing. Main reason for practising self-medication irrational self- medication is due to their lack of knowledge about the complications that can occur by practising self-medication without proper diagnosis. This indicates the need for an educational campaign on necessity of proper medication use among the public.

A forum or work shop should be organized for community pharmacists regularly to update and improve their knowledge in managing simple complaints and dispensing OTC drugs. In simple way we can create awareness about self-medication through Medias like news paper, magazine etc.

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# *INVITRO* ANTI-DIABETIC ACTIVITY OF *ECBOLIUM VIRIDE* (FORSK) ALSTON LEAVES

***Dissertation submitted to***

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# 9. SUMMARY AND CONCLUSION

*Ecbolium viride* leaves is one of the Indian traditional drugs widely used in the southern parts of India for treatment of diabetics. In addition, this drugs was said to effective in the treatment of diabetics related complications.

The Preliminary Phytochemical investigation of different extracts were compared. It shows good co-relation between them. The *invitro* antidiabetic investigation shows good co-relation between them.

Finally it conclude *Ecbolium viride* leaves is good biomarker for diabetic patients.

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# STUDY ON DRUG DISPENSING PATTERN IN COMMUNITY PHARMACIES

***Dissertation submitted to***

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## CONCLUSION:

67.5% participants received medication through prescription, 32.5% participants were received the drugs by OTC, In OTC pharmacist can dispense the medication for treating minor ailments only like NSAIDS, antiulcer and antihistamine drugs .

Pharmacist need to observe keenly the peoples who are all getting OTC medication because OTC medication should not be given at longer duration, in case if it happen patient condition may develop worst and also there is the chance people may be misuse OTC drugs like some antihistamines. It should be avoided by updating pharmacist knowledge on drugs.

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# STANDARDISATION OF AYURVEDIC FORMULATION BRAHMI CHURNA

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## SUMMARY AND CONCLUSION

- Experiment for standardization parameters such as morphological studies, physico-chemical parameters, phytochemical screening, pharmaceutical parameters, powder microscopy, fluorescence analysis were performed for the marketed product .
- These standardization parameters confirm its identity and determination of its quality and purity of Brahmi churna.
- It ensure the uniformity of Brahmi churna.
- The quality control standards of herbal formulation are important in view of commercialization of formulation.

## OUTCOME OF THE RESEARCH :

- An initiative for the development of traditional drug system was taken and the analytical methods were introduced into the ancient system of medicine.
- This will serve as a key for the upcoming researchers to standardise the other formulation which have not been standardised yet.

## FUTURE PERSPECTIVE :

- Pre formulation studies and formulation of tables from Brahmi churna can be done to improve the patient compliance.
- Qualification of the phytoconstitutents of the Brahmi churna using the standard biomarkers with the help of HPTLC technique can be done.

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# COVID-19 REVIEW ARTICLE

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# CONCLUSION

As everyone across the globe is aware that there is no accurate medicine for Covid-19 till date, hence it is very important to prevent the spread in the society. COVID-19 outbreak has challenged almost all sectors due to the spread of the disease at an alarming rate across the globe . Notably, COVID-19 is an RNA virus that poses a threat to public health. Currently, the disease has caused a lot of infections and deaths. Ideally, the rapid spread of the ailment calls for strong investigation and isolation protocols to avert additional spread.

The main points in preventing the spread in society are isolation, proper ventilation, hand hygiene and use of personal protective equipment, mainly surgical masks, eye protection, oves, and gowns to safeguard themselves from the disease.hand hygiene, social distancing and quarantine.


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# DESIGN AND CHARACTERIZATION OF DICLOFENAC SODIUM TRANSDERMAL PATCHES

*A Dissertation submitted to*

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# 8. SUMMARY & CONCLUSION

The Transdermal drug delivery system is one of the most promising methods for drug application. The transdermal patch of diclofenac sodium with ethyl cellulose and poly ethylene glycol was prepared. Four Patches were prepared and their physical, dissolution and diffusion properties were evaluated.

Evaluation parameters like physical appearance, uniformity of weight, thickness, folding endurance, moisture content, drug content, dissolution study and diffusion study of formulations P1-P4 were found to be satisfactory. The evaluation studies shows that the patch formulation P4 having less thickness, high folding endurance, less moisture content, and have optimum uniformity of weight characteristic as compared to other formulations. At same time they also have more drug content than other formulations.

The formulation P4 also has pronounced effect when compared to other formulations. This can be confirmed by further *in-vitro* dissolution study and *in-vitro* drug diffusion study and the results obtained confirmed that there was an increased dissolution and diffusion rate when compared to other patches.

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# *IN-VITRO* ANTHELMINTIC ACTIVITY OF ETHANOLIC EXTRACT OF *LACTUCA SATIVA L.* IN INDIAN ADULT EARTHWORMS (*PHERETIMA POSTHUMA*)

*A Dissertation submitted to*

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# 8. CONCLUSION

The results of the present investigation are significant and encouraging towards the oal for future utilization and standardization of *Lactuca sativa* plant. Our experiment esults show that the higher dose (100 mg/ml) of ELELS has significant anthelmintic ctivity. The present study is thefirst evidence of the anthelmintic properties of *Lactuca ativa*. It is concluded that anthelmintic effects of *Lactuca sativa* might be due to the presence of phenolic compounds, tannins and flavonoids.

## UTURE 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 anthelmintic activity.

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# SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF DOMPERIDONE AND ESOMEPRAZOLE IN SOLID DOSAGE FORMS

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# CHAPTER 7

## SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV- Spectrophotometric method were developed and validated as per ICH guidelines for the estimation of Domperidone and Esomeprazole in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of Domperidone and Esomeprazole. The sample solutions of 10 µg/ml of Esomeprazole and Domperidone in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400 nm by using methanol as a solvent. The overlay spectra of Domperidone and Esomeprazole were recorded. From the spectra, Domperidone shows maximum absorbance at 284 nm and Esomeprazole shows maximum absorbance at 300 nm. By the overlaid spectrum of Domperidone and Esomeprazole, in the UV spectrophotometer 294nm is selected as a Isobestic point.

In Simultaneous equation method, we chosen 10µg/ml of standard stock solution of Domperidone and Esomeprazole were used to determine the absorbance at 284nm and 300nm.

In Absorption ratio method, we chosen 10µg/ml of standard stock solution of Domperidone and Esomeprazole were used to determine the absorbance at 284nm and 294nm ( Isobestic point).By the overlaid spectrum of Domperidone and Esomeprazole, in the UV spectrophcotometer 294nm is selected as a Isobestic point.

The percentage label claim present in tablet formulation was found to be 98.6% and 97.25% for Domperidone and Esomeprazole respectively. The percentage recovery was found to be in the range of 97.43-99.37% for Domperidone and 99.25-100.34% for Esomeprazole.

In absorption ratio method , the wavelength ranges between and 284 nm and 300nm and 294 nm (Isobestic point) were selected for the estimation of Domperidone and Esomeprazole respectively. The percentage label claim present in formulation was found to be 94.3% and 99.50% for Domperidone and Esomeprazole, respectively. The percentage

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recovery was found to be in the range of 98.15-99.19% for Esomeprazole and 99.71-100.01% for Domperidone.

The proposed UV spectrophotometric methods showed good agreement at estimated concentrations of both the active ingredients with declared labels claims. Both the estimated methods were showed good recoveries close to 100% and % coefficient variation was less than 2.0% for both Esomeprazole and Domperidone. The developed methods were simple, accurate, precise reproducible, economical, which would be used to estimate Esomeprazole and Domperidone in their combined tablet dosage form in routine analysis.

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# 8. SUMMARY & CONCLUSION

The Transdermal drug delivery system is one of the most promising methods for drug application. The transdermal patch of diclofenac sodium with ethyl cellulose and poly ethylene glycol was prepared. Four Patches were prepared and their physical, dissolution and diffusion properties were evaluated.

Evaluation parameters like physical appearance, uniformity of weight, thickness, folding endurance, moisture content, drug content, dissolution study and diffusion study of formulations P1-P4 were found to be satisfactory. The evaluation studies shows that the patch formulation P4 having less thickness, high folding endurance, less moisture content, and have optimum uniformity of weight characteristic as compared to other formulations. At same time they also have more drug content than other formulations.

The formulation P4 also has pronounced effect when compared to other formulations. This can be confirmed by further *in-vitro* dissolution study and *in-vitro* drug diffusion study and the results obtained confirmed that there was an increased dissolution and diffusion rate when compared to other patches.

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# REGULATORY AFFAIRS-AN OVERVIEW

*Dissertation submitted to*

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CHENNAI- 600 032

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

**BACHELOR OF PHARMACY**

**IN**

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## CONCLUSION

Regulatory Affairs department is constantly evolving and growing and is the one which is least impacted during the acquisition and merger, and also during recession. Regulatory Affairs departments are growing within companies. Due to the changing resources necessary to fulfil the regulatory requirements, some companies also choose to outsource or out task regulatory affairs to external service providers. In today's competitive environment the reduction of the time taken to reach the market is critical to a product and hence the company's success. The proper implementation of regulatory guidelines and laws will improve the economic growth of the company and also improves the safety of the people.

Many in the Regulatory Affairs Profession believe the New Approach to regulation will eventually be adopted for all healthcare products as it represents the best model for delivering new healthcare advances to market in a reasonable time with acceptable safety. Regulatory Affairs department is constantly evolving and growing and is the one which is least impacted during the Acquisition and Merger, and also during recession. Regulatory Affairs departments are growing within companies. Due to the changing resources necessary to fulfill the regulatory requirements, some companies also choose to outsource or out task regulatory affairs to external service providers. In today's competitive environment the reduction of the time taken to reach the market is critical to a product's and hence the company's success. The proper conduct of its Regulatory Affairs activities is therefore of considerable economic importance for the company.

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# FORMULATION AND EVALUATION OF SUSTAINED RELEASE TABLETS OF GEMIFLOXACIN USING NATURAL POLYMERS

*A Dissertation submitted to*

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# 8. SUMMARY AND CONCLUSION

The present work to aim the design, fabrication and evaluation of Gemifloxacin sustained release tablets by wet granulation technique. Inthis technique Guar Gum and Xanthan Gum were used as polymers for drug released up to extended time period. The Physical mixture of drugs, polymer sand Best formulation (F3) was characterized by FTIR spectral analysis for any physical as well as chemical alteration of drug characteristics. The Formulations F3 found to satisfy the desired criteria for GEMIFLOXACIN released from the formulation. Finally to achieve a Gemifloxacin sustained released tablets and drugs released (99.87) up to 24hrs.

The Physical mixture of drugs, polymer sand Best formulation (F3) was characterized by FTIR spectral analysis for any physical as well as chemical alteration of drug characteristics. The FI-IR spectrums, it is clear that the characteristics peak are seen in both pure drugs (GEMIFLOXACIN )and polymers (Guar gum and Xanthan gum) without any changes in their position, so there is no strong interactions between excipients. polymers and Drugs.

There are several reasons for attractiveness of these dosage forms: provides increased bioavailability of drug product, reduction in the frequency of administration to prolong duration of effective blood levels. Gemifloxacin is used to treat a variety of bacterial infections. This medication belongs to a class of drugs known as quinolone antibiotics. It works by stopping the growth of bacteria. This antibiotic treats only bacterial infections. It will not work for viral infections such as common cold, flu. Using any antibiotic when it is not needed can cause it to not work for future infections.


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# *INVITRO* ANTI-DIABETIC ACTIVITY OF *ECBOLIUM VIRIDE* (FORSK) ALSTON LEAVES

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# 9. SUMMARY AND CONCLUSION

*Ecbolium viride* leaves is one of the Indian traditional drugs widely used in the southern parts of India for treatment of diabetics. In addition, this drugs was said to effective in the treatment of diabetics related complications.

The Preliminary Phytochemical investigation of different extracts were compared. It shows good co-relation between them. The *invitro* antidiabetic investigation shows good co-relation between them.

Finally it conclude *Ecbolium viride* leaves is good biomarker for diabetic patients.

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# SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF DOMPERIDONE AND ESOMEPRAZOLE IN SOLID DOSAGE FORMS

*A Dissertation submitted to*

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# CHAPTER 7

## SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV- Spectrophotometric method were developed and validated as per ICH guidelines for the estimation of Domperidone and Esomeprazole in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of Domperidone and Esomeprazole. The sample solutions of 10 µg/ml of Esomeprazole and Domperidone in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400 nm by using methanol as a solvent. The overlay spectra of Domperidone and Esomeprazole were recorded. From the spectra, Domperidone shows maximum absorbance at 284 nm and Esomeprazole shows maximum absorbance at 300 nm. By the overlaid spectrum of Domperidone and Esomeprazole, in the UV spectrophotometer 294nm is selected as a Isobestic point.

In Simultaneous equation method, we chosen 10µg/ml of standard stock solution of Domperidone and Esomeprazole were used to determine the absorbance at 284nm and 300nm.

In Absorption ratio method, we chosen 10µg/ml of standard stock solution of Domperidone and Esomeprazole were used to determine the absorbance at 284nm and 294nm ( Isobestic point).By the overlaid spectrum of Domperidone and Esomeprazole, in the UV spectrophcotometer 294nm is selected as a Isobestic point.

The percentage label claim present in tablet formulation was found to be 98.6% and 97.25% for Domperidone and Esomeprazole respectively. The percentage recovery was found to be in the range of 97.43-99.37% for Domperidone and 99.25-100.34% for Esomeprazole.

In absorption ratio method , the wavelength ranges between and 284 nm and 300nm and 294 nm (Isobestic point) were selected for the estimation of Domperidone and Esomeprazole respectively. The percentage label claim present in formulation was found to be 94.3% and 99.50% for Domperidone and Esomeprazole, respectively. The percentage

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recovery was found to be in the range of 98.15-99.19% for Esomeprazole and 99.71-100.01% for Domperidone.

The proposed UV spectrophotometric methods showed good agreement at estimated concentrations of both the active ingredients with declared labels claims. Both the estimated methods were showed good recoveries close to 100% and % coefficient variation was less than 2.0% for both Esomeprazole and Domperidone. The developed methods were simple, accurate, precise reproducible, economical, which would be used to estimate Esomeprazole and Domperidone in their combined tablet dosage form in routine analysis.

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# FORMULATION AND EVALUATION OF MOUTH DISSOLVING TABLETS OF AMBROXOL HYDROCHLORIDE

*A Dissertation submitted to*

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**CHENNAI – 600 032**

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

**BACHELOR OF PHARMACY**

*Submitted by*


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# 7.SUMMARY AND CONCLUSION

In the work under taken an attempt was made to explore the use of ion exchange resins as ste masking agents and super disintegrates in the formulation & evaluation of mouth dissolving blets of Ambroxol hydrochloride. The purpose was to enhance patient compliance and provide pid onset of action.

Indion 204 and Indion 234 were used as ion exchange resins. They were mixed with the ug in different drug to resin ratios and for different times and evaluated for the extent of mplexation. Results showed that with Indion 204, drug to resin ratio of 1:5 gave maximum nount of complexation (96.5%) with 10 hours of mixing. With Indion 234, the drug-resin oportion of 1:6 acchieved equilibrium in 10 hours showing maximum of 99% complexation.

Thd drug-resinate mixtures were then converted into granules and they exhibited tisfactory values of angle of repose and bulk density. Drug content estimation showed more an 90% of the drug present. Based on the drug content, the suitable amount of drug-resinate as taken for compression. The tablets were obtained by wet granulation method.

Then subjected to evaluation studies for the parameters like general appearance, ickness, hardness, weight variation, friability, in vitro and in vivo disintegration tests. The sintegration tests conducted on these products showed that, there is rapid disintegration of the blets, taking 15 to 21 and 12 to 20 seconds, which is much less than the official limit for spersible tablets (3 minutes).

After disintegration, the dispersion produced was smooth with pleasant mouth feel, the tter taste being totally masked.

In vitro dissolution studies showed a drug release up to 95% in 1 hour, which was found be better than a commercial product (86%), further the formulations. Were subjected to ability testing for one month at temperatures 5°C. 27°C & 40° C. Results revealed that no gnificant changes in both 4th formulations.

Data obtained from kinetic treatment revealed F1,F2 and M formulations follows Korsmeyer – Peppas model. The n value obtained from 0.526 to 0.61.

Hence, we may conclude that, the weak cation exchange resins such as Indion 204 and Indion 234 have been proved to be useful as taste masking agents as well as super disintegrating agents. Thus, we are able to achieve our objective of preparing oro-dispersible tablets of Ambroxol hydrochloride with minimum excipients and simple method of manufacture.

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# ASSESMENT OF SELF MEDICATION AMONG PATIENT ATTENDING COMMUNITY PHARMACIES AND PERCEPTION OF COMMUNITY PHARMACIST ON SELF MEDICATION

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## CONCLUSION

The study indicated that many of the patients were using community pharmacy for treatment of minor ailments. The potential effectiveness of self medication is questionable because of the lack of medical follow-up, inadequate information supplied to the patient by community pharmacists and above all the incorrect diagnosis or therapy. It was found that there is a significant association between frequencies of practising self-medication, reason for practicing self-education. source for the choice of drug with demographic characters. Nephropathy and drug induced gastric ulceration may be two major problems regarding self-medication with NSAIDS.

Furthermore, these irrational self medication and over the counter practices might cause serious drug interactions or adverse reactions among patients taking medications for chronic diseases. Lack of time and lack of interest of patients were the reasons which we found in the study which drags away community pharmacist from patient counselling.

This can be overcome by increasing the number of pharmacists in the pharmacy and creating awareness about complications of self-medication without proper diagnosis to the patients while dispensing. Main reason for practising self-medication irrational self- medication is due to their lack of knowledge about the complications that can occur by practising self-medication without proper diagnosis. This indicates the need for an educational campaign on necessity of proper medication use among the public.

A forum or work shop should be organized for community pharmacists regularly to update and improve their knowledge in managing simple complaints and dispensing OTC drugs. In simple way we can create awareness about self-medication through Medias like news paper, magazine etc.

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# PHYTOCHEMICAL SCREENING AND *IN VITRO* ANTI DANDRUFF ACTIVITIES OF LEAF EXTRACT OF *AZADIRACHTA INDICA*

***Dissertation submitted to***

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CHENNAI- 600 032

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

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**IN**

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## 6.CONCLUSION :

Both ethanolic and aqueous extracts of A. indica showed the presence of significant anti-dandruff activity against two malassezia species such as (M. globosa and M. restricta), compare to other three tested extracts. Therefore, A. indica was established good anti-dandruff activity.

This work will give background record to use *A. indica* as a potential therapeutic anti-dandruff drug and curing the fungal-related diseases.

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# ANALYTICAL METHOD DEVELOPMENT AND VALIDATION OF FEXOFENADINE HYDROCHLORIDE BY RP-HPLC

*Dissertation submitted to*

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

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# CONCLUSION

A simple, reproducible and efficient Reverse Phase High Performance Liquid Chromatography (RP-HPLC) method has been developed for estimation of Fexofenadine Hydrochloride and its tablet dosage form. Separation as done by using mobile phase consists of Mixture of Acetonitrile and Solution B (09:16,v/v). Chromatography separations were carried out on "Inertsil (25cmx4.6mm, 5µm packing L11)" at a flow rate of 1.5 ml/min and UV detection at 220nm and the retention time for Fexofenadine Hydrochloride is 3.6 minutes. The Linear dynamic response as found to be in the concentration of 50%-150%. The slope, intercept and correlation coefficient as found to be 0.9999 respectively. The percentage recovery of Fexofenadine Hydrochloride as found to be 98.0-102.0%. Proposed methods were found to be simple, accurate, precise and rapid and could be used for routine analysis. This condition is applied only for tablet dosage form. The statistical parameters and recovery studies were carried out by standard ICH guidelines and reported.

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# COVID-19 REVIEW ARTICLE

*A 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*

**BACHELOR OF PHARMACY**
**SEPTEMBER -2021**

*Submitted by*


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# CONCLUSION

As everyone across the globe is aware that there is no accurate medicine for Covid-19 till date, hence it is very important to prevent the spread in the society. COVID-19 outbreak has challenged almost all sectors due to the spread of the disease at an alarming rate across the globe . Notably, COVID-19 is an RNA virus that poses a threat to public health. Currently, the disease has caused a lot of infections and deaths. Ideally, the rapid spread of the ailment calls for strong investigation and isolation protocols to avert additional spread.

The main points in preventing the spread in society are isolation, proper ventilation, hand hygiene and use of personal protective equipment, mainly surgical masks, eye protection, oves, and gowns to safeguard themselves from the disease.hand hygiene, social distancing and quarantine.


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# *INVITRO* ANTI-DIABETIC ACTIVITY OF *ECBOLIUM VIRIDE* (FORSK) ALSTON LEAVES

***Dissertation submitted to***

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

**BACHELOR OF PHARMACY**

***Submitted by***


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# 9. SUMMARY AND CONCLUSION

*Ecbolium viride* leaves is one of the Indian traditional drugs widely used in the southern parts of India for treatment of diabetics. In addition, this drugs was said to effective in the treatment of diabetics related complications.

The Preliminary Phytochemical investigation of different extracts were compared. It shows good co-relation between them. The *invitro* antidiabetic investigation shows good co-relation between them.

Finally it conclude *Ecbolium viride* leaves is good biomarker for diabetic patients.

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# SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF METFORMIN AND TENELIGLIPTIN IN SOLID DOSAGE FORMS

*A Dissertation submitted to*

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## CERTIFICATE

This is to certify that the words embodied in this Project work entitled **SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF METFORMIN AND TENELIGLIPTIN IN SOLID DOSAGE FORMS** is bonafide work done by

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| **M.GOKULAKANNAN** | **561758025** |
| **V.GUNA** | **561758026** |
| **P.YUVA PRASANTH** | **561758099** |
| **S.YUVARAJ** | **561758100** |

for the degree of BACHELOR OF PHARMACY in Pharmaceutical Analysis under the Guidance of Dr. M. CHITRA., M.Pharm., Ph.D. Associate Professor , Department of Pharmaceutical Analysis , JKKMMRF'S Annai JKK Sampoorani Ammal college of Pharmacy , Komarapalayam, during the Academic Year 2020-2021.

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# CHAPTER 7

# SUMMARY AND CONCLUSION

Simple, rapid, economic, precise and accurate UV- Spectrophotometric method were developed and validated as per ICH guidelines for the estimation of Metformin and Teneligliptin in tablet dosage form.

From the solubility profile, methanol was chosen as a common solvent for the estimation of Metformin and Teneligliptin. The sample solutions of 10 µg/ml of Metformin and Teneligliptin in methanol prepared individually and the solutions were scanned in UV region in the wavelength range from 200-400 nm by using methanol as blank. The overlay spectra of Metformin and Teneligliptin were recorded. From the spectra, Metformin shows maximum absorbance at 233 nm and Teneligliptin shows maximum absorbance at 244 nm. By the overlaid spectrum of Metformin and Teneligliptin, in the UV spectrophotometer 239nm is selected as a Isobestic point.

In Method A, Simultaneous equation method, we chosen 10µg/ml of standard stock solution of Metformin and Teneligliptin were used to determine the absorbance at 233nm and 244nm.

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The percentage label claim present in tablet formulation was found to be 98.3% for Metformin and 97.5% Teneligliptin respectively. The percentage recovery was found to be in the range of 97.96-98.73% for Metformin and 97.86-99.36% for Teneligliptin .

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The proposed UV spectrophotometric methods showed good agreement at estimated concentrations of both the active ingredients with declared labels claims. Both the estimated methods were showed good recoveries close to 100% and % coefficient variation was less than 2.0% for both Metformin and Teneligliptin. The developed methods were simple, accurate, precise reproducible, economical, which would be used to estimate Metformin and Teneligliptin in their combined tablet dosage form in routine analysis.


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# SIMULTANEOUS SPECTROPHOTOMETRIC ESTIMATION OF METFORMIN AND TENELIGLIPTIN IN SOLID DOSAGE FORMS

*A Dissertation submitted to*

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

**CHENNAI-32**

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

**BACHELOR OF PHARMACY**

**Submitted by:**


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*Under the supervision & guidance of*

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**SEPTEMBER-2021**

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Under my guidance and supervision in the Department of Pharmaceutical Analysis, JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam. Submitting the bonafide work in partial fulfillment for degree of Bachelor of Pharmacy in the Tamil Nadu Dr.M.G.R Medical University, during the Academic Year 2020-2021.

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# ASSESMENT OF SELF MEDICATION AMONG PATIENT ATTENDING COMMUNITY PHARMACIES AND PERCEPTION OF COMMUNITY PHARMACIST ON SELF MEDICATION

*A Dissertation submitted to*

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

**CHENNAI-32**

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

**BACHELOR OF PHARMACY**

*Submitted by*


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| AVINASH.S | 561858091 |
| RAM KUMAR.P | 561858092 |


*Under the supervision & guidance of*

**Dr.KC. ARUL PRAKASM, M. Pharm., Ph.D.,**

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# CERTIFICATE

This is to certify that the works embodied in the project work entitled **ASSESMENT OF SELF-MEDICATION AMONG PATIENTS ATTENDING COMMUNITY PHARMACIES AND PERCEPTION OF COMMUNITY PHARMACISTS ON SELF MEDICATION** is a bonafide work done by,**SATHISH KUMAR.M (561758078), TAMILVANAN.R (561758092), AVINASH.S (561858091), RAM KUMAR.P (561858092).**Under my guidance and supervision in the Department of Pharmacy practice, JKKMMRF's Annai JKKSampooraniAmmal College of Pharmacy, Komarapalayam.

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## CONCLUSION

The study indicated that many of the patients were using community pharmacy for treatment of minor ailments. The potential effectiveness of self medication is questionable because of the lack of medical follow-up, inadequate information supplied to the patient by community pharmacists and above all the incorrect diagnosis or therapy. It was found that there is a significant association between frequencies of practising self-medication, reason for practicing self-education. source for the choice of drug with demographic characters. Nephropathy and drug induced gastric ulceration may be two major problems regarding self-medication with NSAIDS.

Furthermore, these irrational self medication and over the counter practices might cause serious drug interactions or adverse reactions among patients taking medications for chronic diseases. Lack of time and lack of interest of patients were the reasons which we found in the study which drags away community pharmacist from patient counselling.

This can be overcome by increasing the number of pharmacists in the pharmacy and creating awareness about complications of self-medication without proper diagnosis to the patients while dispensing. Main reason for practising self-medication irrational self- medication is due to their lack of knowledge about the complications that can occur by practising self-medication without proper diagnosis. This indicates the need for an educational campaign on necessity of proper medication use among the public.

A forum or work shop should be organized for community pharmacists regularly to update and improve their knowledge in managing simple complaints and dispensing OTC drugs. In simple way we can create awareness about self-medication through Medias like news paper, magazine etc.

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