3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the year						
Title of paper	**Name of the author/s**	**Department of the teacher**	**Name of journal**	**Year of publication**	**ISSN number**	**Link to the recognition in UGC enlistment of the Journal**
Effectiveness and Safety of Levonorgestrel Intrauterine Device in Abnormal Uterine Bleeding, Adenomyosis and Perimenopausal Bleeding Patients.	Aayushi Jaiswal, Mudumba Srivarshini, Patlolla Akshitha Reddy, Tripura Sundari, Sirisha Sunkavalli, Ramya Vandanasetti, Shaheen Begum, Arifa Begum SK	MEDICINAL CHEMISTRY	International Journal of Pharmaceutical Investigation	2024	2230-973X	file:///C:/Users/admin/Downloads/IntJPharmInvestigation-14-1-186.pdf
PREPARATION AND EVALUCATION OF FAST DISINTEGRATION TABLETS OF POSACONAZOLE	G. Rahul, J. Yashashwini, K. Vikram, K. Ujwala, K. Sai Rupini, Dr. Jimidi Bhakar and Dr. Reddy Nazemoon	Pharmaceutics	World Journal of Pharmaceutical Science and Research	2023	2583-6579	https://wjpsronline.com/images/958c118849452747431c85398dac89cb.pdf
FORMULATION DEVELOPMENT AND IN-VITRO EVALUATION OF POSACONAZOLE LOADED TRANSFEROSOMES GEL	Amulya Chikoti1 and Jimidi Bhaskar* 1	Pharmaceutics	World Journal of Pharmaceutical Science and Research	2023	2583-6579	https://wjpsronline.com/images/22c6c2d959e5625e7fc89ead879ca9c3.pdf
DEVELOPMENT AND IN-VITRO EVALUATION OF TRAMADOL HYDROCHLORIDE TRANSDERMAL FILMS	Kouloju Harika1 , Jimidi Bhaskar1 , Chinmaya Keshari Sahoo2 , Mohamed Mutahar RK3	Pharmaceutics	Journal of Global Trends in Pharmaceutical Sciences	2023	2230-7346	https://www.jgtps.com/admin/uploads/FzBc0W.pdf
Recent Advances in Nanoemulsion for Drug Delivery	Dr Jimidi Bhasakr	Pharmaceutics	IIP series	2024	978-81-970008-6-7	https://www.researchgate.net/publication/377854521_Recent_Advances_in_Nanoemulsion_for_Drug_Delivery
Formulation Development and In-Vitro Evaluation of Buprenorphine Loaded Transdermal Patches	Narre Shirisha , Jimidi Bhaskar	Pharmaceutics	International Journal of All Research Education and Scientific Methods (IJARESM)	2023	2455-6211	https://www.ijaresm.com/uploaded_files/document_file/Narre_Shirishasit2.pdf
Nutraceuticals: A Review	Khasim Shareef Shaik and Jimidi Bhaskar	Pharmaceutics	International Journal of Pharmacy and Biological Sciences	2023	2230-7605	https://ijpbs.com/ijpbsadmin/upload/ijpbs_655224e669a50.pdf

A Review on Suppositories	Dr Jimidi Bhasakr	Pharmaceutics	Futuristic Trends in Pharmacy & Nursing IIP series, vol 3, Book 18, Part 6, Chapter 2	2024	978-93-6252-586-4	https://iipseries.org/assets/docupload/rsl202434D584D7338A2C2.pdf
Formulation Development invitro evaluation of Deflazacort fast dissolving tablets	G. Srujana, Dr Jimidi Bhasakr	Pharmaceutics	IJARESM	2023	2455-6211	https://www.ijaresm.com/formulation-development-and-in-vitro-evaluation-of-deflazacort-fast-dissolving-tablets
Formulaltion Development of Invitro Evaluation of Buprenorphine Loaded Transdermal Patches	Narre Shirisha, Jimidi Bhaskar	Pharmaceutics	IJARESM	2023	2455-6211	https://www.ijaresm.com/formulation-development-and-in-vitro-evaluation-of-buprenorphine-loaded-transdermal-patches
Development and invitro evaluation of Tradamol Hydrochloride Transdermal films.	Kouloju Harika1 , Jimidi Bhaskar1 , Chinmaya Keshari Sahoo2 , Mohamed Mutahar RK3	Pharmaceutics	Journal of Global Trends in Pharmaceutical sciences vol	2023	2230-7346	https://www.jgtps.com/admin/uploads/FzBc0W.pdf
Pulmonary Drug delivery system: A Review	Jukanti Harika Goud and Jimidi Bhaskar	Pharmaceutics	IJPBAS	2023	2230-7605	https://ijpbs.com/ijpbsadmin/upload/ijpbs_657f1d079bf90.pdf
rhodamine B: balancing scientific utility with health and safety concerns	Mrs. K.R.Sushma	Pharmaceutical Biotechnology	basic sciences journal of textile Universities	2024	1006-8341	https://drive.google.com/file/d/1m00LAC5IFG_mpDm5498TtPdl7AXGs8hm/view
Brown Sugar Lozenges	Teja Sri Soumya Kari	Pharmaceutics	International Journal of Creative Research Thoughts	2023	2320-2882	https://ijcrt.org/papers/IJCRT2312353.pdf
Isomalt Lozenges	Teja Sri Soumya Kari	Pharmaceutics	International journal of Creative Research thoughts	2023	2320-2882	https://ijcrt.org/papers/IJCRT2312385.pdf
Formulation & Evaluation of Flubriprofen Drug Loaded Liposomes	Togari Manoj Kumar, V Arun Reddy , Niggula Praveen Kumar , JE Rachel Nivedita , J Shravani , J Rajeshwari , K Lakshmi Mounika , K Madan Kumar , K	Pharmacology	Journal For Innovative Development in Pharmaceutical and Technical Science	2024	2581-6934	https://jidps.com/wp-content/uploads/Formulation-Evaluation-of-Flubriprofen-Drug-Loaded-Liposomes.pdf
Invitro Antioxidant Activity of Methanolic Extract of Clitoria ternatea	V Arun Reddy, JE Rachel Nivedita1 , Niggula Praveen Kumar, Togari ManojKumar, V Prathiba, Y Yeshwanth, P Kiran, G Harika	Pharmacology	Journal For Innovative Development in Pharmaceutical and Technical Science (JIDPTS)	2024	2581-6934	https://jidps.com/wp-content/uploads/Invitro-Antioxidant-Activity-of-Methanolic-Extract-of-Clitoria-ternatea.pdf

Pattern of Use of SGLT2 Inhibitors In Patient With Chronic Heart Failure In A TertiaryCare Hospital In South India 2021-22	Ms.P.Twila Pushpa	Pharmacy Practice	IJRAR	2023	2348-1269	https://www.ijrar.org/papers/IJRARTH00096.pdf
Review article on ultra performance liquid chromatography (UPLC)	Dr.Namratha Sunkara G.Anvitha G. Yamini G.Deepika G.Indupriya G.Srikanth	Pharmaceutica analysis	Gradiva review journal	2023	0363-8057	https://drive.google.com/file/d/16roXNKHlEcf8IPHp7IFhlvQvWMe5UHqe/view
Phytochemical screening and in vitro Anticancer activity of Lonicera ligustrina leaf extract on breast and colorectal cell lines	Dr. Namratha	Pharmaceutica analys	Research Journal of Pharmaceutical Technology	2023	0974-3618	https://www.indianjournals.com/ijor.aspx?target=ijor:rjpt&volume=15&issue=8&article=026
A novel approach to Develop Tramadol Hydrochloride Transdermal Film with complete In Vitro evaluation	Kabita Banik,Dr. Namratha, Twila, K Harika	Pharmaceutica analysis	IJIRT	2023	2349-6002	https://ijirt.org/publishedpaper/IJIRT160945_PAPER.pdf
Formulation and in vitro characterisation of Nelfinavir extended release tablets	Gunduavi Ramyasri, Dr. Namratha	Pharmaceutica analysis	IJARESM	2023	2455-6211	https://ugccare.unipune.ac.in/
Simultaneously estimation of Olmesartan and rosuvastatin by Rp-HPLC	Dr. Namratha	Pharmaceutica analys	IJESI	2023	2319-6726	https://www.ijesi.org/papers/Vol(12)i7/D12073138.pdf
Simultaneously estimation of Telmisartan and Azelnidipine by Rp-HPLC	Dr. Namratha	Pharmaceutica analys	IJESI	2023	2319-670	http://ijpsi.org/Papers/Vol12(3)/M12039296.pdf
Chemometric Assisted UV-Spectrophotometric Quantification of Cefaclor in Suspension Dosage Form	Dr. Asra Jabeen	Pharmacognocy	International Journal of Pharmaceutical Quality Assurance	2023	734-739	https://impactfactor.org/PDF/IJPQA/14/IJPQA,Vol14,Issue3,Article46.pdf
Chemometric Assisted UV-Spectrophotometric Quantification of Tigecycline in Parenteral Dosage Form.	Dr. Asra Jabeen	Pharmacognocy	International Journal of Drug Delivery Technology	2023	976-981	https://www.researchgate.net/profile/Diptimayee-Jena/publication/374551957_UV-Spectrophotometric_Quantification_of_Tigecycline_in_Parenteral_Dosage_Form/links/6524f1d6d717ef1293de98eb/UV-Spectrophotometric-Quantification-of-Tigecycline-in-Parenteral-Dosage-Form.pdf

An overview of Prosopis Juliflora's pharmacologic aspects	Dr. Asra Jabeen	Pharmacognocy	International Journal of Pharmacognosy and Life Science	2023	121-126	https://www.researchgate.net/publication/372226999_An_overview_of_Prosopis_Juliflora's_pharmacologic_aspects
Using green chemistry concepts in developing and validating analytical methods for meropenem parentral dosage form: Aquality by design point of view	Manish Kumar Gautam, Diptimayee Jena, Asra Jabeen, Reshmi Mukherjee, Kiran Kumar Buralla, Kirtimaya Mishra	Pharmacognocy	Journal of chemical health risks	2023	189-196	https://jchr.org/index.php/JCHR/article/view/1485
Evaluation of antibacterial and antifungal activity of Ruellia Simplex leaves	Dr. Asra Jabeen, M.JAYASRI, N.KEERTHI, N.TEJACHARY	Pharmacognocy	Gradiva review journal	2023	121-126	https://drive.google.com/file/d/1-fdkwIjL-tCCg-vEYrJWvwIuNZ6yLybk/view
Redox-based Spectrophotometric Method for the Determination of Ganciclovir in Bulk and Pharmaceutical Dosage Form	Dr. Asra Jabeen	Pharmacognocy	International Research Journal of Pure and Applied Chemistry	2023	2231-3443	http://journal.article2publish.com/id/eprint/1579/1/Swathi2422023IRJPAC97775.pdf

PRINCIPAL
Bharat Institute of Technology
Mangalpally (V), Ibrahimpatnam (M),
R.R. Dist - 501 510. Telangana.

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Original Article

Effectiveness and Safety of Levonorgestrel Intrauterine Device in Abnormal Uterine Bleeding, Adenomyosis and Perimenopausal Bleeding Patients

Aayushi Jaiswal[1], Mudumba Srivarshini[1], Patlolla Akshitha Reddy[1], Tripura Sundari[2], Sirisha Sunkavalli[2], Ramya Vandanasetti[2], Shaheen Begum[3], Arifa Begum SK[1,*]

[1]Department of Pharmacy, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad, Telangana, INDIA.
[2]Department of Obstetrics and Gynaecology, Krishna Institute of Medical Sciences, Secunderabad, Telangana, INDIA.
[3]Department of Pharmacy, Institute of Pharmaceutical Technology, SPMVV, Tirupati, Andhra Pradesh, INDIA.

ABSTRACT

Background: The Levonorgestrel-releasing intrauterine system was inserted in patients with conditions like Abnormal Uterine Bleeding (AUB), adenomyosis and Perimenopausal Bleeding (PMB). This study aimed to find the effectiveness and safety of the intrauterine device in AUB, adenomyosis and PMB. **Materials and Methods:** This observational study enrolled 100 patients with AUB, adenomyosis and PMB who had levonorgestrel IUD inserted for treatment between the years 2015 to 2022. The data has been collected from the Department of Obstetrics and Gynecology at Krishna Institute of Medical Sciences, Secunderabad and analyzed based on the Institutional outcome scoring form. The post-insertion responses, expulsion rates and clinical outcomes towards IUD were observed in patients after insertion. **Results:** The analysis of post-insertion responses showed a significant statistical *P* value of 0.001 which implies the effectiveness of IUD. This study resulted in a 90% positive clinical outcome which implies the safety of levonorgestrel IUD. The expulsion rate was also very low that was 5 out of 100 patients had the device expelled. **Conclusion:** The levonorgestrel IUD showed significant positive clinical outcomes in patients with AUB, Adenomyosis and PMB with low expulsion rates and can be considered a good alternative for conservative management of AUB, Adenomyosis, and perimenopausal bleeding.

Keywords: Intrauterine device, Abnormal uterine bleeding, Adenomyosis, Peri Menopausal Bleeding.

Correspondance:
Dr . Arifa Begum SK
Professor, Department of Pharmacy,
Bharat Institute of Technology,
Mangalpally, Ibrahimpatnam, Hyderabad,
Telangana, INDIA.
Email: arifabegum@bitpharmacy.org

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INTRODUCTION

The levonorgestrel-releasing Intrauterine Device (IUD)is used in the treatment of AUB and as LARC (Long-Acting Reversible Contraceptive). It is an Intrauterine device that contains 52 mg of levonorgestrel (progesterone), released at a range of 20 mcg/day[1] and after five years it is decreased to half of its original value. IUD is removed by the end of the fifth year and can be replaced with a new one if necessary. The intrauterine device is inserted into the endometrial cavity of the patient. The horizontal arms of the device are folded and will be placed in the applicator tube. It is gently implanted in the uterus after the tube is introduced into the cervical canal. strings will be trimmed so that they don't protrude too far into the vagina and the length of the string is recorded. Cramping, dizziness, fainting, or a slower-than-normal heart rate may occur at the time of insertion.[2,3] This device is inserted in conditions like endometriosis, adenomyosis, and heavy menstrual bleeding. This device is contraindicated for conditions like uterine abnormality, pelvic inflammatory disease, abortion, postpartum endometritis, and acute cervicitis. The common side effects of this device include amenorrhea, bleeding or spotting between periods, heavy bleeding during the first few weeks after device insertion, abdominal and pelvic pain, headache, back pain, dizziness, nausea, tenderness of the breast and weight gain.[4] AUB is described as irregularities in the menstrual cycle involving frequency, regularity, duration and volume of flow outside the pregnancy. IUD is used in types of AUB like AUB-Endometrial Hyperplasia (AUB-E), AUB- Ovulatory dysfunction (AUB-O), AUB-Leiomyoma (AUB-L), AUB-Adenomyosis (AUB-A).[5] Adenomyosis is a condition in which the endometrium grows adjacent to the inner lining of the uterus, causing the uterine wall to grow in size causing heavy, painful, prolonged periods, and painful cramps.[6]

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PREPARATION AND EVALUCATION OF FAST DISINTEGRATION TABLETS OF POSACONAZOLE

G. Rahul, J. Yashashwini, K. Vikram, K. Ujwala, K. Sai Rupini, *Dr. Jimidi Bhakar and Dr. Reddy Nazemoon

Department of Pharmaceutics, Bharat Institute of Technology Ibrahimpatnam (M), Mangalpally(V), Ranga Reddy (D), Telegana (S), India-501510.

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Corresponding Author: Dr. Jimidi Bhakar
Department of Pharmaceutics, Bharat Institute of Technology Ibrahimpatnam (M), Mangalpally(V), Ranga Reddy (D), Telegana (S), India-501510.

ABSTRACT

Posaconazole is a broad spectrum triazole antifungal agent with potent activity against various fungi, including yeast and moulds Clinical studies have demonstrated that the agent is efficacious as prophylaxis against inventive fungal infections inpatients at hedonist and may also useful in salvage therapy against invasive aspergillosis and mucomycosis However, the bioavailability Posaconazole following administration as oral suspension, which was the only formulation clinically available for many years variable negatively influenced several factors because many by the patients had sub therapeutic levels when the oral suspension was wed, overcome this limitation delayed release tablet was developed and is now available for clinical use. In addition, pharmacokinetic parameters. following administration of the tablets were not Significantly affected by medication that increasing gastric motility, and the tablets could also be administrated without regard to food similar results have been found in patients at high risk for invasive fungal who have received.

KEYWORDS: Posaconazole, triazole, aspergillosis, mucomycosis.

INTRODUCTION

Posaconazole tablet formulation and appears to be well tolerated to date, although data regarding clinical efficacy are needed. Posaconazole is a triazole antifungal agent with a spectrum of activity that includes Candida and Cryptococcus specie and some endemic fungi. Posaconazole has received US Food and Drug Administration approval for the treatment of oropharyngeal, candidiasis including infections refractory to itraconazole and/or fluconazole. It is also approved as prophylaxis for invasive Aspergillus and Candida infections in patients aged >13 years who are at high risk of developing these infections, in adult and adolescent hematopoietic stem cell transplant recipients with graft-versus-host disease, and in persons with hematologic malignancies and prolonged neutropenia due to chemotherapy, who are at high risk of developing these infections. Approval for additional indications is being sought. Limited clinical experience suggests efficacy for the treatment of infections due to Zygomycetes and as salvage therapy for patients with invasive aspergillosis and coccidioido mycosis. Currently available only as an oral suspension, Posaconazole which has been well tolerated, requires administration with food or a nutritional supplement to assure adequate

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FORMULATION DEVELOPMENT AND IN-VITRO EVALUATION OF POSACONAZOLE LOADED TRANSFEROSOMES GEL

Amulya Chikoti[1] and Jimidi Bhaskar*[1]

[1]Department of Pharmaceutics, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad-501510.

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Corresponding Author: Jimidi Bhaskar
Department of Pharmaceutics, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad-501510.

ABSTRACT

The goal of the current research was to create Posaconazole (PSZ) transferosome gel that would be effective against fungal infections. The gel was created by thin film hydration method. A study of the interactions between drugs and excipients was then conducted using the Fourier transform infrared (FTIR) spectroscopy method. The formulations were prepared and evaluated for measurement of pH, viscosity, spreadability, % entrapment efficiency, drug content estimation and *in vitro diffusion* study. Eight formulations were developed(PF1-PF8). In a Franz's diffusion cell, *in vitro diffusion studies* were carried out. The PF7 batch demonstrated the highest drug release after 24 hours. The developed formulation was stable, non irritant and provided sustained release over 24 hrs.

KEYWORDS: Posaconazole, gel, FTIR, Franz's diffusion cell.

INTRODUCTION

Transdermal drug delivery systems (TDDS), also known as medicated adhesive patches applied to the skin to administer a precise dose of medication via the skin and into the bloodstream, are dosage forms created to transport a therapeutically effective amount of drug across a patient's skin.[1] Since frequent medication intake is not required, transdermal treatment devices may create prolonged, steady, and controlled levels of drug in the plasma, enhancing patient compliance.[2]

The perfect penetration booster diminishes the stratum corneum's barrier resistance in a reversible manner without endangering the skin. The ability to avoid issues with stomach irritation, pH, and emptying rate impacts; avoid hepatic first pass metabolism[3]; and increase the bioavailability of the drug is the safest and most commonly utilized penetration enhancer.

Posaconazole (PSZ) is a triazole antifungal drug of BCS Class-II medication with a high lipid solubility and low water solubility. Posaconazole is an antifungal medication that comes in a variety of forms, including injections, oral suspensions, and delayedrelease tablets. When taken orally, these formulations can cause patient incompliance,

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DEVELOPMENT AND *IN-VITRO* EVALUATION OF TRAMADOL HYDROCHLORIDE TRANSDERMAL FILMS

Kouloju Harika[1], Jimidi Bhaskar[1], Chinmaya Keshari Sahoo[2], Mohamed Mutahar RK[3]

[1]Department of Pharmaceutics, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad, India
[2]Department of Pharmaceutics, College of Pharmaceutical Sciences, Puri (Affiliated to Biju Patnaik University of Technology) Baliguali, Puri-Konark Marine Drive Road, Puri, Odisha-752004, India
[3]Professor and R& D Director, Global College of Pharmacy, Chilkur (V), Moinabad (M), Hyderabad, Ranga Reddy District, Telangana-501504, India

*Corresponding author E-mail: harikak716@gmail.com

ARTICLE INFO

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Franz's diffusion cell, tramadol hydrochloride, transdermal patch

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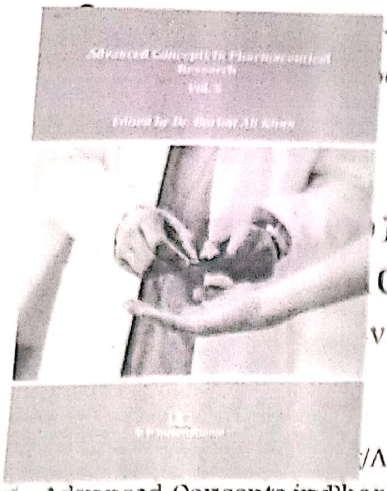
ABSTRACT

The present work was designed to develop suitable transdermal matrix patches of tramadol hydrochloride, a non-steroidal anti-inflammatory drug, using hydroxy propyl methyl cellulose (HPMC), Ethyl cellulose (EC) with glycerine as a plasticizer. The TDDS was prepared by film casting technique. Drug - excipients interaction study was further carried out using Fourier transform infrared (FTIR) spectroscopic technique. Physical evaluation was performed. *In vitro* diffusion studies were performed in a Franz's diffusion cell. The F5 batch showed highest drug release within 12 h.

INTRODUCTION

Transdermal drug delivery systems (TDDS) (patches) are dosage forms designed to deliver a therapeutically effective amount of drug across a patient's skin also defined as medicated adhesive patch that is placed on the skin to deliver a specific dose of medication through the skin and into the blood stream [1]. Actually, transdermal drug delivery is a transport process of drugs through a multi-laminar structure, from the patch to stratum corneum then to the viable epidermis, then dermis and hypodermis, and finally penetrating into the blood. The skin as a site of drug delivery has a number of significant advantages over many other routes of drug effects by minimizing plasma concentrations compared to oral therapy; provide a sustained release of drug at the site of application; rapid termination of therapy by removal of the device or formulation; the reduction of fluctuations in plasma levels of drugs and avoids pain associated with injections [2]. The transdermal delivery can also eliminate pulsed entry into the systemic circulation, which might often cause undesirable side effects. Transdermal therapeutic systems may produce



Recent Advances in Nanoemulsion for Drug Delivery

Chinmaya Keshari Sahoo ; Amiyakanta Mishra ; B. Ray ; Jimidi Bhaskar

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Abstract

Submicron-sized emulsions known as nanoemulsions (NE) are being studied in great detail as drug carriers to enhance the delivery of therapeutic agents. With the use of the proper surfactants, two immiscible liquids (oil and water) are combined to form a single phase in NEs, which are thermodynamically stable isotropic systems. Nanoemulsions are stable against creaming or sedimentation because of their small droplet size; the primary mechanism of nanoemulsion breakdown is Ostwald ripening. The typical range of nanoemulsion droplet sizes is 20–200 nm. The size and surface characteristics of the nanoemulsion's droplets have a significant impact on how the formulation behaves biologically. Future developments in drug therapy, cosmetics, diagnostics, and biotechnologies appear to be greatly enhanced by nanoemulsion.

Keywords: NEs; Microfluidization; sedimentation; droplets

(https://stm.bookpi.org/ACPR-V5/issue/view/1338)

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Formulation Development and In-Vitro Evaluation of Buprenorphine Loaded Transdermal Patches

Narre Shirisha.[1], Jimidi Bhaskar[1]

[1]Department of Pharmaceutics, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad

ABSTRACT

The goal of the current research was to create Buprenorphine transdermal matrix patches that would be effective. The ingredients of the transdermal patch are polyethylene glycol (PEG), hydroxy propyl methyl cellulose (HPMCK4M), Eudrajit RS, and di-chloromethane:methanol (1:1). The TDDS was created using the film casting method. A study of the interactions between drugs and excipients was then conducted using the Fourier transform infrared (FTIR) spectroscopy method. A physical assessment was made. In a Franz's diffusion cell, in vitro diffusion studies were carried out. The BF1 batch demonstrated the fastest drug release after 10 hours.

Keywords: Buprenorphine, Transdermal patch, FTIR

INTRODUCTION

Transdermal drug delivery systems (TDDS), also known as medicated adhesive patches applied to the skin to administer a precise dose of medication via the skin and into the bloodstream, are dosage forms created to transport a therapeutically effective amount of drug across a patient's skin [1]. Since frequent medication intake is not required, transdermal treatment devices may create prolonged, steady, and controlled levels of drug in the plasma, enhancing patient compliance [2].

The perfect penetration booster diminishes the stratum corneum's barrier resistance in a reversible manner without endangering the skin. The ability to avoid issues with stomach irritation, pH, and emptying rate impacts; avoid hepatic first pass metabolism [3]; and increase the bioavailability of the drug is the safest and most commonly utilized penetration enhancer.

MATERIALS AND METHODS

Materials

Buprenorphine was a gift sample from Clabs,Telangana. Eudragit RS-100 were obtained from Degussa India Pvt. Ltd. (Mumbai, India). HPMC obtained from Colorcon Asia Pvt. Ltd. (Goa, India). All other ingredients used were of pharmaceutical grade.

Methods

Drug polymer interaction

FTIR study

Infrared spectrum of drug and excipients were determined on Fourier Transform Infrared spectrophotometer (8400 S Shimadzu) using KBr dispersion method.

Calibration curve

The standard solution was created by combining 10 mg of buprenorphine with 10 ml of phosphate buffer pH 7.4, and the increasing the amount to 100 ml. A series of dilutions containing 0.2, 0.4, 0.6, 0.8, and 1 ml from this standard solutio were pipetted out and subsequently diluted to 10 ml with phosphate buffer pH 7.4 to produce 2, 4, 6, 8, and 10 g/m respectively. When using phosphate buffer pH 7.4 as a blank solution, the absorbances of these dilutions were determine using a UV spectrophotometer at 235 nm.

Preparation of transdermal patch

The TDDS was prepared by film casting technique (Table 1). One by one, each polymer was dissolved in a solvent soluti in a boiling tube. After ultrasonication, which helps to eliminate the air bubbles, the resulting homogenous solution was

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Review Article | Pharmaceutical Sciences | OA Journal | MCI Approved | Index Copernicus

Nutraceuticals: A Review

Khasim Shareef Shaik[1] and Jimidi Bhaskar*[1]

Department of Pharmaceutics Bharat Institute of Technology, Mangalpally Ibrahimpatnam, Hyderabad- 501510.

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*Corresponding Author Email: bhaskarbehappy@gmail.com

Abstract

The phrase "nutraceutical" refers to dietary items, either as a whole or in part, that have both therapeutic benefits and some nutraceutical value. Many metabolic and degenerative disorders, which are predominantly brought on by nutritional deficiencies, are now increasingly affecting the population. Health professionals and the public have recently given the pharmaceutical product Nutraceuticals considerable attention due to its use as nutritional supplements. Nutraceuticals are any ingredients used as food or as a component of food that have normal nutritional value and offer health advantages, such as illness prevention or health promotion. It can have a significant positive impact on health, particularly in the treatment and prevention of acute and chronic illnesses. The results of extensive research have shown that these drugs are used to treat a wide range of illnesses, including diabetes, cancer, arthritis, metabolic problems, and cancer. Ayurveda describes a lot more dietary aspects than are commonly known. Ayurveda's unique approaches include the advantages of food for medicinal purposes and the idea of nutraceuticals to enhance quality of life. This article highlights the value of nutraceuticals in Ayurveda and how to use them to treat a variety of illnesses and disorders.

Keywords

Nutraceuticals, Dietary supplements, Ayurveda, Various diseases.

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INTRODUCTION

The previous 50 years have seen a significant shift in human lifestyles as a result of urbanization, industrialization, stressful schedules, and shifting cultural norms. These influences have altered human eating patterns and forced people to consume quickly, quickly prepared meals, fast food, and junk food. The nutritional value [1] of our diet has been directly impacted by these habits, which have gradually reduced nutrient quantity and quality. Due to these modified eating patterns, immunological dysfunctions, metabolic problems, and degenerative diseases are now more common. People are becoming more aware of their health in recent years and are highly concerned with health management. Revolutions in medicine, phytomedicine, nutritional science, the food business, and health care over the past two decades have attracted a lot of public and professional attention [2].

Significant recent progress has been made in phytonutrients, food items, and nutraceuticals. Pharmaceutical businesses came up with this brilliant idea for wellness, disease prevention, and treatment. Healthy Aahar and Vihaar are directly related to the therapeutic concepts of Ayurveda. Aahar has been used as both traditional medicine and cuisine. In Ayurveda, the term Rasayana (Rejuvenation therapy) refers to a far broader idea than modern nutraceuticals.

It has been said by Hippocrates, some 2500 years ago "Let food be your medicine and medicine be your food". His framework is quite corresponding to the concept of nutraceuticals. Nutraceuticals are initially emerging as a class of natural goods [3,4] that have the potential to significantly close the gap between

A REVIEW ON SUPPOSITORIES

Author

Dr. Bhaskar Jimidi
Associate Professor
Department of Pharmaceutics
JNTU Hyderabad
Bharat Institute of Technology
Hyderabad, India.
bhaskarbchappy@gmail.com

I. SUPPOSITORIES

Suppositories are semisolid dose forms of medication intended for insertion into cavities of the body other than the mouth. They can be placed into the vagina, ear, nose, or rectum. To release the medication, they will either melt or dissolve in the bodily fluid.

II. TYPES OF SUPPOSITORIES

1. Rectal suppositories: These have a systemic impact and are intended to be inserted into the rectum. These are typically manufactured from Theobroma oil and come in a range of sizes to suit the need of babies, kids, and adults. They have a torpedo or cone form.

2. Vaginal suppositories are intended to be inserted into the vagina. The term "Pessaries" also refers to these suppositories, which can be conical, rod-shaped, or wedge-shaped and weigh between 4 and 8 grams. Vaginal pills and vaginal capsules are available these days. replaced the suppositories used vaginally.

3. "Urethral bougies" are urethral suppositories, which are intended to be inserted into the urethra. These are cylindrical forms that are long, thin, and have a rounded end to make insertion easier. They range in weight from 2-4g.

4. Nasal suppositories, also referred to as "Nasal Bougies" and similar to urethral suppositories, are intended for insertion into the nasal cavity. These always have a glycero gelatin foundation and are thin and cylindrical in shape. They weigh about 1g and are roughly 9–10 cm long.

5. Ear suppositories (sometimes referred to as "Aurinaria") are inserted into the ear. Theobroma oil is typically used as the basis instead of these. These weigh roughly 1g and have a thin, long, cylindrical shape.

6. Shell suppositories: shell suppositories also known as Rectal capsules are generally similar to soft capsules except that they may have lubricating coatings. Shell suppositories have the characteristics of shell Pessaries. During manufacturing, storage and distribution of suppositories, suitable means shall be taken to ensure their microbial quality.

International Journal of All Research Education & Scientific Methods

Formulation Development and In-Vitro Ev

Formulation Development and In-Vitro Evaluation of Deflazacort Fast Dissol Tablets

ABSTRACT: The aim of the current research to develop fast dissolving tablets (FDTs) of Deflazacort t Deflazacort goes under Biopharmaceutical Classification System(BCS) II drug i.e., less dissolvability and about less bioavailability of drug. The target of the existing work is expected to develop FDTs f Precompression and postcompression parameters of FDTs were evaluated. Out of 6 formulations glycolate as disintegrant shows highest drug release in 15min, which is considered as optimized for study indicates no variation in parameters.

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Formulation Development and In-Vitro Ev

Formulation Development and In-Vitro Evaluation of Buprenorphine Loaded Transdermal Patches

Author Name : Nuzre Shahida Jamil Dhaker

ABSTRACT The goal of the current research was to create Buprenorphine transdermal matrix patch
Ingredients of the transdermal patch are polyethylene glycol (PEG), hydroxy propyl methyl cellulose (I
chloromethane:methanol (1:1). The TDDS was created using the film casting method. A study of the i
excipients was then conducted using the Fourier transform infrared (FTIR) spectroscopy method. A ph
a Franz's diffusion cell, in vitro diffusion studies were carried out. The BF1 batch demonstrated the fast

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DEVELOPMENT AND *IN-VITRO* EVALUATION OF TRAMADOL HYDROCHLORIDE TRANSDERMAL FILMS

Kouloju Harika[1], Jimidi Bhaskar[1], Chinmaya Keshari Sahoo[2], Mohamed Mutahar RK[3]

[1]Department of Pharmaceutics, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad, India
[2]Department of Pharmaceutics, College of Pharmaceutical Sciences, Puri (Affiliated to Biju Patnaik University of Technology) Ballguali, Puri-Konark Marine Drive Road, Puri, Odisha-752004, India
[3]Professor and R& D Director, Global College of Pharmacy, Chilkur (V), Moinabad (M), Hyderabad, Ranga Reddy District, Telangana-501504, India

*Corresponding author E-mail: **harikak716@gmail.com**

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Franz's diffusion cell, tramadol hydrochloride, transdermal patch

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ABSTRACT

The present work was designed to develop suitable transdermal matrix patches of tramadol hydrochloride, a non-steroidal anti-inflammatory drug, using hydroxy propyl methyl cellulose (HPMC), Ethyl cellulose (EC) with glycerine as a plasticizer. The TDDS was prepared by film casting technique. Drug - excipients interaction study was further carried out using Fourier transform infrared (FTIR) spectroscopic technique. Physical evaluation was performed. *In vitro* diffusion studies were performed in a Franz's diffusion cell. The F5 batch showed highest drug release within 12 h.

INTRODUCTION

Transdermal drug delivery systems (TDDS) (patches) are dosage forms designed to deliver a therapeutically effective amount of drug across a patient's skin also defined as medicated adhesive patch that is placed on the skin to deliver a specific dose of medication through the skin and into the blood stream [1]. Actually, transdermal drug delivery is a transport process of drugs through a multi-laminar structure, from the patch to stratum corneum then to the viable epidermis, then dermis and hypodermis, and finally penetrating into the blood. The skin as a site of drug delivery has a number of significant advantages over many other routes of drug effects by minimizing plasma concentrations compared to oral therapy; provide a sustained release of drug at the site of application; rapid termination of therapy by removal of the device or formulation; the reduction of fluctuations in plasma levels of drugs and avoids pain associated with injections [2]. The transdermal delivery can also eliminate pulsed entry into the systemic circulation, which might often cause undesirable side effects Transdermal therapeutic systems may produce

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Pulmonary Drug Delivery System: A Review

Jukanti Harika Goud and Jimidi Bhaskar

Department of Pharmaceutics, Bharat Institute of Technology, Mangalally, Ibrahimpatnsm, Ranga Reddy-501510

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*Corresponding Author Email: bhaskarbehappy@gmail.com

Abstract

Growing attention has been given to the potential of pulmonary root as an alternative for noninvasive systemic delivery of therapeutic agents. Pulmonary drug delivery can be used as an alternative to oral delivery. The system can be best utilized for both local and systemic actions. Pulmonary Drug Delivery System (PDDS) is an important research area which impacts the treatment of illness including asthma, chronic obstructive pulmonary disease (COPD) and various other diseases. Inhalation gives the most direct access to the drug target. This route can be used to deposit the drug to the target site at the high concentration reducing the amount of drug given to the patient and help in reducing systemic side effects and first pass metabolism. Generally, half of all pharmaceuticals are not soluble in water, but are soluble in lipid. As the lungs can absorb both water and oil into the tissue this is not a restriction of pulmonary delivery.

Keywords

Pulmonary Drug Delivery System, COPD, Systemic, Inhalation

*****

INTRODUCTION

Pulmonary drug delivery systems (PDDS) have been used for decades to deliver drugs for treatment of respiratory disorders [1] as well as other disorders. The lungs provide a huge surface area of alveoli with rich capillary network which acts as an excellent absorbing surface for administration of drugs. Throughout the past several years, rapid onset of action and higher efficiency has been responsible for the success of pulmonary delivery system for symptomatic relief in treatment of asthma and chronic obstructive pulmonary disease (COPD). Research in the area of pulmonary drug delivery has gathered momentum in the last several years, with increased interest in using the lung as a means of delivering drugs systemically. Delivery of locally acting drugs directly to the site of action reduces the amount of dose needed to produce the pharmacological effect but now the lung has been studied as a possible route to administer the treatment of systemic diseases, like diabetes mellitus. The site of deposition that is on central or peripheral airways and whether the distribution of the inhaled drug is uniform or non-uniform may play a vital role in an inhaled drug's effectiveness [2].

Pulmonary delivery of drugs has become an attractive target in the health care industry as the lung is capable of absorbing pharmaceuticals either for local deposition or for systemic delivery. Some pharmaceuticals are not soluble in water but are soluble in lipids. As the lung is able to absorb both water and oil into the tissue, this is not a limitation of pulmonary delivery. Targeted drug delivery to the lungs has evolved to be one of the most widely investigated systemic or local drug delivery approaches [3].

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"Rhodamine B: Balancing Scientific Utility with Health and Safety Concerns"

Gunji venkateswarlu[1*] K R Sushma[2], Rajesh E Jesudasan[3], Anikumar Adimulapu[4]

Department of Pharmacognosy, School of Pharmacy, The Assam Kaziraga University.

[2]Assistant professor, Bhart Istitute of Technology,Mangalpally,, Hyderabad,

[3,4]Department of Pharmaceutics,School of Pharmacy ,The Assam Kaziraga University.

Corresponding author

*Gunji venkateswarlu

Department of pharmacognosy

,School of Pharmacy ,

The Assam Kaziraga University.

NH-37, Koraikhowa, Rowmarikhuti,

Jorhat,

Assam 785006

Abstract:

Rhodamine B, a synthetic dye renowned for its fluorescent properties, is extensively utilized across various scientific and industrial sectors. Its vivid fluorescence makes it indispensable for biological staining, aiding in the visualization of cellular structures and tracking biochemical processes. Additionally, Rhodamine B is crucial in tracer studies, hydrological research, dye lasers, and the textile industry. Despite its widespread applications, Rhodamine B poses significant health risks. Prolonged exposure can lead to adverse health effects, including reproductive toxicity, liver and kidney damage, and potential neurotoxicity. Acute toxicity from ingestion can cause gastrointestinal distress, while inhalation and skin contact may result in respiratory and dermal irritation. Eye exposure to Rhodamine B can lead to severe ocular irritation. Chronic exposure raises concerns about its carcinogenic and mutagenic potential, with some studies indicating the possibility of genetic mutations and cancer risk. Effective safety measures are vital to mitigate these risks. Personal protective equipment (PPE), such as gloves, masks, goggles, and lab coats, is essential for safe handling. Adequate ventilation, proper storage, and spill management protocols are also critical. Adhering to these safety guidelines ensures the protection of individuals handling Rhodamine B while maximizing its scientific utility. Further research into safer alternatives and improved safety protocols will help mitigate the health impacts associated with Rhodamine B.

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BROWN SUGAR LOZENGES

K.Teja sri Soumya, Guest faculty in Andhra University, Executive Research and Development, Vasudha Pharma Chem Limited, Assistant Professor, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad, Ranga Reddy Dist, Telangana, India, 501510.

M.Meghana, B.Pharmacy 4 year, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad Ranga Reddy dist, Telangana, India, 501510.

MD.Maqsood, B.Pharmacy 4 year, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad Ranga Reddy dist, Telangana, India, 501510.

➢ ABSTRACT :-

Lozenges are one of the very popular and better innovative dosage form and oral confectionary products. Lozeng have been used since 20th century and are still in commercial production. The "Lozenges are solid medicat flavoured and sweetened base dosage forms intended to be sucked and hold in the mouth". Brown sugar i substitute derived from palm plants, such as aren (Arenga Pinnata (Wurmb) Merill), Kelapa (cocos nucive siwalan (Borassus flabellifer L). This research aims to investigate the potential o resource, social and economic brown sugar as a natural sweetener that can substitute sugar cane. The study shows that the aren trees which is raw material of brown sugar is available in abundance, especially in mainland Southeast Asia, has h adaptability, is also serve as a forestry crop. Furthermore, brown sugar business can be done by people with l education, and in all age groups but predominantly in the range of productive age. Brown sugar is a nat sweetener because of its natural raw materials and the way of processing so valuable health. Economically, bro sugar has proven to be a source of livelihood and feasible to be developed. The implication of this study is ab information to explore the potential of resources, social, and economics of brown sugar as a natural sweete internationally.

Keywords: Naturalsweetener, Brown sugar, Aren tree, Lozenge, Feasibility.

➢ INTRODUCTION :-

Sugar is a strategic commodity because it has used worldwidely. Sugar is used as an additive in various foods beverages consumed daily by the world community. [1] According to Dubai's Sugar Yearbook data 2007 sh that sugar consumption was the smallest in Sub-Saharan Africa, at 8 million tonnes of sugar or 15.2 kg in capita terms, then comes North America at around 15 million tones and Western Europe, at around 15 mil tonnes and Western Europe, at around 18 million tonnes. All these four regions show aa per capita consump of at least 32 kg or more. Both the Indian Subcontinent and Latin America are consuming around 27 milion to of sugar a year, but per capita consumption in the Indian Subcontinent was only 16.3 kg while in Latin Ameri was much greater at 47.2 kg.

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ISOMALT LOZENGES

K.Teja sri Soumya, Guest faculty in Andhra University, Executive Research and Development, Vasudh Pharma Chem Limited, Assistant Professor, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad, Ranga Reddy Dist, Telangana, India, 501510.

M.SUPRATHIKA , B.Pharmacy 4 year, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad, Ranga Reddy dist, Telangana, India, 501510.

M.ROHITHREDDY, B.Pharmacy 4 year, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderabad, Ranga Reddy dist, Telangana, India, 501510.

MA.PARVEZ, B.Pharmacy 4 year, Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Hyderaba Ranga Reddy dist, Telangana, India, 501510.

ABSTRACT : Lozenges are palatable unit dosage form administrated in the oral cavity, which is the most com route and easiest way of administering a drug and have a bright future as novel method of delivering drug local and systemic effect. Lozenges are solid preparations that contain one or more medicaments, usually flavoured, sweetened base, and are intended to dissolve or disintegrate slowly in the mouth. The main obje present study to formulate medicated lozenges by useing isomalt sugar.The physical characteristics o tablets were relatively stable after half a year storage at different humidities as a result of the low hygrosco of isomalt.Isomalt is a sugar substitute with a wide range of potential pharmaceutical applications as a res its physicochemical properties.The benefits of the medicated lozenges is they increase theretention time dosage form in oral cavity which increases bioavailability, reduces gastric irritation and bypasses first metabolism. The acceptance for lozenges as a dosage form is high by adults and also more by children.

KEYWORDS : *Loxenges, isomalt sugar, palatable, sweetened, flavoured, medication.*

INTRODUCTION

The demand for low-fat and lowcalorie confectionery increases steadily worldwide. Consumers understa message and functions of these product categories which serve their demands for "healthy eating" thinking about less calories and kind-to-theteeth functions. Nowadays new sugar replacers like isomalt used providing sugar comparable taste and texture to guarantee good quality products. In addition to sug chewing gum and breath mints, which are already well established, sugar free hard candies and cough start playing an important role in the sugar free market.Isomalt, a sugar substitute derived from sucrose

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Formulation & Evaluation of Flubriprofen Drug Loaded Liposomes

Togari Manoj Kumar*[1], V Arun Reddy[1], Niggula Praveen Kumar[2], JE Rachel Nivedita[3], J Shravani[4], J Rajeshwari[5], K Lakshmi Mounika[6], K Madan Kumar[7], K Vishnuvardhan[8]

*[1,4,5,6,7,8] Department of Pharmacy, Bharat School of Pharmacy, Mangalpally, Ibrahimpatnam, R.R Dist, TS ,India

[2,3] Department of Pharmacy, Bharat Institute of Technology-Pharmacy, Mangalpally, Ibrahimpatnam, R.R Dist, TS ,India

ABSTRACT

Flurbiprofen liposomes were prepared by thin film hydration technique and the phospolipid concentrations were optimized by various trials in the present study liposomes containing Flurbiprofen was prepared. The effect of increase in phospolipid concentration in various parameters like particle size and invitro release profile were studied. The Flurbiprofen liposomes were formulated an evaluated for its drug content, entrapment efficiency, particle size analysis, zeta potential and invitro drug release profile. Based on th results of Flurbiprofen liposomes formulations (FLF 1- FLF 5) formulation FLF4 was selected as the best formulation in which t particle size was 271.1nm and the entrapment was 85.72%. The in vitro % drug release of FLF4 formulation was 99.47± 0.72% at hrs and it was found to be suitable formulation to manage the condition of rheumatoid arthritis. Hence it can be concluded that newly formulated controlled release liposomal drug delivery systems of Flurbiprofen may be ideal and effective in the management pain due to arthritis by allowing the drug to release continuously for 24 hrs.

Key words: Formulation, Characterizations, Flurbiprofen, Liposomes

INTRODUCTION

Liposome is a micro particulate colloidal vesicle, in which aqueous medium is surrounded by single or multiple concentric layers of phospholipids. Due to their size, both hydrophilic and hydrophobic drugs (besides biocompatibility) can be incorporated, water- soluble drug being entrapped in aqueous core and fat- soluble drug in phospholipids [1, 2]. It offers controlled release, targeted drug delivery, thus enhancing therapeutic efficacy, and reduced dosing frequency. Therapeutically, these are used as a carrier for drugs, viruses, bacteria, antigen, peptides, antibiotics, vaccines, genes, and diagnostic agents [3, 4]. Liposomes are small artificial vesicles of spherical shape that can be created from cholesterol and natural nontoxic phospholipids. Liposome properties differ considerably with lipid composition, surface charge, size, and the method of preparation. Furthermore, the choice of bilayer components determines the "rigidity" or "fluidity" and the charge of the bilayer. For instance, unsaturated phosphatidylcholine (PC) species from natural sources (egg or soybean PC) give much more permeable and less st bilayers, whereas the saturated phospholipids with long chains (e.g., dipalmitoyl PC) form a rigid, rather imperm bilayer structure [2]. In general, liposomes are defini spherical vesicles with particle sizes ranging from 30 several micrometers. They consist of one or more lipid bi surrounding aqueous units, where the polar head grou oriented in the pathway of the interior and exterior a phases. On the other hand, self-aggregation of polar l not limited to conventional bilayer structures which molecular shape, temperature, and environment preparation conditions but may self-assemble into varic of colloidal particles [5]. Liposomes are prepare sonication, thin-film hydration, solvent dispersion met detergent removal methods. Drug loading can be attain passively (i.e., the drug is encapsulated during formation) or actively (i.e., after liposome formation liposome size can vary from very small (0.025 µm (2.5 µm) vesicles. Moreover, liposomes may ha

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Invitro Antioxidant Activity of Methanolic Extract of Clitoria ternatea

V Arun Reddy*, JE Rachel Nivedita[1], Niggula Praveen Kumar[2], Togari ManojKumar[3], V Prathiba[4], Y Yeshwanth[5], P Kiran[6], G Harika[7]

*3,4,5,6,7 Department of Pharmacy, Bharat School of Pharmacy, Mangalpally, Ibrahimpatnam, R.R Dist, TS ,India

1,2 Department of Pharmacy, Bharat Institute of Technology-Pharmacy, Mangalpally, Ibrahimpatnam, R.R Dist, TS ,India

ABSTRACT

Medicinal plants are of great importance to the health of individuals and communities. A large number of plants are claimed to posse the anti-diabetic, anti-fertility, antihyperlipidaemic, anti-inflammatory, anti-cancer, hepatoprotective and immunomodulatory activiti in the traditional therapeutic systems. It is now believed that nature has given the cure of every disease in one way or another. Clitor ternatea a valuable medicinal plant possess many bioactive principles which includes diabetes mellitus, chronic bronchitis, goitr mucous disorders and leprosy. The ethanolic extract of leaves of C.ternatea was investigated for its phytochemical properties ar analysis for its active chemical ingredients. For qualitative and quantitative phytochemical analysis the ethanol extract of C.ternat acts as a source of therapeutic agent.

KEYWORDS: Clitoria ternatea, phytochemical screening, ethanol extract, anti-diabetic.

INTRODUCTION

Plant medicines were regarded as highly important in the lives of our ancestors since they did not have any alternative therapy. Their dependence on the plants in their surroundings made them to acquire the knowledge about the medicinal properties of many plants by trial and error. They were also aware of the commercial value of these plants. The medicinal value of these plants lies in some chemical substances that produce a definite physiological action on the human body and these chemical substances are called phytochemicals. These are non-nutritive chemicals which possess protective or disease preventive properties. Some phytochemical studies have been shown to possess antioxidant activities, improving the effects of oxidative stress. They also have complementary and overlapping mechanisms of action in the body, including modulation of detoxifying enzymes, stimulation of the immune system, modulation of hormone mechanism and antibacterial and antiviral effect. Some of the most important phytochemicals includes alkaloids, flavonoids, tannins and phenolic compounds1, 2, 3. Phytochemicals with biological activity have great utility as pharmaceuticals and pharmacological actions. Many people are aware that eati plant based foods add much needed fiber, vitamins a minerals to the diet but what is less well known is the ma benefits of the phytochemicals.India is richly endowed with wide variety of plants having medicinal value. These plants a widely used by all sections of the society either directly as fo remedies or indirectly as pharmaceutical preparation of mod medicine. Since herbal medicines are prepared from materi of plant origin they are prone to contamination, deteriorati and variation in composition. A lot of analytical techniq have been developed for quality control of drugs from pl origin. Therefore it is very important to undert phytochemical investigations along with biological screening understand therapeutic dynamics of medicinal plants and a to develop quality parameters. Clitoria ternatea Linn (fam Fabaceae) is a perennial twining herb found in India, Chi Philippines and Madagascar but has been introduced Africa, Australia and America It is now widely distribu throughout the humid, low land tropics, occurring b naturally and in cultivations4. It is commonly cal "Shankpushpi". In traditional Ayurvedic medicine, it has b

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Pattern of Use of SGLT2 Inhibitors In Patient With Chronic Heart Failure In A Tertiary Care Hospital In South India 2021-22

Ms.P.Twila Pushpa,Assistant Professor,Bharat Institute of Technology,Mangalplly,501510.

Dr. Mohammed sadiq azam, MBBS, MD (MED),DNB(CARDIOLOGY),consultant cardiologist,kims, secunderabad.

Dr.Nahid, Assistant Professor,Bharat Institute of Technology,Mangalplly,501510.

G.Harshavardhan Reddy,Pharm-D student, Bharat Institute of Technology,Mangalplly,501510.

K.Soma Shekar, Pharm-D student, Bharat Institute of Technology,Mangalplly,501510.

Corresponding Author: Ms.P.Twila Pushpa,M.Pharm,Assistant Professor, Bharat Institute of Technology,Mangalpally,Ibrahimpatnam,501510.

ABSTRACT:

AIM: To assess the efficacy, safety & tolerability of SGLT2 inhibitors in chronic heart failure, as well as their impact on patient symptoms and QOL. To investigate the reasons for therapeutic discontinuance.

Objectives: To evaluate the Indian population's safety, efficacy & tolerability.The assessment of pat quality of life is as important as the treatment outcome. The cost-effectiveness of the treatment should considered for the patient's convenience..

Materials and methods: The study is conducted as a Prospective Observational study in the Departmer Out-patient Unit of Cardiology at Krishna Institute of Medical Sciences (KIMS) hospital in Secunderabad. study duration is 6 months, and the sample size consists of 103 adult patients.

Results and discussion: In our study, a total of 103 patients were included, from the age of 20 to 89 years those, the males were 65 and the females were 38, and the mean age was 54.85 years. Most (93.3%) of patients had no complaints when they were on SGLT2 among them, 6.7% had complaints of bur micturition and dysuria. The number of pus cells in the urine increased by an average of 18, while se creatinine increased by an average of 0.9 in the patients showing adverse effects in their review 1. An ave of 15 and 0.6 changes were in pus cells and serum creatinine respectively in the patients showing ad during their review 2.The effectiveness of SGLT2 in HF management is seen comparing the ejection fra improvement from each and every review to baseline visit. The average improvement in EF at the first re of each patient is 1.96 % and the average EF improvement on review 2 is 3.26%

REVIEW ARTICLE ON ULTRA PERFORMANCE LIQUID CHROMATOGRAPHY

Dr.Namratha Sunkara [1] G.Anvitha [2] G. Vamini [3] G.Deepika [4] G.Indupriya [5] G.Srikanth [6]
Bharat Institute of Technology, Mangalpally, Hyderabad, 501510.

Corresponding author: Dr. Namratha sunkara,

ABSTRACT:

UPLC is a modern technique which gives a new direction for liquid chromatography. UPLC refers to ultra performance liquid chromatography, which enhance mainly in three areas: "speed, resolution and sensitivity. Ultra performance liquid chromatography (UPLC) applicable for particle less than 2µm in diameter to acquire better resolution, speed, and sensitivity compared with high-performance liquid chromatography (HPLC). In twenty first centenary pharmaceutical industries are focusing for new ways to in economy and shorten time for development of drugs. UPLC analysis at the mean time gives the better quality of their products and analytical laboratories are not exception in this trend. The separation and quantification in UPLC is done under very high pressure (up to 100M Pa). As compare to HPLC, under high pressure it is observed that not any negative influence on analytical column and also other components like time and solvent consumption is less in UPLC

Introduction:

Ultra performance liquid chromatography systems take advantage of technological pace in particle chemistry performance, system optimization, detector design and data processing. When taken together, these achievements have created an improvement in chromatographic performance. UPLC retains the practicality and principles of HPLC and along with that increases the overall interrelated attributes of speed, sensitivity and resolution. Speed allows a greater number of analyses to be performed in a shorter amount of time thereby increasing sample throughput and lab productivity. Faster analysis and hence called as ultra performance liquid chromatography, achieves both higher sample analysis throughput and better assay sensitivity. Analysis of operation cost and sample throughput UPLC cost advantageous over HPLC.1 The factor responsible for the development of UPLC technique was evolution of packing materials used to effect the separation. The principles behind this evolution are governed by the van Dee meter equation that describes the relationship between linear velocity and plate height.

According to the van Dee meter equation, decrease in particle size increases the efficiency of separations while on other hand efficiency diminishes and peak capacity can be extended to new limits, termed ultra performance liquid chromatography (UPLC). This technology takes full advantage of chromatographic principles to run separations using columns packed with smaller particles and/or higher flow rates for increased speed, with superior resolution and sensitivity.1 The use of non-porous particles, however, has been limited in the pharmaceutical industry due to their low sample loading capacity. The Milford, Massachusetts based company Waters Corporation introduced ACQUITY UPLC, the commercially available system that addresses the challenge of using elevated pressure and 2 mm particles, which makes it a particularly attractive and promising tool for fast Liquid Chromatographic method development. Engineering challenges of operating at high pressures and the high performance expected from such columns necessitates new developed pumps, redesigned injector, reduced system volumes, an increased detector sampling rate, and other improvements. To be suitable for the analysis of pharmaceutical development samples under GMPs, the UPLC instrument and columns must not only deliver on its promises for fast, high resolution separations but do so reproducibly and with the required sensitivity.In addition to the speed at which the data can be obtained, the quality of the data is also improved. It is clear that the quality of the UPLC-MS spectra is better than that of the Capillary LCMS spectra with much improved signal-to-noise ratio. 3 This new category of analytical separation science retains the practicality and principles of HPLC while

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Phytochemical screening and *Invitro* Anticancer ac

Murthy Chaganti Sai Sri Rama Chandra[1], Sanapala Arun Kumar[2,*], Sambar

[1]Sree Dattha Institute of Pharmacy, Sheriguda, Ibrahimpatnam, Hyderabad, Telangana, In

[2]Research Scholar, Department of Pharmacy, JNTUK, Kakinada, Andhra Pradesh, India

[3]Sree Dattha Institute of Pharmacy, Sheriguda, Ibrahimpatnam, Hyderabad, Telangana, In

[4]St. Mary College of Pharmacy, Surampalem, Kakinada, Andhra Pradesh, India

[5]Department of Pharmacy, Bharat Institute of Technology, Ibrahimpatnam, Rangareddy, Te

*Corresponding Author E-mail: sanapala787@gmail.com (mailto:sanapala787@gmail.com

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Cancer can be described as a disease characterized by groups of aberrant cells that under

Cancer, Cell lines, Breast, Colorectal, Doxorubicin, Culture.

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A Novel Approach to Develop Tramadol Hydrochloride Transdermal Films with Complete *In-Vitro* Evaluation

KABITA BANIK[1], DR. NAMRATHA[2], TWILA[3], K HARIKA[4]
[1, 2, 3, 4] *Bharat Institute of Technology, Hyderabad, Telengana.*

Abstract— *The oral route is now the most prevalent method of medication administration. While it has the benefit of being simple to administer, it also has substantial disadvantages, including low bioavailability due to hepatic metabolism and the propensity to cause fast blood level spikes, necessitating high and/or frequent doses, which may be expensive and inconvenient. In this study, hydroxypropyl methyl cellulose 6 cps (HPMC 6 cps) and ethyl cellulose are used as release-controlling polymers to create a matrix type transdermal drug delivery system for the analgesic medication tramadol HCl for its systemic delivery. This new drug delivery systems has increased the therapeutic efficacy and safety of pharmaceuticals by allowing for more accurate, site-specific delivery system, it allows temporal placement inside the body, resulting in smaller dosages consumption.*

Indexed Terms— ***Transdermal films, Hydroxypropyl methyl cellulose, Ethylcellulose polymer, Tramadol HCl***

I. INTRODUCTION

Transdermal medication delivery refers to the movement of a medicinal substance via the dermis of the skin for later systemic distribution. Therefore, properly speaking, this includes both traditional subcutaneous administrations with a hypodermic needle and syringe as well as the better recognised "patch." By this wide definition, the medication must enter the body through an artificial pathway, which is a feature of all transdermal drug delivery techniques. The key benefit of this method is that the medicine enters the body undisturbed and bypasses the body's different defence mechanisms[1]. The transdermal route of medication administration, while less convenient than oral administration (such as eating a tablet), avoids both drug breakdown in the gastrointestinal system and lower effectiveness due to first-pass metabolism (i.e. in the liver). Additionally, oral-specific adverse effects like liver damage—common with medications like estradiol (oestrogen) or paracetamol—are avoided. [2]

- Conventional patching techniques

Despite the fact that infusion pumps are dependable in providing the desired therapeutic administration profile, using one (such as an insulin pump) is rather difficult, expensive, and necessitates a hypodermic needle-based infusion set [2]. Drug administration using transdermal patches, where the medication diffuses through the skin, is far more practical while still providing the advantages of continuous drug release [3]. Depending on the patch size, the medications now used topically range in molecular weight from 162 Da (for nicotine) to 357 Da (for oxybutynin), with a realistic dosing rate of 4–20 mg/day. The mass of an insulin molecule is 5808 Da, but the molecular weight of contemporary DNA-based vaccines, which are composed of vectors with thousands of base pairs, may range from hundreds to thousands of kilo Daltons (kDa) [4-5].

II. MATERIALS AND METHODS

All the materials used in formulation, evaluation and other experiments are listed below. Distilled water is used in all experiments.

S.No	Use	Materials	Source
1	Drug	Tramadol HCl	Hy-Gro chemicals Pharma Ltd.
2	Polymers	Hydroxy Propyl Methyl Cellulose 6 cps	Dr. Reddy's Laboratories Ltd
		Ethyl cellulose	Dr. Reddy's Laboratories Ltd
3	Plasticizer	Polyethylene glycol 4000	S D Fine Chemicals
		Glycerin	
4	Penetration enhancer	Tween 80	S D Fine Chemicals
5	Solvents	Acetone	S D Fine Chemicals
6	Lubricant	Liquid Paraffin	S D Fine Chemicals

Table 1: List of materials used

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Simultaneous Estimation of Olmesartan and Rosuvastatin by RP-HPLC

Namratha Sunkara*[1], Anvitha [2], Yamini[3],Deepika[4],Indu Priya[5] ,Srikanth[6]
Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Rangareddy Telangana India
*Author for correspondenceDr.Namratha Sunkara, PROFESSOR
Hyderabad

ABSTRACT: *In the present work new method has been developed and validated for the percent drug release of Olmesartan and Rosuvastatin in Bulk and tablet dosage form. pH3.2 phosphate buffer is using the new method as well as diluent...Olmesartan and Rosuvastatin are analyzed using HPLC whose new method chromatographic conditions include Stationary phase C18 Agilent XDB, 150 x 4.6 mm, 5µ.Run time 8 mins Flow rate1mL/min.Mobile phase phosphate buffer and Acetonitrile (55:45).Diluent Methanol The method is simple, specific & easy to perform and requires short time to analyze the samples.The method was validated for specificity, linearity, accuracy, precision, robustness.The specificity study indicates that there is no interference due to excipients and buffers.Precision of the method was studied by preparing and analyzing samples and the Percentage relative standard deviation (%RSD) for Olmesartan is 1.08%and Rosuvastatin 1.62% Linearity was performed by preparing and analyzing linearity samples ranging from 20% to 150%. The correlation coefficient of both the drugs is 1.00 indicating that the method is linear over the range.The accuracy was performed by preparing solutions at , 50%, 100%, 150% and. They were analyzed and % recovery is with in the range of 95.0% - 105.0%.*

Keywords: *OLMESARTAN; ROSUVASTATIN; WAVELENGTH; PEAK AREA;RUNTIME*

Date of Submission: 05-07-2023 Date of Acceptance: 16-07-2023

I. INTRODUCTION:

HIGH PRESSURE LIQUID CHROMATOGRAPHY

High Performance Liquid Chromatography (HPLC) is a process of separating components in a liquid mixture. A liquid sample is injected into a stream of solvent (mobile phase) flowing through a column packed with a separation medium (stationary phase). Sample components separate from one another by a process of differential migration as they flow through the column.

II. MATERIALS AND METHOD:

Preparation Of buffer:

Accurately weighed 0.1% of Ortho Phosphoric acid in 1000ml of volumetric flask added about 900ml of -Q water and sonicate to dissolve make up to the final volume. PH 3.2 Mobile phase: Buffer: Acetonitrile

Preparations of Standard solutions

Olmesartan:

Weigh accurately and transfer about 20mg of Olmesartan working standard into a 10mL volumetric flask. Add about 7mL of Methanol and sonicate to dissolve. Make up the volumewith methanol and mix well.

Rosuvastatin:

Weigh accurately and transfer about 40 mg of Rosuvastatin Working standard into a 10 mL volumetric flask. Add about 7mL of methanol and sonicate to dissolve. Make up the volumewith diluent and mix well.

Preparation of Sample solution

5 tablets were weighed and calculate the average weight of each tablet then the weight equivalent to 5 tablets was transferred into a 100 mL volumetric flask, 80mL of diluent addedand sonicated for 25 min, further the volume made up with diluent and filtered. From thefiltered solution 0.2ml was pipetted out into a 10 ml volumetric flask and made up to 10ml with diluent.Wavelength 240nm.Separate and filtered portions of equal volume of (about 20ul) ofOlmesartan and Rosuvastatin standard preparation and assay preparations are injected into the chromatograph, and the chromatogram is recorded and the peak responses of the major peak is measured.

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Simultaneous Estimation of Telmisartan and Azelnidipine by RP- HPLC

Namratha Sunkara*[1], Suveen[2], Pavan[3], Dinesh[4], Praveen[5], Vaishnavi[6]
Bharat School of Pharmacy, Mangalpally Ibrahimpatnam, Rangareddy, Telangana,India
*Author for correspondence
Dr.Namratha Sunkara,
PROFESSOR
Hyderabad

ABSTRACT: *In the present work new has been developed and validated for the present drug release of Telmisartan and Azelnidipinein bulk and tablet dosage form. New method was established for simultaneous estimation of Azelnidipine and Telmisartan by RP-HPLC methods. The chromatographic conditions were successfully developed for the separation of Azelnidipine and Telmisartan by using Inertsil ODSC18 column (4.6×250mm)5µ, flow rate was 1ml/min, mobile phase ratio was (70:30 v/v) ACN: KH2PO4 ph 3, detection wavelength was 225nm. The instrument used for HPLC, WATERS HPLC Auto Sampler, Separation module 2695, photo diode array detector 996, Empower-software version-2. The retention times were found to be 2.798 mins and 3.587 mins. The % purity of Azelnidipine and Telmisartan was found to be 99.87% and 100.27% respectively. The system suitability parameters for Azelnidipine and Telmisartan such as theoretical plates and tailing factor were found to be 4260, 1.2 and 5085 and 1.2, the resolution was found to be 7.67. The analytical method was validated according to ICH guidelines (ICH, Q2 (R1)). The linearity study of Azelnidipine and Telmisartan was found in concentration range of 50µg-250µg and 15µg-55µg and correlation coefficient (r^2) was found to be 0.999 and 0.999, % recovery was found to be 98.56% and 99.96%, %RSD for repeatability was 1.2, % RSD for intermediate precision was 1.9. The precision study was precision, robustness and repeatability. LOD value was 3.72 and 0.0242 and LOQ value was 7.40 and 0.0202 respectively.*
Hence the suggested RP-HPLC can be used for routine analysis of Azelnidipine and Telmisartan in API and Pharmaceutical dosage form.

Date of Submission: 08-06-2023 Date of acceptance: 21-06-2023

I. INTRODUCTION:

HIGH PRESSURE LIQUID CHROMATOGRAPHY

High Performance Liquid Chromatography (HPLC) is a process of separating components in a liquid mixture. A liquid sample is injected into a stream of solvent (mobile phase) flowing through a column packed with a separation medium (stationary phase). Sample components separate from one another by a process of differential migration as they flow through the column.

II. MATERIALS AND METHOD:

Preparation of phosphate buffer:

3.4gm of potassium dihydrogen ortho phosphate is taken in 1000ml of hplc water pH was adjusted with 0.1M NAOH up to 3.0 final solution was filtered through 0.45 µ m Membrane filter and sonicate it for 10 min

TELMISARTAN AND AZELNIDIPINE :

Preparation of sample solution :

Accurately weigh and transfer the equivalent weight of 40 mg of Telmisartan and 8 mg of Azelnidipine Tablet powder into a 10 ml clean dry volumetric flask add about 7 mL of Diluent and sonicate to dissolve it completely and make volume up to the mark with the same solvent. (Stock solution)

Further pipette 0.75 ml of the above stock solutions into a 10ml volumetric flask and dilute up to the mark with diluent.

Preparation of standard solution :

Accurately weigh and transfer 40 mg of Telmisartan and 8 mg of Azelnidipine working standard into a 10 ml clean dry volumetric flask add about 7 mL of Diluent and sonicate to dissolve it completely and make volume up to the mark with the same solvent. (Stock solution)

RESEARCH ARTICLE

Chemometric Assisted UV-Spectrophotometric Quantification of Cefaclor in Suspension Dosage Form

Kirtimaya Mishra[1], Budumuru Padmasri[2], Swetha Vegesna[3], Asra Jabeen[4], Abhilash Dash[5], Satyam Kumar[1], Diptimayee Jena[1*]

[1*]School of Pharmacy, ARKA JAIN University, Jamshedpur, Jharkhand, India
[2]Department of Pharmaceutical Technology, Sri Venkateswara College of Pharmacy, Srikakulam, Andhra Pradesh, India
[3]School of Pharmaceutical Sciences and Technologies, JNTUK, Kakinada, Andhra Pradesh, India
[4]Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Telangana, India
[5]Gayatri Institute of Science and Technology, Gunupur, Rayagada, India

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ABSTRACT

In this current study, the quality by design (QbD) concept is used for creating and validating a unique, resilient, accurate, and reliable spectrophotometric approach to quantify cefaclor (CEF) in injections. Fractional factorial design (FFD) was a design implemented to screen the initial parameters. Moreover, the variables went through the central composite design (CCD) to assess the dependency and optimize the design. Several measures were analyzed statistically to determine the appropriateness of the data obtained from the experiments. At 265 nm, by the use of ethanol, cefaclor displays an absorption maximum. Variables like screening, slit-width, and sampling interval were recognized as critical methods and again, evaluation was done by a CCD. A good linearity was produced for cefaclor in the range of 2 to 12 µg/mL, with R2>0.9993. The process was determined for being perfect, having a good average percent recovery (greater than 100%). According to ICH guidelines, validation of the developed method was performed. By implementing QbD principles, the spectrophotometric was created and designed to integrate the quality into the method. The process was manifested for being flexible and appropriate for identifying CEF in pharmaceuticals.

Keywords: Cefaclor, Factor screening, Spectrophotometric technique, Validation.

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Source of support: Nil.

Conflict of interest: None

INTRODUCTION

The IUPAC name of cefaclor (CEF), (6R,7R)-7-[(2R)-2-amino-2-phenylacetyl]amino-3-chloro-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid (Figure 1) belongs to category of cephalosporin antibiotics.[1-3] It is being functionalized inhibiting bacterial growth. CEF and other antibiotics will not treat a cold, flu, or other viral infection.[4] Meningitis (infection of the membranes that surround the brain and spinal cord) and skin infections brought on by bacteria both are treated with CEF.[5-7]

CEF in suspension formulation and original samples are evaluated by implementing LC-MS, UV-visible spectroscopy, and HPLC methods.[8-11] Although the recorded method of UV spectrophotometry has some limitations such as the absence of Sandell's sensitivity, narrow linearity range, and inability to satisfy molar extinction coefficient (ε), etc. Hence, many efforts were performed to develop an advanced and unique method of UV spectroscopy to quantify CEF in suspension dosage form through QbD approaches.

The QbD is combined access, ensuring standard integration throughout the procedure to get the planned report. As per ICH-Q8-(R2), QbD is methodical access to the final product advancement that starts along with a predetermined purpose and prioritizes understanding the elements and procedure as well as process control, built on trustworthy scientific principles in addition to control of risks.[12] The USFDA established Pharmaceutical Current Good Manufacturing Practices (cGMPs) over 21st century in 2002, which led to the discovery of QbD.[13] Analytical Quality by Design (AQbD) contains six stages of comprehensive development of an analytical method with improved performance and strong resilience.[14]

*Author for Correspondence: diptijena72@gmail.com

RESEARCH ARTICLE

Chemometric Assisted UV-Spectrophotometric Quantification of Tigecycline in Parenteral Dosage Form

Kirtimaya Mishra[1*], A Dash[2], A Jabeen[3], S Vegesna[4], SK Sahoo[5], V Gupta[1], D Jena[1]

[1]School of Pharmacy, ARKA JAIN University, Jamshedpur, Jharkhand, India.
[2]Gayatri Institute of Science and Technology, Gunupur, Rayagada, India.
[3]Bharat Institue of Technology, Mangalpally, Ibrahimpatnam, Telangana, India.
[4]School of Pharmaceutical Sciences and Technologies, JNTUK, Kakinada, Andhra Pradesh, India.
[5]Jeypore College of Pharmacy, Rondapalli, Jeypore, Odisha, India.

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ABSTRACT

Relating to the current study, the quality by design (QbD) concept is used for creating and validating an unique, resilient, accurate, and reliable spectrophotometric approach to quantify Tigecycline (TIG) in injections. Fractional factorial design (FFD) was a design implemented to screen the initial parameters. Moreover, the variables went through the central composite design (CCD) to assess the dependency and optimize the design. Several measures were analyzed statistically to determine the appropriateness of the data obtained from the experiments. At 250 nm, by the use of ethanol, TIG displays an absorption maximum. Variables like screening, slit-width, and sampling interval were recognized as critical method and again, evaluation was done by a CCD. A good linearity was produced for TIG within a range of 2 to 12 µg/mL, with R2 less than 0.999. The process was determined to be perfect, having a good average percent recovery (greater than 100%). According to ICH guidelines, validation of the developed method was performed. By the implementation of QbD principles, spectrophotometric techniques were created and planned to, integrate the qualities into the methods. These processes were manifested for being flexible and pertinent for identifying TIG in pharmaceutical dose regimens.

Keywords: Tigecycline, Spectrophotometric, Quality by Design, Validation, Central Composite Design, Fractional Factorial Design.

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Source of support: Nil.

Conflict of interest: None

INTRODUCTION

The IUPAC name of TIG, (4S,4aS,5aR,12aR)-9-[[2-(tert-butylamino)acetyl]amino]-4,7- bis(dimethylamino)-1,10,11,12a-tetrahydroxy-3,12-dioxo-4a,5,5a,6-tetrahydro-4H-tetracene-2-carboxamide (Figure 1) is a polyketide antibiotic with a broad-spectrum produced by the actinobacteria species *Streptomyces*, similar to tetracycline.[1-3] The mechanism of action involves the reversible attachment with the bacterial ribosome containing 50-S ribosomal subunit, which inhibits the linking with incoming Aminoacyl t-RNA with the ribosomal acceptor site, resulting in a bacteriostatic effect. Moreover, it partially attaches with the bacterial ribosome containing 50S ribosomal subunit and can alter the cytoplasmic membrane, releasing intracellular components from bacterial cells.[4] It is employed for the management of intense infections affecting the body, such as skin infections, infections within the abdomen, and pneumonia caused by bacteria acquired in the community. Its mechanism of action involves eradicating the bacteria responsible for causing these ailments.[5-7].

TIG obtained as parenteral dosage forms along with original samples is evaluated by implementing LC-MS, UV-visible spectroscopy, HPLC methods.[8-11] Although, the recorded UV spectrophotometric method has some limitations such as absence of Sandell's sensitivity, narrow linearity range, and inability to satisfy molar extinction coefficient (ε) etc. Hence, many efforts were performed to develop an advanced and unique method of UV spectroscopy to quantify TIG in parenteral dosage form through QbD approaches.

QbD is combined access ensuring standard integration throughout the procedure to get the planned report. As per ICH-Q8-(R2), QbD is a methodical access to the final product advancement which starts along with a predetermined purpose

*Author for Correspondence: kirtimishra.pharma@gmail.com

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Diptimayee Jena
M. Pharm, Assistant Professor, School of Pharmacy, ARKA JAIN University, Jamshedpur, Jharkhand, India

D Prasanth
School of Pharmacy, Centurian University of Management and Technology, Balasore

Asra Jabeen
Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Telangana, India

Subhashree Sahoo
Vananchal College of Pharmacy, Jamshedpur, Jharkhand, India

Pratishya Bhatta
Siksha O Anusandhan University, Bhubaneshwar, Odisha, India

Aakansha Jeeya
School of Pharmacy, ARKA JAIN University, Jamshedpur, Jharkhand, India

Kirtimaya Mishra
School of Pharmacy, ARKA JAIN University, Jamshedpur, Jharkhand, India

Corresponding Author:
Diptimayee Jena
M. Pharm, Assistant Professor, School of Pharmacy, ARKA JAIN University, Jamshedpur, Jharkhand, India

An overview of *Prosopis Juliflora*'s pharmacologic aspects

Diptimayee Jena, D Prasanth, Asra Jabeen, Subhashree Sahoo, Pratishya Bhatta, Aakansha Jeeya and Kirtimaya Mishra

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Abstract
Throughout the globe, *Prosopis Juliflora* (*P. Juliflora*), sometimes known as Velayati babul or mesquite, is common, especially in dry and desert regions, is common, especially in dry and desert regions, a poisonous weed which is currently classified as invasive in various nations. The herb has anti-inflammatory properties, antibacterial, antifungal, anti-pustule, antimalarial, antitumor, antioxidant, larvicidal, anthelminthic, antimicrobial, and anti-rheumatic properties. Considering its many uses, it's a dangerous invading species that is carcinogenic in nature. Ingestion of pods of P. *Juliflora* causes a brain disorder known as "Cara-torta" in ruminant species such as goats, which impacts on the mitochondria of nerve cells.

Keywords: *Prosopis juliflora*, pharmacological activity, invasive weed, cytotoxic, cara-torta, ruminant animals

1. Introduction
Prosopis Juliflora (P. Juliflora), a species of the Leguminosae family and the Mimosoideae subfamily, contains 44 species worldwide, constitutes the most prevalent widespread plants in India throughout the world [1, 2]. A number of investigations have shown that *P. Juliflora* has medicinal properties, and herbal extracts from different plant parts having antibacterial, antioxidant, anthelmintic properties, antimalarial, larvicidal, antiemetic, insecticidal, antitumor, and cholinesterase enzyme hindering action [3]. According to ethnopharmacological investigations, while using *P. Juliflora* as a remedy for scorpion stings and snake bites, an astringent and in arthritic conditions [4]. The species is also high in plant-based constituents including flavonoids, saponins and alkaloids. The toxicological and agricultural actions of this plant indicate its importance as possibilities for the production of botanical medicines [5].

2. Pharmacological impact
There was evidence of antibacterial activity in *P. Juliflora* against Pseudomonas aeruginosa, E. coli, Klebsiella pneumoniae, Shigella sonnei, Staphylococcus aureus and other phytopathogenic organisms [6, 7]. Moreover, Juliflorine was found to have immunomodulatory effect when tested employing Freund's complete adjuvant (FCA) containing Listeria hemolysin (antigen) in rabbits and delivered through the muscle in various concentrations [8]. It has been established that the acetylcholinesterase shows inhibitory effect of *P. Juliflora*from juliflorine alkaloid [9]. Pollen from species of juliflora, good sources of flavonoids, the natural antioxidants [10]. *In vitro* antiplasmodial efficacy of various south Indian plants used as medicine against Plasmodium falciparum was examined in ethanolic extracts, and bark, leaf, and flower extracts of *P. Juliflora* revealed IC50 values of over one hundred g/ml [11]. It is also effective in treating inflammatory illnesses, cancer, and diabetes due to its higher antioxidant activity.

2.1. Antibacterial activity
Using the method of disc diffusion, the large amount of alkaloids present in *P. Juliflora*'s various parts were examined for their potential to have antibiotic impacts on both gram-negative and gram-positive bacterial strains.

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Using Green Chemistry Concepts Analytical Methods for Meropenem Quality by Design Point of View

Manish Kumar Gautam[1], Diptimayee Jena[2], Asra Jabeen[3], Re Mishra[2*]

[1]Assam down town University, Panikhaiti, Guwahati, Assam
[2,2*]ARKA JAIN University, Jamshedpur, Jharkhand
[3]Bharat Institute of Technology, Mangalpally, Ibrahimpatnam, Te
[4]Bengal College of Pharmaceutical Technology, Dubrajpur, West
[5]Sri Venkateswara College of Pharmacy, Etcherla, Srikakulam

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KEYWORDS

Green Chemistry, Validation, Eco-friendly, Spectrophot ometric, Meropenem, Quality by design.

ABSTRACT:

Introduction: Green chemistry, typically refer of inquiry situated within the context of chem impacts related to chemical processes and prod

Objectives: The objective is to promote the decreasing or completely removing the utilisati materials, and saving energy and resources. between 02-12µg/mL for Meropenem (MPM).

Methods: The method of solving concurrent medication. The recovery percentage from the with a standard deviation (SD) of ±0.085, with study ranged from 99.6-100.66% on average. demonstrated a value that was much below 2 degree of precision in the proposed methodolo

Results: The findings from statistical analyse suggested procedures are suitable for implemer

Conclusions: The present methodology is d parenteral dosage formulations, since it effecti

TITLE:

EVALUATION OF ANTIBACTERIAL AND ANTIFUNGAL ACTIVITY OF *RUELLIA SIMPLEX* LEAVES

AUTHOR NAMES:

1. **CORRESPONDING AUTHOR:**

   DR ASRA JABEEN, ASSOCIATE PROFESSOR, DEPARTMENT OF PHARMACOGNOSY.

   BHARAT INSTITUTE OF TECHNOLOGY, MANGALPALLY (V), IBRAHIMPATNAM (M), RANGAREDDY (Dist), TELANGANA, INDIA-501510.

   CONTACT NUMBER: 9700889601.

2. **M.JAYASRI,** B.PHARM IV YEAR STUDENT. BHARAT INSTITUTE OF TECHNOLOGY, MANGALPALLY (V), IBRAHIMPATNAM (M), RANGAREDDY (Dist), TELANGANA, INDIA-501510.
3. **N.KEERTHI,** B.PHARM IV YEAR STUDENT. BHARAT INSTITUTE OF TECHNOLOGY, MANGALPALLY (V), IBRAHIMPATNAM (M), RANGAREDDY (Dist), TELANGANA, INDIA-501510.
4. **N.TEJACHARY,** B.PHARM IV YEAR STUDENT. BHARAT INSTITUTE OF TECHNOLOGY, MANGALPALLY (V), IBRAHIMPATNAM (M), RANGAREDDY (Dist), TELANGANA, INDIA-501510.

Abstract

Plants have been used for medicinal purposes for thousands of years, and their popularity continues due to their effectiveness, easy availability, low cost, and lack of serious toxic effects. Microorganisms such as bacteria, fungi have also been studied as sources of therapeutics. However, there is a need for further research to fully understand the mechanism of action and potential side effects of these natural remedies. *Ruellia simplex* is a medicinal plant whose leaves are used to treat antinociceptive, anti-inflammatory etc. So, the current study is to study about the Antifungal and Antibacterial activity of leaf extract of *Ruellia simplex*.

Keywords

Ruellia simplex, ethanol extract, antibacterial, antifungal, zone of inhibition.

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Redox-based Spectrophotometric Method for the Determination of Ganciclovir in Bulk and Pharmaceutical Dosage Form

Naraparaju Swathi [a*], Asra Jabeen [b], Barla Karuna Devi [a] and Anumolu Durga Pani Kumar [b]

[a] Department of Pharmaceutical Chemistry, Gokaraju Rangaraju College of Pharmacy, Hyderabad-500 090, Telangana, India.
[b] Department of Pharmaceutical Analysis, Gokaraju Rangaraju College of Pharmacy, Hyderabad-500 090, Telangana, India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Original Research Article

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ABSTRACT

Background: Ganciclovir is a synthetic analogue of 2'-deoxy- guanosine, used in the treatment of cytomegalovirus infection. The aim of the present investigation was to develop and validate a simple, rapid and sensitive redox-based spectrophotometric method for the quantification of Ganciclovir in pure and in pharmaceutical dosage form.
Methods: It was developed by using 0.1 M HCl as solvent and mixture of ferric chloride and 1,10-phenanthroline as chromogenic reagent. The developed method was optimized for various method conditions and then statistically validated.

**Corresponding author: E-mail: swathi8006@grcp.ac.in;*