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JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

The Role of Innovative Software Solutions in the Pharmaceutical Industry: A Review

Qumre Alam[1], Akash Johri[2], Deepika Chauhan[3], Nishant Chechi[4], Yuvraj Singh[5], Lalit Giri[6]
1,2Associate Professor, Innovative College of Pharmacy
3, Assistant professor, Innovative College of Pharmacy
4,5,6 Research scholar, Innovative College of Pharmacy

Abstract: The pharmaceutical industry, a pivotal player in global healthcare, is at the forefront of a technological revolution fueled by innovative software solutions. This extensive review meticulously dissects the nuanced impact of cutting-edge technologies, such as artificial intelligence, big data analytics, and advanced algorithms, on critical domains within the pharmaceutical sector. From the intricate dance of software in drug discovery to its transformative role in manufacturing optimization, regulatory compliance, clinical trials, and patient outcomes, this article provides an exhaustive examination of the pivotal role of innovative software solutions.

Keywords: Pharmaceutical Industry, Innovative Software Solutions, Role of Software in Pharma, Digital Transformation, Drug Discovery, Clinical Trials.

1. Introduction

The pharmaceutical landscape, characterized by its intersection of scientific innovation and stringent regulations, is undergoing a profound transformation with the integration of innovative software solutions (1, 2). As we stand at the convergence of biology and technology, the significance of these advancements extends far beyond mere operational enhancements. This introduction sets the stage for a comprehensive exploration of how software solutions are reshaping the pharmaceutical industry, addressing the pivotal role they play in driving efficiency, precision, and patient-centricity.

2. Drug Discovery and Development

2.1 Virtual Screening and Molecular Modeling: In the realm of drug discovery, the integration of artificial intelligence (AI) and molecular modeling has revolutionized traditional approaches (3, 4). Advanced algorithms analyze extensive molecular datasets, expediting the identification of potential drug candidates and offering unprecedented insights into molecular interactions.

2.2 Bioinformatics and Big Data Analytics: Bioinformatics and big data analytics have become indispensable in drug development (5, 6). Software solutions with machine learning capabilities unravel meaningful patterns from vast datasets, optimizing decision-making processes and expediting the drug development pipeline.

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VALIDATION OF PARACETAMOL IN QUALITY ASSURANCE AND QUALITY CONTROL

Mr. Akash Johri[1], Mr. Qumre Alam[2], Noorain Ansar[3], Prateek Sharma[4], Aditya Kushwaha[5]

1,2- Associate Professor, Innovative College of Pharmacy, Greater Noida

3,4,5-Research Scholar, Innovative College of Pharmacy, Greater Noida

ABSTRACT

For the measurement of paracetamol, Reverse Phase High Performance Liquid Chromatography (RP-HPLC) has produced a straightforward and repeatable technique. At a UV detection wavelength of 207 nm, paracetamol was separated on a C18 column [4.6 x 250 mm, particle size 5 µm] using an ortho phosphoric acid buffer with a pH of 3.5. Acetonitrile (ACN) and water wereeluted isocratically at several ratios and flow rates, until a final ratio of 25:75 v/v ACN and waterwas established at a flow rate of 1 mL/min. After checking for linearity, accuracy, precision, inter-day and intra-day fluctuation, and other statistical validity factors, it was discovered that the limitsof detection and quantification for paracetamol concentrations were 120 ng/mL and 360 ng/mL, respectively. The paracetamol recovery and assay trials showed percentages of 99 to 102%, suggesting that the suggested approach may be used for paracetamol quality control analysis. Thechemically 4-hydroxy acetanilide derivative paracetamol has analgesic, antipyretic, and mild anti- inflammatory properties1,2. It is also used to treat more severe pain in patients with advanced malignancies.3.In writing, a number of analytical methods including as colorimetric(4)techniques such as spectroflurimetric5 havebeen documented on the assay of paracetamol in relation to othermedications. Acetonitrile (ACN) was used as the solvent in the unique HPLC technique that was created in this work; it is an easy approach to examine, detect, and extract the paracetamol from the combination of substances and use it for ongoing quality evaluation in the scientific and pharmaceutical industries labs.

KEYWORDS: Simultaneous equation technique, UV visible spectrophotometer, RP-HPLC, andParacetamol Method development, Validation, Limits of detection and quantitation.

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EXPLORING THE MULTIFACETED MEDICINAL PROPERTIES OF CRINUM LATIFOLIUM

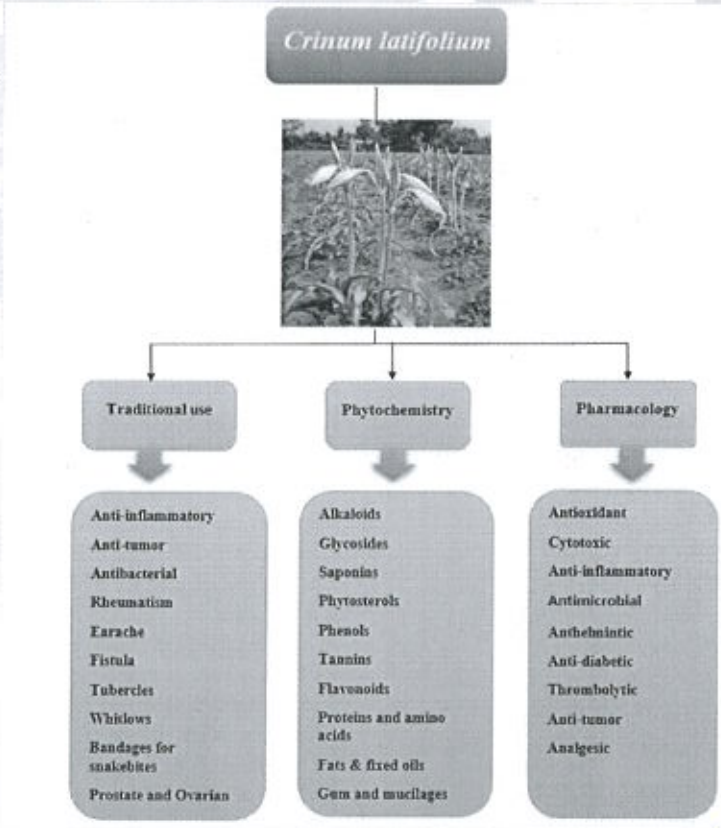
Omer Alam[1],Mr. Qumre Alam[2], Mrs. Anjali Singh[3], Sidra Kausher[4]

[1&4]M.Pharm scholar, Innovative College of Pharmacy, Greater Noida,

[3&4]Associate Professor, Innovative College of Pharmacy, Greater Noida

Abstract: Crinum latifolium Linn., a member of the Amaryllidaceae family, is widely distributed throughout the world's tropics, subtropics, and warm temperate regions. The plant's varied components contain bioactive substances that are used to treat a variety of ailments, including rheumatism, fistula, tumors, earaches, rubefacient, tubercle, and whitlow. The page describes the plant's numerous chemical ingredients, which include alkaloids, flavonoids, terpenoids, and phenolic chemicals. The review also dives into the multiple pharmacological actions linked with Crinum latifolium, including anticancer, anti-inflammatory, antioxidant, and anti-diabetic properties.

Keywords: Crinum latifolium, Sudarshan, Pharmacological activities, Phytochemistry, Pharmacognosy



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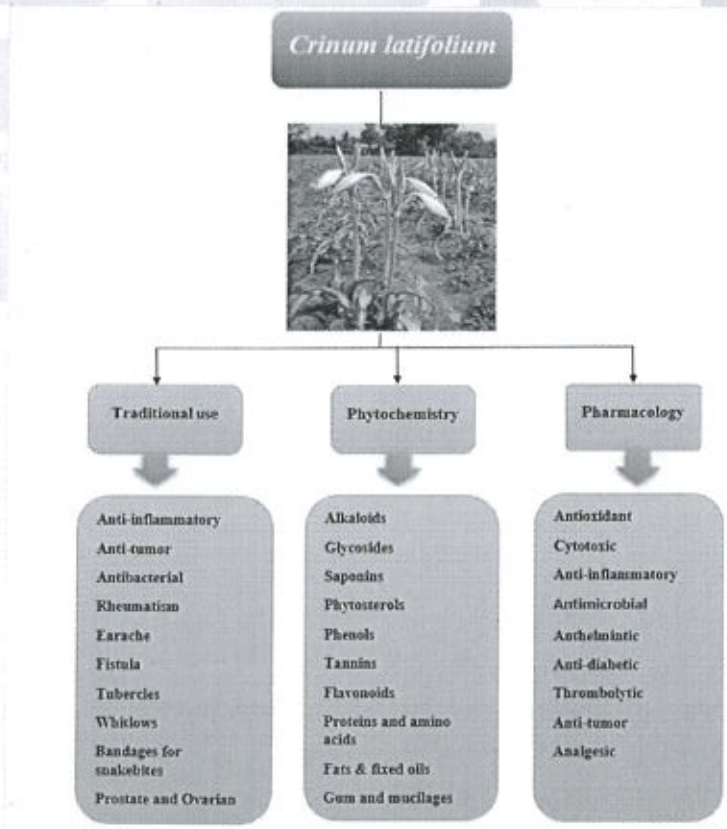

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Formulation Development And Characterization Of Gastroretentive Floating Tablets Of Ranitidine Hydrochloride

Priyanka Chauhan[1], Mrs. Roshan Zehra[2], Mrs Deepika Chauhan[3]

[1]M. Pharma Scholar, Innovative College of Pharmacy, Greater Noida

[2]Associate Professor, Innovative College of Pharmacy, Greater Noida

[3]Assistant Professor, Innovative College of Pharmacy, Greater Noida

Abstract: Gastroretentive dosage forms have potential for use as controlled-release drug delivery systems. Drugs with narrow absorption window and has highest solubility in gastric region are feasible for designing the floating drug delivery system. Ranitidine hydrochloride is histamine H2-receptor foe. It is broadly recommended in component duodenal ulcers, gastric ulcers, Zollinger-Ellison issue, gastroesophageal reflux sickness, and erosive esophagitis. This study portrays preparation and appraisal of skimming matrix tablet of ranitidine in perspective of low thickness copolymer that holds estimations outline in stomach. Provide extended gastric living game plan time achieving drawn out pharmaceutical movement in gastrointestinal tract using chitosan and carbopol 940 as bolster release polymers. In overnight fasting condition the tablets emptied the stomach after 2 hrs of administration. This might be due to rapid gastric motility and insufficient resting volume of the stomach for the tablets to float in the stomach. But in fed condition, the same tablets showed a gastric residence time of more than 4.5 hrs. Hence the prepared tablet enhances the bioavailability making it as promising drug delivery system.

Keywords: Chitosan and Carbopol 940, Floating Drug Delivery System, Gastric, Ranitidine Hydrochloride, Stomach.

INTRODUCTION

Gastroretentive dosage forms have potential for use as controlled-release drug delivery systems. The use of floating dosage forms (FDFs) is one method to achieve prolonged gastric residence times (GRTs), providing opportunity for both local and systemic drug action, they can be retained in the stomach and assist in improving the oral sustained delivery of drugs that have an absorption window in a particular region of the gastrointestinal tract. These systems help in continuously releasing the drug before it reaches the absorption window, thus ensuring optimal bioavailability[1][2].

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Exploring The Synergetic Potential Of Metformin With Pectin For Formulation Of Gummies To Treat Gestational Diabetes: A Review Based On Current Evidence And Future Directions

-Shivangi, Dr. Garima Gupta, Ms. Saloni Manglik

Abstract:

Metformin is a widely used type-2 Antidiabetic drug that also helps in reducing the occurrence and risk of various Metabolic Disorders. Pectin is a Plant-based soluble dietary fiber. Both Pectin and Metformin have a role in glycemic control and their potential as an adjunct therapy in Diabetes management. This review includes the existing literature on combined use of Metformin and pectin, their synergetic effects and therapeutic implications, Potential benefits and challenges, Using Metformin and Pectin for Moms-to-Be, Impact of High-Temperature Exposure on Metformin-Pectin Interaction, Anti-Diabetic Flavors with Pectin, Future direction and Conclusion.

Keywords: Metformin, Pectin, Heat, Flavor.

Introduction:

Gestational Diabetes Mellitus causes risk to both mother and infant, highlighting the urgent need for effective therapeutic intervention. Metformin is a First-line pharmacological agent that is used in the management of Type-2 Diabetes mellitus and GDM due to its favorable safety profile and potential benefits for maternal and neonatal outcomes. On the Other hand, Pectin which is a soluble dietary fiber sourced from Plants, has gained attention due to its diverse health-promoting properties. Combining metformin with pectin may offer synergistic effects, enhancing the therapeutic efficacy while minimizing adverse effects associated with metformin monotherapy.

Metformin-Pectin Combination in Gestational Diabetes-

Gestational diabetes presents unique challenges in its management, necessitating careful consideration of treatment options to optimize maternal and fetal health outcomes. Metformin, through its mechanisms of action involving hepatic glucose production inhibition and improved insulin sensitivity, has demonstrated efficacy in controlling blood glucose levels during pregnancy. Pectin complements these actions by attenuating postprandial glycemic excursions, thereby contributing to overall glycemic control. Several studies have explored the synergistic potential of metformin with pectin in GDM management, reporting improved glycemic parameters and reduced insulin requirements compared to metformin alone. Furthermore, pectin's ability to modulate gut microbiota composition may confer additional metabolic benefits, making it a valuable adjunctive therapy in the management of GDM.

Mechanism of Action-

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Food as a source of Nutraceuticals: A Review

Ms. Saloni Manglik[1], Mrs. Sandhya Sharma[2], Devang Mani Tripathi[3], Mohit Pathak[4], Tiksha[5]

1,2- Assistant Professor, Innovative College of Pharmacy, Greater Noida

3,4,5-Research Scholar, Innovative College of Pharmacy, Greater Noida

Abstract

Nutraceuticals are bioactive substances that are used to treat and prevent a wide range of diseases as well as to improve effects that support health. They play a major role in managing and averting chronic illnesses such as diabetes, cancer, heart disease, lung disease, gastrointestinal, and neurological conditions. As a result, the nutraceutical market is growing quickly. Depending on the health concerns of the patient, a licensed healthcare provider may prescribe nutraceuticals, or they may be used over-the-counter. Nutraceuticals are generally beneficial to health and have many benefits, such as anti-inflammatory, anti-cancer, and antioxidant properties. The present article focuses on the food source of nutrceuticals and the need for consuming appropriate diets.

Keywords: Nutraceuticals, Phytochemicals, Health benefits, Therapeutics, Disease, Infection.

Introduction

The industrial revolution has resulted in a multitude of environmental issues, including pollution of air and water, soil and food contamination due to the widespread use of various chemicals, heavy metals, electromagnetic waves, and other potentially harmful man-made items. These issues have led to an increase in the incidence of diabetes, obesity, various cancers and vascular diseases, physiological issues, as well as other degenerative diseases[1]. Since the cost of medical care has skyrocketed due to the increased demand for health care, people have attempted to improve their quality of life by consuming more fruits, vegetables, and other plant-based foods, taking dietary supplements or nutraceuticals, or substituting nutritional therapy or radiotherapy for chemotherapy or radiation therapy[2] .

One of the most significant sources of food and medication for humans is the plant kingdom. The ideas around food, health, and agriculture have undergone a radical transformation as a result of the rapidly expanding body of knowledge in the fields of plant biotechnology,

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OTC Drugs: A Survey on Consumer Awareness

Devang Mani Tripathi[1], Mohit Pathak[2], Puja Thakur[3], Dr. Amarjeet Singh[4] , Ms. Anjali Singh[5]

B.Pharm student[1,2,3], Professor[4], Associate Professor[5]

Innovative College of Pharmacy, Greater Noida, Uttar Pradesh-201306, India[1,2,3,4,5]

Abstract

The purpose of the survey was to assess how often consumers used over-the-counter (OTC) medications and to ascertain their awareness of the risks associated with doing so. We collected feedback on a variety of topics related to over-the-counter drug use. Out of 29 respondents, 72.4% used over-the-counter medications, usually bought on their own. The majority of them began taking their own medications two days after becoming ill. Frequent complaints of headache, cold, fever, generalized weakness, acidity, dysmenorrhea, and disturbed sleep were among the illnesses that led to self-medication. The majority of them 51.7%, 34.5%, by describing the symptom, and 15%, by displaying an old prescription, were able to obtain OTC medications. 72.4% of individuals report sharing over-the-counter medications with friends and family. Adolescents and the elderly exhibited the highest OTC usage. Self-medication was frequently justified by the time commitment required for consultations, the cost of those consultations, and the frequency of those visits. Analysis revealed that not a single middle-aged person knew the name of the medication, its dosage, how often it should be taken, or its side effects.

Keywords: Over the counter (OTC), Self medication

Introduction

The medications that can be bought over-the-counter (OTC) or without a prescription are known as non-prescriptive medications. Right now, the US is the only place where more than 300,000 different OTC medications are sold.[1] With the introduction of new formulations and OTC switches from prescription, the list of over-the-counter medications in today's society is getting out of control.[2] Generally speaking, over-the-counter medications must be proven to be reasonably safe and well tolerated, and they must be used primarily to treat conditions for which a doctor is not directly supervising the patient.

The use of over-the-counter medications is unregulated in India. Chaos also reigns when OTC drug use is not strategically considered, and there are many causes for these concerning circumstances. Maybe a person's busy schedule and low socioeconomic standing lead to their dependence on over-the-counter medications. It was found in India (1995) that individuals with literacy were 76% more likely than those without to self-medicate.[3]

Research clearly shows that taking care of oneself raises health-related awareness and lowers health-related costs.[4] OTC medications are not safe or effective, despite popular belief to the contrary. They may have multiple negative effects in addition to masking the underlying disease. Thus, the study was conducted to examine the population at risk, the frequency of self-medication, the amount of over-the-counter use, and the participants' awareness of the potential side effects.[5]

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Innovative College of Pharmacy, Greater Noida, Uttar Pradesh-201306, India[1,2,3,4,5]

Abstract

The purpose of the survey was to assess how often consumers used over-the-counter (OTC) medications and to ascertain their awareness of the risks associated with doing so. We collected feedback on a variety of topics related to over-the-counter drug use. Out of 29 respondents, 72.4% used over-the-counter medications, usually bought on their own. The majority of them began taking their own medications two days after becoming ill. Frequent complaints of headache, cold, fever, generalized weakness, acidity, dysmenorrhea, and disturbed sleep were among the illnesses that led to self-medication. The majority of them 51.7%, 34.5%, by describing the symptom, and 15%, by displaying an old prescription, were able to obtain OTC medications. 72.4% of individuals report sharing over-the-counter medications with friends and family. Adolescents and the elderly exhibited the highest OTC usage. Self-medication was frequently justified by the time commitment required for consultations, the cost of those consultations, and the frequency of those visits. Analysis revealed that not a single middle-aged person knew the name of the medication, its dosage, how often it should be taken, or its side effects.

Keywords: Over the counter (OTC), Self medication

Introduction

The medications that can be bought over-the-counter (OTC) or without a prescription are known as non-prescriptive medications. Right now, the US is the only place where more than 300,000 different OTC medications are sold.[1] With the introduction of new formulations and OTC switches from prescription, the list of over-the-counter medications in today's society is getting out of control.[2] Generally speaking, over-the-counter medications must be proven to be reasonably safe and well tolerated, and they must be used primarily to treat conditions for which a doctor is not directly supervising the patient.

The use of over-the-counter medications is unregulated in India. Chaos also reigns when OTC drug use is not strategically considered, and there are many causes for these concerning circumstances. Maybe a person's busy schedule and low socioeconomic standing lead to their dependence on over-the-counter medications. It was found in India (1995) that individuals with literacy were 76% more likely than those without to self-medicate.[3]

Research clearly shows that taking care of oneself raises health-related awareness and lowers health-related costs.[4] OTC medications are not safe or effective, despite popular belief to the contrary. They may have multiple negative effects in addition to masking the underlying disease. Thus, the study was conducted to examine the population at risk, the frequency of self-medication, the amount of over-the-counter use, and the participants' awareness of the potential side effects.[5]

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A comprehensive review on *curcuma Longa*

Deepika Chauhan[1], Renu Tiwari[2] ,Aman Tripathi[3], Sumit Kumar[4], Vivek kumar[5]
1,2 Assistant professor of Innovative college of pharmacy, Greater Noida
3,4,5 Scholar of Innovative college of pharmacy, Greater Noida

ABSTRACT

Turmeric, a widely used spice globally, exhibits anti-inflammatory, antimicrobial, antioxidant, andanti-cancer properties. Research indicates that curcumin, an active compound in turmeric, holds promise for treating various skin conditions. A systematic review delved into clinical studies fromPubMed and Embase, focusing on the impact of turmeric and curcumin-containing products on skin health. Among 234 articles, 18 met the criteria, assessing ingestion, topical application, or both. These studies covered conditions such as acne, alopecia, atopic dermatitis, photoaging, oral lichen planus, pruritus, psoriasis, radiodermatitis, and vitiligo. Ten studies reported significant improvements in skin conditions with turmeric/curcumin treatments compared to controls. This early evidence suggests potential therapeutic benefits from oral and topical turmeric/curcumin products. However, the existing studies are limited, highlighting the need for further research to comprehensively evaluate their effectiveness and underlying mechanism.[1]

KEYWORDS - Key terms: skin conditions; curcumin; turmeric; review article; acne; eczema; atopic dermatitis; psoriasis; vitiligo; itching.

INTRODUCTION

Turmeric, renowned both in scientific circles and culinary realms, is a rhizomatous herbaceous perennial plant (Curcuma longa) belonging to the ginger family.[2]

While its medicinal properties, predominantly sourced from curcumin, have been acknowledged for millennia, recent investigations have focused on unraveling its precise mechanisms of action and identifying bioactive constituents. Curcumin, also known as diferuloylmethane, serves as theprimary natural polyphenol found in Curcuma longa's rhizome and other Curcuma species. Across Asian cultures, Curcuma longa has been a traditional medicinal herb, valued for its antioxidant, anti-inflammatory, antimicrobial, and anticancer attributes.[3]

This polyphenolic compound, curcumin, exhibits a multifaceted approach by targeting various signaling

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Aromatherapy: A Review

Mrs. Sandhya Sharma[1], Saloni Manglik[2], Suraj Kumar[3], Anupam priya[4], Puja Thakur[5]
1,2-Assistant Professor Professor,Innovative College of Pharmacy, Greater Noida.
3,4,5- Research scholar, Innovative College of Pharmacy, Greater Noida.

ABSTRACT

Aromatherapy is one of the most actively growing forms of alternative medicines that use essential oils and aromatic plant compounds combining massage together with counselling and nice odour. Aromatherapy using essential oils can help to relieve stress, insomnia and anxiety symptoms, which may help improve sleep indirectly. A study found aromatherapy improved both depression and anxiety in a group of post - partum women. essential oil is a very popular and a very effective medicine in its own right and as an additive over the counter as well as it is used in cosmetic products as well. The smell of essential oil transmit signal to brain, as it can interfere with the capable of releasing neurotransmitters stimulus and helpful to generate analgesic effect and it can influence our physical, emotional, mental health, sense of wellness and relaxation. Aromatherapy can do more than soothe your mind.

Before using Aromatherapy one should follow the safety guidelines strictly this will help to reduce the adverse effects and helpful for better outcomes. Health professionals should have a basic knowledge about the constituents and properties present in essential oils of aromatherapy.

KEYWORDS: Aromatherapy, Essential oils, Alternative medicines, Insomnia.

INTRODUCTION

Aromatherapy is based on the use of aromatic materials, including essential oils and other aroma compounds, with claims for improving psychological well- being. It is offered as a complementary therapy or as a form of alternative medicine. Fragrances used in aromatherapy are not approved as prescription drugs in the United States.

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MIGRAINE A COMPREHENSIVE OF DIAGNOSIS TREATMENT & IT'S IMPACT

Qumre Alam[1]*, Akash Johri[2], Noorain Ansari[3], Suraj Kumar[4] and Aditya Kushwaha[5]

[1,2]Associate Professor, [3,4,5]B. Pharm,

4th Year Student, Innovative College of Pharmacy, Greater Noida, Uttar Pradesh- 201310.

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***Corresponding Author**
Qumre Alam
Associate Professor, 4th Year Student, Innovative College of Pharmacy, Greater Noida, Uttar Pradesh- 201310.

ABSTRACT

Objective: This study's goal was to evaluate the general public's awareness and knowledge of migraines. The goals were to ascertain the participant's awareness of typical migraine triggers, gauge their level of understanding of how migraines affect a person's day- to-day activities, and assess their familiarity with common migraine symptoms. **Methods:** A representative sample of the general public participated in a cross-sectional survey. The survey form had open-ended and multiple-choice questions about migraines. Participants were asked about the common symptoms, causes, available treatments, and impact of migraines on day-to-day functioning. **Results:** The study's findings, which comprised 75–100 participants, demonstrated that the general public's understanding and awareness of migraines varies. Ninety percent of subjects correctly identified severe headache as a common symptom; knowledge of other symptoms, such as aura, sensitivity to light and sound, and nausea, varied from forty to sixty percent. Stress was the most common trigger mentioned by participants (80%), followed by sunlight (56%), weather variations (40%), and specific items like cheese or chocolate (30%). Over-the-counter (OTC) pain medications were found to be the most popular route of treatment (70%), followed by prescription drugs (43%). Merely 17% of the subjects were aware of non- pharmacological interventions such as acupuncture or alterations to lifestyle About 60% of migraine sufferers said their condition can make it difficult for them to work or school, and 32% said it has an impact on their relationships and social lives.

KEYWORDS: Acute attacks, Migraines, Neurological conditions, Preventive treatment,

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Cosmeceuticals: New Medicine for Beauty

Mrs. Sandhya Sharma[1], Saloni Manglik[2] ,Md Danish Khan[3], Md Uzair[4], Wakar Alam[5]

1,2-Assistant Professor Professor,Innovative College of Pharmacy, Greater Noida, 3,4,5- Research scholar, Innovative College of Pharmacy, Greater Noida,

Abstract:-
Cosmeceuticals is a new category of products placed between cosmetics and pharmaceuticals that are used for the enhancement of both the health and beauty of skin. Cosmeceuticals means combination of cosmetics and pharmaceuticals. Cosmeceuticals are cosmetic products with biologically active ingredients purporting to have medical or drug like benefits. Cosmeceuticals are used to improve and nourish the skin appearance and known to treat different dermatologic conditions. Like cosmetics, cosmeceuticals are also applied topically having ingredients that influence the skin's biological function.
Cosmeceuticals are meant to improve appearance by delivering nutrients necessary for healthy skin. Cosmeceuticals usually claim to reduce wrinkles and to improve tone, texture and radianceof the skin.

KEYWORDS: Sunscreen, Peptides, Boswellic Acid, Antioxidant, Bacopeptides

Introduction:-

Cosmeceuticals affects the biological functioning of the skin (medicinal or drug like benefits) depending upon the ingredients present in them. Cosmeceuticals increases the collagen growth in the skin and reduces the harmful effects of free radicals thus maintain thestructure of keratin in good condition and making the skin healthier Cosmetics include skincare creams, lotions, powders, perfumes, lipsticks, fingernail and toe nail polish, eye and facial makeup. Towelettes, permanent waves, colored contact lenses hair colors, hair sprays and gels, deodorants, hand sanitizer, baby products, bath oils, bubble, butters and many other types of products. A subset of cosmetics is called "make-up" which refers mainly to the colored products use to change the user's appearance. (1)

Cosmeceuticals is the mixture of cosmetics and pharmaceuticals. The term cosmeceuticals refer to the substances that exerted both cosmetic and therapeutic benefits. Cosmeceuticals are cosmetic products with biologically active ingredients which have medical or drug-like benefits.(2)

Cosmeceuticals are formulated from a multitude of ingredients, the main categories of which are discussed in this article. It is important that physicians recognize these agents and understand their benefits, limitations, and potential adverse effects.

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Management of Rheumatoid Arthritis

Mr. Akash Johri[1], Mr. Qumre Alam[2], Gaurav Kumar[3], Aman Khan[4], Manish Sharma[5]
1- Research Scholar, Apex University, Jaipur
2- Associate Professor, Innovative College of Pharmacy, Greater Noida
3,4,5-Research Scholar, Innovative College of Pharmacy, Greater Noida

ABSTRACT

The primary characteristic of rheumatoid arthritis, an inflammatory autoimmune illness, is synovitis. Extra articular organ involvement, interstitial pneumonia, and clinical symptoms such as pain, edema, stiffness in many joints, fever, and malaise are also present. Joint destruction follows in the early stages with rapid advancement. In addition to the appearance of persistent physical impairment, deformed joints are noted. Early sickness diagnosis and treatment are so essential. In palliative care, glucocorticoids and anti-inflammatory pharmaceuticals were employed; however, disease-modifying anti rheumatic drugs (DMARDs) are currently used to control the disease's progression and decrease immunological abnormalities.

DMARDs are classified into multiple groups, such as targeted synthetic DMARDs, conventional synthetic DMARDs, and biologic DMARDs. Now, when these drugs are used as prescribed, every patient's therapeutic objective might be remission. By maintaining remission, these drugs have also been shown to prevent joint deterioration and physical dysfunction over an extended period of time. Pathological mechanism-based treatment methods are currently being employed to treat a variety of autoimmune inflammatory illnesses, thanks to the advent of molecularly targeted medicines. Future medical advancements are expected to bring in precision medicine, therapeutic techniques aimed at medication holidays or cures, and safer and more effective treatments.

KEYWORDS: DMARD, biological, diagnosis, treatment, and rheumatoid arthritis.

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TRANSFORMING PHARMACEUTICAL MARKETING FOR THE DIGITAL ERA-A REVIEW

Qumre Alam[1]*, Amarjeet Singh[2], Aman Kha[3], Manish Sharma[4] and Lalit Giri[5]

[1]Associate Professor, [2]Professor & Principal, [3,4,5]B. Pharm,

4th Year Students, Innovative College of Pharmacy, Greater Noida, Uttar Pradesh- 201310.

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***Corresponding Author**
Prof. Qumre Alam
Associate Professor, 4th Year Student, Innovative College of Pharmacy, Greater Noida, Uttar Pradesh- 201310.

ABSTRACT

The rapid evolution of digital technologies has significantly impacted various industries, including pharmaceuticals, necessitating a transformation in marketing strategies. This review explores the shift from traditional pharmaceutical marketing to digital approaches, examining key drivers, challenges, and outcomes associated with this transition. It highlights the integration of digital tools such as social media, mobile applications, big data analytics, and artificial intelligence in creating more personalized and efficient marketing campaigns. The paper also addresses regulatory and ethical considerations, emphasizing the need for compliance with evolving guidelines to ensure patient safety and data privacy. Through a comprehensive analysis of current trends and case studies, the review underscores the potential benefits of digital marketing in enhancing engagement with healthcare professionals and patients, improving brand visibility, and ultimately driving better health outcomes. This transformation is essential for pharmaceutical companies to remain competitive and responsive to the dynamic demands of the digital era.

KEYWORDS: Digital transformation, Pharmaceutical marketing, Social media, Big data, artificial intelligence, Regulatory compliance, Patient engagement.

INTRODUCTION

The pharmaceutical industry has long been a cornerstone of modern healthcare, driving groundbreaking innovations and developing life-saving treatments that have transformed millions of lives. However, as the digital landscape continues to evolve at an unprecedented

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HERBAL NANOEMULGEL: A PROMISING APPROACH FOR PSORIASIS MANAGEMENT - A REVIEW

Sandhya Sharma*[1], Nayyar Parvez[2] and Amarjeet Singh[3]

[1]Research Scholar, Sharda University, Greater Noida.

[2]Professor & H.O.D., Sharda University, Greater Noida.

[3]Principal, Innovative College of Pharmacy, Greater Noida.

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***Corresponding Author**
Sandhya Sharma
Research Scholar, Sharda University, Greater Noida.

ABSTRACT

Psoriasis is a skin autoimmune disease characterised by inflammation and proliferation. T-cell activation is the mechanism behind psoriasis, which is characterised by unique, peach-pink or dull-red, stiffened patches with silvery scales that cause recognisable skin lesions. In addition, it causes abnormal keratinization, and infiltration of inflammatory cells into the epidermis. The autoimmune disease psoriasis is a chronic, inflammatory condition that affects 2-3% of the global population. Topical treatment is the first line of defence against psoriasis. Since patients are less likely to adhere to long-term therapy while using the present formulation (ointment), which is greasy and irritates skin, there is a need for a more efficient way to distribute medications. The nanosized structure of nanoemulsion allows for more penetration and retention into the skin, which is beneficial in psoriasis because psoriatic skin is rough and covered in plaques. It can easily be turned into a gel, which prolongs drug administration, boosts patient compliance because it's non-greasy and non-sticky, and enhances skin hydration and medicine distribution into the skin. Herbal nanomedicines for psoriasis are utilised to deliver phytoconstituents with a reduced toxicity profile and an improved therapeutic profile. The antipsoriatic properties of phytoconstituents loaded nanomedicines have demonstrated great therapeutic potential in the treatment of psoriasis in recent years. The intention of the study is to review herbal nanomedicines with better efficacy for the management of psoriasis.

KEYWORDS: Topical route, Herbal Drug, nano-emulgel, lipophillic drugs, bioavailability,

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ABSTRACT

Psoriasis is a skin autoimmune disease characterised by inflammation and proliferation. T-cell activation is the mechanism behind psoriasis, which is characterised by unique, peach-pink or dull-red, stiffened patches with silvery scales that cause recognisable skin lesions. In addition, it causes abnormal keratinization, and infiltration of inflammatory cells into the epidermis. The autoimmune disease psoriasis is a chronic, inflammatory condition that affects 2-3% of the global population. Topical treatment is the first line of defence against psoriasis. Since patients are less likely to adhere to long-term therapy while using the present formulation (ointment), which is greasy and irritates skin, there is a need for a more efficient way to distribute medications. The nanosized structure of nanoemulsion allows for more penetration and retention into the skin, which is beneficial in psoriasis because psoriatic skin is rough and covered in plaques. It can easily be turned into a gel, which prolongs drug administration, boosts patient compliance because it's non-greasy and non-sticky, and enhances skin hydration and medicine distribution into the skin. Herbal nanomedicines for psoriasis are utilised to deliver phytoconstituents with a reduced toxicity profile and an improved therapeutic profile. The antipsoriatic properties of phytoconstituents loaded nanomedicines have demonstrated great therapeutic potential in the treatment of psoriasis in recent years. The intention of the study is to review herbal nanomedicines with better efficacy for the management of psoriasis.

KEYWORDS: Topical route, Herbal Drug, nano-emulgel, lipophillic drugs, bioavailability,

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A DETAILED RESEARCH ARTICLE ON THE TRANSDERMAL PATCHES OF ATENOLOL USED FOR TREATING HYPERTENSION

Ankit Mourya*[1],Roshan Zehra*[2], Deepika Chauhan*[3]

1. **M. Pharma Scholar, Innovative College of Pharmacy Greater Noida**
2. **Associate Professor Innovative College of Pharmacy Greater Noida**
3. **Assistant Professor Innovative College of Pharmacy Greater Noida**

Abstract: Atenolol is a beta-adrenoreceptor antagonist, or a more commonly known as a beta blocker. Hypertension (higher BP) might be dealt with these drugs since of their capability to surge the width of blood veins thus allowing blood to flow under less pressure.Transdermal drug delivery systems are designed to deliver biologically active agents (drugs or cosmeceuticals) through the skin, principally by diffusion, for local internal if not systemic effects. Transdermal API delivery represents an alternative to other forms and routes of drug delivery.Development of chemical and physical enhancers of transdermal delivery systems (e.g., ethanol-enhancing skin flux, iontophoresis, microneedling, ultrasound, etc.) enables delivery of molecules with hydrophilic properties, such as peptides, proteins, and vaccines. A detailed review for the results which gives accurate and better for the treatment of hypertension using Atenolol as a curing agent is suggested further.

Keywords: Atenolol, Blood Pressure (BP), Hypertension (HTN),Moisture Content, Transdermal Drug Delivery System.

INTRODUCTION

Hypertension is an increasing worldwide issue that is related with various underlying pathophysiological circumstances. These comprise ventricular hypertrophy, along with endothelial dysfunction, as well as metabolic syndrome, with a procoagulant state, oxidative tension, irritation and a genetic predisposition to cardiovascular events. The higher prevalence of hypertension is a particular concern in developing countries as it contributes to the present and anticipated pandemic of cardiovascular disease (CVD). CVD was beforehand graded as another highest source-of-death group within South Africa, resultant in main cost inferences for developing nations.

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EXPLORING THE MULTIFACETED MEDICINAL PROPERTIES OF ZIZIPHUS MAURITIANA

Sidra Kasuher[1] , Dr. Amarjeet Singh[2] , Mrs. Deepika Chauhan[3], Omer Alam[4]

[1&4]M.Pharm scholar, Innovative College of Pharmacy, Greater Noida,

[2]Principal, Innovative College of Pharmacy, Greater Noida,

[3]Assistant Professor, Innovative College of Pharmacy, Greater Noida

Abstract: Ziziphus mauritiana is a traditional plant that belongs to the "Rhamnaceae" family. It is also known as Chinese date, Ber, or Indian jujube. This species is thought to have originated in the Indo-Malaysia region of Southeast Asia. It has been widely naturalized throughout the tropics, from South Africa to the Middle East and the Indian subcontinent. It's a spiky, evergreen shrub growing on a tiny tree. Z. mauritiana is a rarely used herb that can treat numerous ailments. Ancient literature suggests that all plant parts, including leaves, seeds, and fruits, have medicinal potential. Z. mauritiana's therapeutic benefits stem from its various metabolites, including alkaloids, flavonoids, and terpenoids. This plant contains phytochemicals, bioactives, and vitamins, making it effective in treating and preventing many ailments. The study supported the medical characteristics and pharmacological activities of plants, including anti-cancer, anti-diabetic, anti-oxidant, anti-microbial, anti-ulcer, and anxiolytic effects, as well as medicinal purposes. This review article examines the medicinal qualities of Z. mauritiana, an underutilized medicinal plant.

Keywords: Ziziphus mauritiana, metabolites, phytochemicals, bioactive, and anxiolytic.

INTRODUCTION

India is a place of rich biological and cultural variety. It is one of the most biodiverse countries in the world. The medicinal plant has played an extremely important role in the development of human culture. Many studies have been undertaken all around the world to determine the usefulness of plants, which are showing to be extremely beneficial. Plants may typically be found in large groups and are economically complete as basic resources for industry. The cost of plant as a resource is beneficial to your health province since it allows for inexpensive therapy and disease prevention. Ziziphus mauritiana is an extremely long-lasting and indigenous fruit of India. Z. mauritiana Lam. Sym. Z. jujuba Lam., non-mill is a species of Ziziphus tourn. Previous L. family "Rhamnaceae". The name Ziziphus is derived from a secondhand Arabic word for Z. lotus (L.) Desf. However, it is also related with the prehistoric Persian lexis Zizfum or Zizafun, and the Greeks used the word Zizipho for the jujube. Z. mauritiana is a traditional plant from the family "Rhamnaceae". In India, it is also known as "Ber" in Hindi and "Badrah" in Sanskrit. It originated in the Middle East or India subcontinent and is currently cultivated throughout the tropics and subtropics due to its nutritional value. This plant has potential for both food and medicinal applications. Ziziphus plants and bushes thrive in unfavorable environments due to their adaptability to lack of resources. The plant provides feed for cattle and has been transformed for use in agriculture, fuel, and charcoal production. Traditional medicine relies on remedial plants to treat many diseases, and many have been studied for their pharmacological properties.

Plant parts, such as roots, have traditionally been used to treat several diseases, including pitta, fever, wounds, ulcers, and cephalalgia. Bark treats dysentery, diarrhea, gingivitis, boils, and ulcers. Seeds are useful for encephalopathy.Symptoms may include ophthalmopathy, coughing, asthma, pitta vitiation, burning sensations, diarrhea, vomiting, and sleeplessness. The leaves are useful for treating stomatitis, cuts, syphilitic

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AN OVERVIEW OF GINGER: A REVIEW

QUMRE ALAM[1], AKASH JOHRI[2], DEEPIKA CHAUHAN[3], HIMANSHU[4], HARSH KUMAR[5], TOM VARGHESE[6]

1,2Associate Professor, Innovative College of Pharmacy

3, Assistant professor, Innovative College of Pharmacy

4, 5, 6 Research scholar, Innovative College of Pharmacy

ABSTRACT

This abstract discusses the health benefits of ginger, including its potential to relieve nausea, reduce osteoarthritis pain, lower blood sugar, reduce menstrual pain, and help prevent cancer. The background of the study is that ginger has been used in traditional and alternative medicine settings for its medicinal properties. The research problem is to explore the potential health benefits of ginger and its impact on various health conditions. The aim is to investigate the effects of ginger on nausea, osteoarthritis pain, blood sugar levels, menstrual pain, and cancer prevention. The methodology involves a review of relevant studies and research findings on the health benefits of ginger. Participants in the studies include pregnant women, individuals with osteoarthritis, diabetes, and those at normal risk for colon cancer. The context of the research is the use of ginger in traditional medicine and its incorporation into various food and medicinal products in different cultures. The results indicate that ginger has potential health benefits, including relieving nausea, reducing osteoarthritis pain, lowering blood sugar, reducing menstrual pain, and possibly helping to prevent cancer. The implications of the findings suggest that ginger can be used as a natural remedy for various health conditions and may have implications for the development of new therapies.

keywords: ginger, health benefits, nausea, osteoarthritis, blood sugar, menstrual pain, cancer prevention.

INTRODUCTION

Ginger (Zingiber officinale Roscoe) has long been farmed. Ginger is thought to be indigenous to Southeast Asia and southern China.India and Asia. Japan brought it to the Mediterranean in the first century, followed by England

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A RESEARCH ARTICLE ON FORMULATION AND EVALUATION OF MICROSPHERES OF DILTIAZEM HYDROCHLORIDE

Manish Sharma[1], Roshan Zehra[2], Deepika Chauhan[3]

1-M. Pharma Scholar Innovative College of Pharmacy Greater Noida.

2.Assistant Professor of Innovative College of Pharmacy Greater Noida.

3. Assistant Professor of Innovative College of Pharmacy Greater Noida.

Abstract-

Microspheres of diltiazem hydrochloride were formulated using combination of polyethylene glycol 6000 and Eudragit RS 100 and Eudragit RS 100 alone by solvent evaporation and non-solvent addition methods with an aim to prolong its release. Six formulations prepared by using different drug to polymer ratios, were evaluated for relevant parameters and compared with marketed SR capsules. Depending upon the drug to polymer ratio, the entrapment, loading and encapsulation were found to range between 77.45±0.22 to 91.08±0.62% , 34.76±0.15 to 52.46±0.25% and 66.09±0.19 to 82.7 ±0.57%, respectively. The microspheres were spherical, discrete and compact and size distribution was between 4 to 24 µm. In vitro studies were carried out at different pH for a period of 12 h and compared with marketed formulation. As similarity factor f2 was 92.8 for FVI, it was subjected to further study. Formulations prepared using the combination of the retardants exhibited fi rst order of drug release and zero order for preparations containing Eudragit RS 100 alone. The analysis of regression values of Higuchi plot and Korsmeyer-Peppas plot and "n" values of Korsmeyer-Peppas model suggested a combination of diffusional and dissolutional mechanism indicating the drug release from the formulations was controlled by more than one process. Drug polymer interaction was absent as evidenced by FT-IR and DSC thermograms. In vivo pharmacokinetic study of the formulation proved that prolongation of drug release was obtained by formulating as microspheres. Key words: Diltiazem hydrochloride, microspheres, Eudragit RS 100, PEG 6000, in vitro, in vivo evaluation.

KEYWORDS: Solid lipid nanoparticles loaded Gel, Drug Content, pH of the Gel, In-vitro drug release study

Introduction-

A variety of methods for creating microspheres provide advantages to regulate various aspects of medication administration. This method enables to develop small amounts of an important medicine accurately, decreases the amount of drug volume at the medicines beyond the site it's aimed to, and develop important compounds earlier, after, and before they appear at the place it works. By attaching the drug to a carrier particle, it is possible to change how the drug behaves in vivo. The behavior of the carrier has a significant impact on the drug's tissue distribution, metabolism, and cellular interactions. Exploiting these pharmacodynamics behavior changes could result in improved treatment impact. The interaction with the carrier and the significant organ and cellular process as well as system's drawbacks in terms of formulation techniques and stability, must be thoroughly understood for an informed approach to therapies using drug carrier technology. Several substances, including serum proteins, immunoglobulins, microspheres, microspheres, nanoparticles, microcapsules, and even cells like erythrocytes, have been utilized as drug carriers.

Microspheres can be characterized as solid, approximately spherical particles with a diameter having between 1–1000µm, including dispersed drugs in certain solution or microcrystalline shape. Both the terms microcapsules and microspheres are often used as Synonyms .Medication That is simply transmitted in from gastrointestinal tract (GIT) and also has a short half-life is immediately destroyed from

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Formulation of Boswellia Serrate Microspheres with Aloe Vera: A Novel Approach for Treating Ulcerative Colitis and Use of Spray Drying Method for the Preparation of Microspheres

Pooja Sharma*, Garima Gupta

Abstract:

Ulcerative colitis (UC) is a chronic inflammatory bowel disease characterized by inflammation and ulceration of the colon and rectum. Traditional treatment options often come with adverse effects and limited efficacy, prompting the search for alternative therapies. Boswellia serrata, commonly known as Indian frankincense, has anti-inflammatory and immunomodulatory properties. Microsphere formulation overcomes the challenges of Boswellia serrata by providing sustained release and targeted delivery of Boswellia serrata extract to the inflamed mucosa. This review explores the potential of Boswellia serrata as a therapeutic agent for UC, focusing on its mechanisms of action, various formulations, particularly microspheres, and clinical evidence supporting its efficacy and safety development, characteristics, advantages, and applications of Boswellia serrata microspheres.

Keywords: Microspheres, Aloe, Colitis.

Introduction:

Ulcerative colitis (UC) is a debilitating condition affecting millions worldwide, characterized by chronic inflammation of the colon and rectum. Conventional treatments such as corticosteroids, immunosuppressants, and biologics are associated with adverse effects and may not be effective for all patients. Consequently, there is growing interest in natural compounds with anti-inflammatory properties, such as Boswellia serrata.

Microspheres:

Microspheres are prepared using biocompatible polymers such as poly(lactic-co-glycolic acid) (PLGA) or chitosan, which encapsulate Boswellia serrata extract. The size and composition of microspheres can be tailored to achieve optimal drug release kinetics and tissue penetration. By encapsulating the active ingredients within microspheres, Boswellia serrata can be protected from degradation in the acidic environment of the stomach and delivered directly to the inflamed colonic mucosa.

Characterization of microspheres:

The microspheres were characterized by their particle size, morphology, encapsulation efficiency, and drug loading. The particle size and size distribution of the microspheres were analyzed using a laser diffraction particle analyzer. The morphology of the microspheres was observed by scanning electron microscopy (SEM). The encapsulation efficiency and drug loading were determined by HPLC.

A Research on "Effective Pricing Strategies of New Product

Sandhya Sharma[1], Saloni Manglik[2], Vivek Kumar Singh[3], Aman Tripathi[4], Sumit Verma[5], Prateek Sharma[6]

1,2 Assistant Professor, Innovative College of Pharmacy, Greater Noida 3,4,5,6, Research Scholar, Innovative College of Pharmacy, Greater Noida

Abstract: In order to maximize profits and maintain a new product's competitiveness in the market, a viable pricing strategy must be developed. There are various pricing structures to choose from. including package price for eachstrategy, cost-plus pricing, value-based pricing, skimming pricing, and penetration pricing. The data collecting results indicate that the prices of the things that businesses sell reflect the value assessments of their clients. Additionally, it illustrates how competition prices affect the acquisition of company things and how Internet pricing impacts and informs purchasing decisions. Our knowledge of several areas pertaining to pricing strategies and the decision-making process is improved by this study.

Prescription and over-the-counter (OTC) drugs are the two primary categories into which pharmaceutical items fall. Whether a product is sold directly to consumers or to the medical community is the dividing factor. One of the most fascinating and contentious subjects in pharmaceutical marketing is price, Given the unique characteristics of the pharmaceutical sector, many approaches such as Cost-Plus Pricing, Break-Even Pricing, Value Based Pricing, Competition Based Pricing, and Economy Pricing are genuinely applicable and applied in the industry.

Keywords: Price skimming, Cost plus pricing, Break Even pricing, OTC.

INTRODUCTION

Given the rapid improvements in both technology and the economy, modern consumers are becoming more cautious, intelligent, and curious about their needs. These adjustments also have an effect on the needs of businesses. Ehmke et al. (2005) state that marketing is establishing a business to successfully meet customer needs.

Borden (1984) emphasized that marketing managers must evaluate behavioural dynamics and manage the elements of the marketing mix based on the firm's resources in order to create an effective marketing campaign. To drive change or revitalize an existing product, all four components of the marketing mix-product, pricing, promotion, and place-need to be present in equal proportion. This essay's primary focus will be cost.

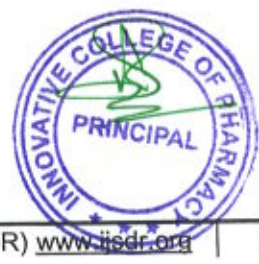
The importance of it for both businesses and customers. For various people, price can mean different things. It could be used to describe interest paid to lenders, bankers' fees or charges for services, insurance premiums, transporter fares, honoraria for guest speakers, etc. According to Rosa et al. (2011), price is a key factor in price acting as a purchasing incentive.[1]

It influences how individuals perceive and evaluate prices, which has a significant effect on the purchases that people make. Research has indicated that cost is a major factor when making judgments about what to purchase, especially for recurrent purchases. Pricing affects choices of product, brand, and retailer. The more extensive the information search and rival brand comparisons are, the more important price is when makinga buy.

Traditional pricing methods should evolve towards more collaborative and socially aware approaches due to theirlack of consistency. It is imperative for businesses to acknowledge that aligning revenue generation strategies can provide added benefits and transcend mere reliance on costs and profits in setting prices, as emphasized by Bertini and Gouville (2012). This study aims to explore the impact of pricing strategies and onlinepricing on consumer purchasing behaviour for products.[2]

PRICING OBJECTIVES

Pricing objectives provide as guidelines and standards for evaluating effectiveness. Prior to setting prices, companies should develop pricing objectives, according to Weber (2000).



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Sandhya Sharma[1], Saloni Manglik[2], Vivek Kumar Singh[3], Aman Tripathi[4], Sumit Verma[5], Prateek Sharma[6]

1,2 Assistant Professor, Innovative College of Pharmacy, Greater Noida 3,4,5,6, Research Scholar, Innovative College of Pharmacy, Greater Noida

Abstract: In order to maximize profits and maintain a new product's competitiveness in the market, a viable pricing strategy must be developed. There are various pricing structures to choose from. including package price for eachstrategy, cost-plus pricing, value-based pricing, skimming pricing, and penetration pricing. The data collecting results indicate that the prices of the things that businesses sell reflect the value assessments of their clients. Additionally, it illustrates how competition prices affect the acquisition of company things and how Internet pricing impacts and informs purchasing decisions. Our knowledge of several areas pertaining to pricing strategies and the decision-making process is improved by this study.

Prescription and over-the-counter (OTC) drugs are the two primary categories into which pharmaceutical items fall. Whether a product is sold directly to consumers or to the medical community is the dividing factor. One of the most fascinating and contentious subjects in pharmaceutical marketing is price, Given the unique characteristics of the pharmaceutical sector, many approaches such as Cost-Plus Pricing, Break-Even Pricing, Value Based Pricing, Competition Based Pricing, and Economy Pricing are genuinely applicable and applied in the industry.

Keywords: Price skimming, Cost plus pricing, Break Even pricing, OTC.

INTRODUCTION

Given the rapid improvements in both technology and the economy, modern consumers are becoming more cautious, intelligent, and curious about their needs. These adjustments also have an effect on the needs of businesses. Ehmke et al. (2005) state that marketing is establishing a business to successfully meet customer needs.

Borden (1984) emphasized that marketing managers must evaluate behavioural dynamics and manage the elements of the marketing mix based on the firm's resources in order to create an effective marketing campaign. To drive change or revitalize an existing product, all four components of the marketing mix-product, pricing, promotion, and place-need to be present in equal proportion. This essay's primary focus will be cost.

The importance of it for both businesses and customers. For various people, price can mean different things. It could be used to describe interest paid to lenders, bankers' fees or charges for services, insurance premiums, transporter fares, honoraria for guest speakers, etc. According to Rosa et al. (2011), price is a key factor in price acting as a purchasing incentive.[1]

It influences how individuals perceive and evaluate prices, which has a significant effect on the purchases that people make. Research has indicated that cost is a major factor when making judgments about what to purchase, especially for recurrent purchases. Pricing affects choices of product, brand, and retailer. The more extensive the information search and rival brand comparisons are, the more important price is when makinga buy.

Traditional pricing methods should evolve towards more collaborative and socially aware approaches due to theirlack of consistency. It is imperative for businesses to acknowledge that aligning revenue generation strategies can provide added benefits and transcend mere reliance on costs and profits in setting prices, as emphasized by Bertini and Gouville (2012). This study aims to explore the impact of pricing strategies and onlinepricing on consumer purchasing behaviour for products.[2]

PRICING OBJECTIVES

Pricing objectives provide as guidelines and standards for evaluating effectiveness. Prior to setting prices, companies should develop pricing objectives, according to Weber (2000).

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A Research on Increased Bioavailability of Dapsone in Rats

Drishti Singh[1], Amarjeet Singh[2], Preeti Verma[3], Amar Singh [4]

1.School of Vocational Studies and Applied Sciences, GBU, Greater Noida,UP

2. Innovative College of Pharmacy, Greater Noida, GBN, Uttar Pradesh.

3&4. Vinayaka College of Pharmacy, Garsa, Kullu, Himanchal Pradesh.

Abstract

Piperine, an alkaloid present in a number of piper species, selectively enhances the bioavailability of structurally and therapeutically different drugs, either by increasing the absorption or by delaying the metabolism of the drug or by a combination of both processes. Dapsone, a widely used anti-leprosy drug , is known to produce methaemoglobinaemia as a serious side effect. Based on the reported interaction of piperine with drug metabolising enzymes, the present investigation was undertaken to study changes in bioavailability of dapsone and possible reduction in methaemoglobinaemia in the presence of piperine in rats.

A C_{max} value of 2.4 ± 0.12 ug /mL was obtained with dapsone alone (10 mg/Kg) ,compared with 3.90 ± 0.16 ug/mL obtained with a combination of dapsone (10 mg /Kg) and piperine (10 mg/ Kg). This represents an increase of 62% in peak plasma levels caused by the presence of piperine. Reduction in total clearance from 4.80 ± 0.31 to 3.81 ± 0.20 ml/h and a volume of distribution from 4.61 ± 0.19 to 3.08 ± 0.12 L resulted in a net increase of 35% in AUC (34.55 ± 1.83 TO 46.70 ± 3.14) in the presence of piperine .

We conclude that piperine significantly ($p<0.001$) enhances the bioavailability of dapsone.

Keywords: Bioavailability, Dapsone, Piperine, methaemoglobinaemia etc.

Introduction

Reported inhibition of arylhydrocarbon hydroxylase by piperine may help reduce formation of methaemoglobin due to hydroxylation of dapsone. A survey of the Ayurvedic literature resulted in identification of a group of common species as a frequent component of a large number of remedies. A systemic study by Atal *et al* (1981) provided the basis for suggesting that these herbs were acting as bioavailability enhancer. More detailed studies resulted in isolation and characterization of the alkaloid piperine as the chemical entity responsible for bioavailability enhancing activity.

Depression In Adults(20-35yrs) : Real Time Clinical Case Study

Avneet Kaur Lamba[1], Gurveen Kaur [1] ,Amarjeet Singh[2]

1. Assistant Professor, Gurugram University, Gurugram, Haryana
2. Professor/ H.O.D, Innovative College of Pharmacy, Greater Noida, U.P.

Correspondence to Author:

Avneet Kaur Lamba
Gurugram University.
Gurugram, Haryana-122003
Email: avneetkaur.lamba@gmail.com

Abstract

Depression can be defined as the illness, which affects the physical, social, mental health of the individual. It affects his/her ability to interact with family, friends, society in general and surrounding environment. It affects the day to day routine of the individual, the way he/she does daily chores, like, eat, sleep or concentrate. Depression is not a feeling as per popular myth that can be wished away by getting involved in various activities. Proper medical intervention is very important to fight depression. According to World health Organization (WHO) & UN (Department of Economic & Social Affairs Disability), Indians are the most pessimistic people in the world, ahead of the Chinese and the Americans - an estimated 14.53% of the country's population being afflicted with 'Depression'. It is more prevalent in females than males. It has been found in community-based studies to be the most rampant psychiatric disorder among outpatient clinic population along with clusters with medical and surgical exposure. The clinical case studies in Indian setting also depict that life-situations prior to the arrival of downturn play a significant part in heralding it. Researches on female subjects, further point out to the need to recognize the threat-factors like mutual conflicts, marital discord and carnal oppression.

Keywords: Myth, Chores, Psychiatric, Conflicts, Disharmony, Coercion.

Introduction

Depression is an affliction that by engrossing the patient's frame of mind and thought-process, starts affecting his/her conduct and behavior in normal day-to-day performance. It impinges on eating patterns, sleep-cycle and way one relates to immediate surroundings. Depressed people lose their capability to cope up with this situation and recover on their own. In absence of suitable treatment, the patients may continue to reveal the indications of depression for prolonged periods, ranging from several weeks, even months or, years. It is established that proper psychological and psychiatric treatment does facilitate management of depression. Further that the prime hurdle in diagnosis of depression is the very detection of symptoms which are similar to those of major mental health illnesses.

In depression there is psychological intervention as well as pathological and other diagnostic test (like EEG, CT SCAN & MRI) to rule out any other neurological problem

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AN HERBAL AND CHEMICAL SHAMPOO FORMULATION, ASSESSMENT, AND COMPARISON

Dr. Sanjeev Kumar[1], Poonam Bhardwaj[2], Ritu Verma[3], Netrapal[4], Saloni Manglik[5], Deepika Chauhan[6], Renu Tiwari[7], Mohd Irshad[8], Km. Shiva[9]*

[1]Professor, Bareilly International University, Department BIU College of Pharmacy, Bareilly Uttar Pradesh
[2]Associate Professor, NKBR College of Pharmacy and Research Centre Phaphunda, Meerut Uttar Pradesh
[3]Principal, Venkateshwara Institute of Pharmacy, Meerut Uttar Pradesh
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[9]*NGI College of Pharmacy, Neelkant Group of Institutions, Near SVBP University, Modipuram, Meeurt, 250001

***Corresponding Author:** Km. Shiva
*NGI College of Pharmacy, Neelkant Group of Institutions, Near SVBP University, Modipuram, Meeurt, 250001. Email: rajputshiva026@gmail.com

Abstract
In this research, we created and evaluated pure chemical and herbal shampoos based on information gathered from various sources. The herbal shampoo was prepared by combining extracts from Hibiscus leaves, Henna Leaf, Neem Leaf, Amla fruit, Shikakai fruit, Rita Fruit, Aloe Vera leaf, Lutrous, Soya milk, and other ingredients, which were decocted with water. Guar gum was added to thicken the shampoo. Additionally, a chemical shampoo was formulated using ingredients such as Sulfur, Benzoic Acid, Sodium lauryl Sulphate, Salicylic Acid, Urea, Citric Acid, Sodium EDTA, Guar Gum, Tween-80, and Distilled water.

To determine the physical properties of both shampoos, including pH, solid content percentage, rheological evaluation, skin sensitization test, wetting time, foam amount and stability, surface tension, detergency, and soil dispersion after washing, various tests were conducted. These tests aimed to assess the physicochemical characteristics of the formulated and chemical shampoos.

Keywords: Shampoo, Herbal formulation, Chemical formulation, Evaluation, Rheology

INTRODUCTION

Since time immemorial Shampoo has been used by humans to clean their hair. The most likely application for shampoo as cosmetics. It is a product for hair care that we use on a daily basis to clean the scalp and hair[1]. Often used as beautifying agents and are a viscous solution of detergent with suitable additives preservatives and active ingredients. It is generally useful in wet hair, hair straightening and rinsing with water. The objective of using both shampoos is to remove dirt that accumulates on the hair without separating the sebum. Herbal shampoos belong to the consistency

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Diagnosis of Neurodegenerative Diseases (Arthritis) towards Adequate Treatment in Nanomedicine

Harshita Chaturvedi[1], Mrs. Roshan Zehra[2], Mrs. Sandhya Sharma[3], Dr. Amarjeet Singh[4]

M.Pharm student[1], Associate Professor[2], Assistant Professor[3], Principal & Professor[4]

Innovative College of Pharmacy, Greater Noida, Uttar Pradesh-201306, India[1,2,3,4]

Abstract

Medical Laboratory Science is an autonomous profession that entails the examination of human, animal, and environmental samples for accurate diagnosis and illness treatment that is efficient and effective. has been overlooked in neurodegenerative illnesses in the past (NDDs). NDDs are progressive neurodegenerative illnesses that primarily affect the central nervous system, particularly the neurons of the brain. NDDs are most often represented by asynucleinopathies, Huntington's disease (HD), amyloidoses, Alzheimer's disease (AD), tauopathies, Parkinson's disease, amyotrophic lateral sclerosis (ALS), prion disease, and TDP-43 proteinopathies. Currently, cerebrospinal fluid (CSF) and blood are the most common diagnostic samples for neurodegenerative diseases (NDDs) based on the related biomarkers and nanoparticles. Although different forms of diagnosis and symptoms are utilised to diagnose NDDs, each NDD has a unique and particular Medical Laboratory diagnostic that is used to identify the many neurodegenerative diseases of public health significance. An efficient use of Medical Laboratory diagnostics in Nanomedicine for neurodegenerative illnesses would be a significant advancement in the field.

Keywords: Medical Laboratory diagnosis, Neurodegenerative diseases, NDDs, Nanomedicine

Introduction

Neurons are the brain cell type, and in most cases they cannot multiply or replace themselves. Neurodegenerative diseases (NDDs) are chronic conditions that deteriorate nerve cells in the brain and spinal cord over time (primarily neurons in the brain). The incidence rises as people become older. The most prevalent of them include a-synucleinopathies, HD, amyloidoses, AD, tauopathies, PD, ALS, prion disease, and TDP-43 proteinopathies. The illnesses, which are fatal and cause cognitive decline and dyskinesia, are defined by the slow and progressive death and

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Formulation and evaluation of Glibenclamide transdermal gel

Kumail Hussain[1], Mrs. Roshan Zehra[2], Dr. Amarjeet Singh [3]Mrs. Deepika Chauhan[4]

[1]Research Scholar,[2] Associate professor,[3] Professor, [4]Asst. Professor.

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ABSTRACT

The formulations were subjected to various physiochemical studies and in vitro permeation studies. The influence of β – cyclodextrin on the *in vitro* percutaneous absorption of Glibenclamide (GBM) and its combined effect with propylene glycol (PG) and oleic acid (OA) was studied using Franz-type diffusion cell using a cellophane membrane. The receiver solution was phosphate buffer (pH 7.4). The permeability study was carried out for 12 hours. To increase the aqueous solubility of GBM, it was incorporated as its inclusion complex with β – cyclodextrin. The inclusion complex was thoroughly characterized using techniques, including differential scanning calorimetry and scanning electron microscopy.

Keywords : Glibenclamide, β – cyclodextrin, propylene glycol, oleic acid,Skin permeability,Transdermal gel.

INTRODUCTION

Chemical name for glibenclamide is 5-chloro-N-[2-(4-[(cyclohexylcarbamoyl)amino] sulfonyl]phenyl]-2-methoxybenzamideGlibenclamide (INN), a second-generation sulfonylurea also known as glyburide (USAN), An antidiabetic[1] drug appears to lower blood sugar quickly by inducing the pancreas to release more insulin; however, its action depends on the pancreatic beta cells' ability to operate. islets[1]. Despite a slow drop in the insulin secretory response to the medication with chronic dosing in Type II diabetes patients, the blood glucose-lowering benefit endures. Glibenclamide and other sulfonylureas1 bind to ATP-sensitive potassium channels on the surface of pancreatic cells, decreasing potassium conductance and depolarizing the membrane. Depolarization increases intracellular calcium ion concentrations by promoting calcium ion inflow through voltage-sensitive calcium channels, which causes insulin to secrete or exocytose. HPLC estimation of glibenclamide in human serum has been documented[3]. Litrature survey describes the small-scale estimation of glibenclamide, glipizide, and metformin using ultra-rapid HPLC[2] and also describes the small-scale estimation of six anti-diabetic[4] drugs using HPLC[4]: glibenclamide, gliclazide, glipizide, pioglitazone, repaglinide, and

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Analytical Method Development and Validation of Lycopene Present in Multivitamin Tablets

Anand Kumar[1], Roshan Zehra[2], Saurabh Kumar[3]

[1]Student, Innovative College of Pharmacy, Greater Noida
[2]Associate Professor, Innovative College of Pharmacy
[3]QA Manager, Grampus Laboratories, HP

ABSTRACT

Lycopene is an organic compound belonging to tetraterpene and a carotene category. Lycopene is a brick red carotenoid hydrocarbon found in tomatoes and other red fruits and vegetables. Lycopene is extracted from red fruit & vegetables and found in two physical form Oily liquid & granular solid powder form. Lycopene is also used as supplement with multivitamin formulated as tablets. An RP-HPLC method was developed and validated for the Lycopene (Powder form or water suspendable form) in Multivitamin Tablets. The chromatographic system was equipped with C18 a stainless steel column 30 cm x 4.0 mm, packed with octadecylsilane chemically bonded to porous silica or ceramic micro particles (5µm) and wavelength set at 475 nm, in conjunction with a mobile phase of Methanol, Water and Tetrahydrofuran in the ratio of 66:4:30 % v/v at a flow rate of 1.5 ml/min. The retention time of Lycopene was found to be 6 min ±1 min. The separation was performed at ambient temperature. Linearity was observed in the concentration range of 80-120% with correlation coefficient 0.9999 and slope 75145.63 Percentage recovery obtained 99.06-101.83 %. The percentage Assay was found to be 100.25 to 102.61 %.The proposed method is precise, accurate, selective and rapid for the determination of lycopene (Powder form) in Multivitamin tablet. The proposed method is optimized and validated as per guidelines of WHO TRS 937 & the International Conference on Harmonization (ICH) guidelines.

Keywords: RP HPLC, Development, Analytical method Validation, Lycopene.

INTRODUCTION

The dosage forms are the physical form of dose of a pharmaceutical compound used as a medicine as prescribed by physician intended for administration or consumption. Common dosage forms are tablets, pills, capsules, syrup, aerosol, inhaler, liquid injection, dry Injection, Ointment, Lotion, Suspension. Dosage Form decides the route of administration of drug. various dosage forms may exist for a single particular drug as above mentioned, but among them solid dosage form (Tablets & Capsules) covers 80% of drugs formulations (Bankar & Anderson, 1986a). Even other dosage formulations options are available "Tablets most commonly used among all dosage forms," Major advantages of tablets are simplicity, low cost & speed of production. (Mehta, 2002a)

TABLETS

Tablets are unit solid pharmaceutical dosage forms containing one or more than one drug substances with or without suitable diluents and prepared by either direct compression or moulding methods. A

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A REVIEW ARTICLE ON TRANSDERMAL PATCH BY USING NATURAL POLYMER AND NIAOULI OIL AND ITS FORMULATION ASPECTS AS A PERMEATION ENHANCER

Pawan Chaudhary[1*], Renu Tiwari[2*], Deepika Chauhan[3*]

1- M.Pharma Scholar , Department of pharmaceutics NKBR College of Pharmacy and research centre Meerut.

2- Assistant Professor , Department of Pharmaceutics ,Innovative college of Pharmacy Greater Noida.

3- Assistant Professor , Department of Pharmaceutics ,Innovative College of Pharmacy Greater Noida.

ABSTRACT

The transdermal drug delivery route is evolving as a potential route due to its advantages of bypassing the hepatic first-pass metabolism, decreased side effects, and gastrointestinal effects, improve patient compliance as it is a pain-free self administration for patients, etc. Transdermal drug delivery has been accepted as a potential non-invasive route of drug administration, with advantages of prolonged therapeutic action, decreased side effects, easy use, and better patient compliance. However, the development of transdermal products is primarily hindered by the low permeability of the skin. The major setback appearing in this route is the difficulty of the drugs to penetrate through the skin as the stratum corneum (outermost layer of the skin) forms a protective barrier for the underlying tissues from the outer environment. A transdermally delivered drug can only show its action when it can cross the transdermal barrier to reach the systemic circulation and for helping on doing that the penetration enhancer are the agents which increase the permeability of the skin which on return maintains the drug level in the blood. Permeation enhancers can be of a chemical type, natural type, and physical type. The present review describes the natural permeation enhancers can be which be employed for transdermal permeation of drugs.

Keywords : Skin Penetration, Bioavailability, First Pass Metabolism

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DEVELOPMENT & EVALUATION OF MATRIX RELEASE TABLETS OF TELMISARTAN FOR THE TREATMENT OF HYPERTENSION

Chanchal Verma*, Roshan Zehra and Dr. Sunil K. Batra

Innovative College of Pharmacy, Greater Noida, U.P.

ABSTRACT

Dosage forms are what transport drug molecules to the specific areas in the body where they are needed to work. It is best to use inhalation treatment to get the most out of your medication e.g. Inhalants. Fluid dosage forms for drugs that dissolve in water or any other liquid medium e.g. Solution.[1] Ensure that medication can be injected into the body's orifices. Rectal and vaginal suppositories, as an illustration. When there is only a small amount of the active component, it is required to use a lubricant in order to prevent the tablet from sticking to the machine. A disintegrator such as starch expands when it comes into touch with fluids in the stomach, which makes it easier for the tablet to break apart.[4] Various oral extended-release dose forms, such as sustained action, delayed release, lengthy action, and retarded release,sustained release,prolonged action, were originally referred to as "modified release dosage products.

Keywords: NDDS, Telmisartan, Drug delivery, Dosage form

INTRODUCTION

It has been know for a long time that taking medications by mouth is the most common way to get pharmaceuticals into the systemic circulation , and this holds true for a wide range of pharmaceuticals that come in a variety of dose forms.[3]

Oral administration is becoming increasingly popular for a number of reasons in recent years, including the ease with which it can be carried out and the long – held belief that medications taken by mouth are absorbed just as efficiently as those taken with food.

When developing oral medications, different degrees of optimization to the dose form features are required within the constraints of gut physiology. This is true regardless of the physical shape that the pharmaceutical takes.[4]

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