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Research ReviewClub

Assigning of reviewers AY: 2022-23

Title: Comparision of Ultrasound-Assisted and conventional solvent extraction techniques for characterization of phenolic and flavonoid compounds from fresh leaves of Alpinia Mutica

Author Name: Dr. M. Ravi Kumar

I hereby assign proposed research or review article to the reviewers

Name of reviewer (1): Dr. Bharat Bhushan Mohapatra

Name of reviewer (2): Dr. M. Srinivas

Note: Correction manuscript please forward ethical.gcpk@gmail.com with in one week

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: COMPARISION OF ULTRASOUND-ASSISTED AND CONVENTIONAL SOLVENT EXTRACTION TECHNIQUES FOR CHARACTERIZATION OF PHENOLIC AND FLAVONOID COMPOUNDS FROM FRESH LEAVES OF ALPINIA MUTICA

AUTHOR: Dr. M. Ravi kumar

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Since a few years ago, the traditional methods, such as the Soxhlet and reflux apparatushave been used most frequently to extract plant material. However, these procedures take a long time and a lot of solvent. Today, the innovative extraction method is employed to extract plant material in order to solve this issue. The ultrasonicassisted extraction process is superior to the traditional method in that it uses less solvent, takes less time, and produces more bioactive phytoconstituents. Alpinia mutica (A.M.) is an Indian herb that is a member of the Zingiberaceae family and is used as a traditional treatment. The Zingiberaceaefamily's largest genus, Alpinia, contains over 230 herbs that are widely used throughout Asia's distinctive and sub-peculiar regions. In southern India, the plant is said to contain 9 different species of plants. Alpinia mutica is a perennial herb that grows in Malaya and the Kingdom of Thailand. It produces horizontal, subterranean stemmed, scented plants. Although cultivation has undergone a few adjustments, the sorted types are scattered throughout northern Malaysia. The northern region of the Malayan foreland is home to a variety of species, despite the fact that there are some agricultural sources that provide alternatives to A.M. Locals utilise these plants to alleviate stomach gas issues, and the fruits are used to relieve edoema. Alpinia mutica leaves were extracted using both traditional and ultrasonic methods using a variety of solvents, including petroleum ether, ethyl acetate, methanol, hydroalcohol, and aqueous solvents. When compared to traditional approaches, the results show that the ultrasonic-assisted extraction procedure yields a high yield of phytoconstituent.In order to determine the overall phenolic and flavonoid content of the extracts produced by both processes, further analysis was performed on them. According to the research, the phenolic and flavonoid content of the extract has been noticeably boosted by the use of ultrasonic-assisted extraction procedures. Additionally, the ultrasonic-assisted extraction method for plant extraction proved to be a quick and effective solution.

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REPORT

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Neuro Quantology | August 2022 | Volume 20 | Issue 9 | Page 1697-1701 | doi: 10.14704/nq.2022.20.9.NQ44195
Shankaraiah Pulipaka, Ashish Suttee, M. Ravi Kumar, Ramesh Kasarla, Swamy Kasarla, Comparison Of Ultrasound-Assisted And Conventional Solvent Extraction Techniques For Characterization Of Phenolic And Flavonoid Compounds From fresh Leaves Of *Alpinia Mutica*

Comparison Of Ultrasound-Assisted And Conventional Solvent Extraction Techniques For Characterization Of Phenolic And Flavonoid Compounds From fresh Leaves Of Alpinia Mutica

Shankaraiah Pulipaka[1, 2], Ashish Suttee[1*], M. Ravi Kumar[3], Ramesh Kasarla[4], Swamy Kasarla[5]

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[4]Lab of Molecular and Cellular Endocrinology, Division of Endocrinology, Diabetes, and Metabolism Department of Medical Sciences - University of Turin Corso Dogliotti, 14 - 10126 Turin, Italy.

[5]Laboratory of Biomolecular Interactions Studies, Faculty of Chemistry, Warsaw University of Technology, Warsaw, Poland, 00-661.

Abstract

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Key Words: Alpinia mutica, Ultrasonic-assisted extraction technique, Optimization

DOI Number: 10.14704/nq.2022.20.9.NQ44195 **Neuro Quantology 2022; 20(9):1697-1701**

INTRODUCTION

Nowadays, pharmaceutical, food, and nutraceutical industries are studying and using more and more traditional medicinal herbs.

Since ancient times, plants have been employed as the main source of disease therapies, and many plants have been shown to have a variety of functions today (1). Since then, all societies around the world have utilised plants, with India having one of the oldest, wealthiest, and most diverse cultures (2). The favourable action of plant drugs in the treatment of more diseases was present in the analysis and standard jurisdiction (3).

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Research ReviewClub

Assigning of reviewers A.Y: 2022-23

Title: Formulation and evaluation of Empagliflozin drug loaded polymeric nanoparticles for the treatment of type 2 Diabetes Mellitus (T2DM)

Author Name: Dr. M. Ravi Kumar

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: FORMULATION AND EVALUATION OF EMPAGLIFLOZIN DRUG LOADED POLYMERIC NANOPARTICLES NFOR THE TREATMENT OF TYPE 2 DIABETES MELLITUS (T2DM)

AUTHOR: Dr. M. Ravikumar

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Empagliflozin is an inhibitor of sodium-glucose co-transporter-2 (SGLT2). It is used in the management and treatment of diabetes mellitus (type 2). Till now the research done suggests that nano delivery systems may be the choice of drug delivery which can reduce dosing frequency and improve patient compliance. Hence, it was proposed to prepare nanoparticles of Empagliflozin. In this work, it was attempted to prepare nanoparticles of Empagliflozin using Eudragit and HPMC as polymers by solvent evaporation technique. Among the formulations, F1 and F4 have exhibited the best results. Drug loading capacity was between 13.20 to 19.96 percent. Encapsulation efficiency (%) of drug-polymer containing nanoparticles in various ratios was in-between 68.38 to 95.82. It is increased as the polymer quantity increased. For 10 hours, *in vitro* dissolution testing showed the drug release percentage for all formulations in the range between 89.75 and 97.93 per cent. *In vitro* studies have concluded that nanoparticles of Eudragit are superior for Empagliflozin delivery than HPMC based nanoparticles. The polymeric nano particles were evaluated for anti-diabetic Activity. All the formulations showed optimum results of which formulation containing higher concentration of Eudragit shown the better results in all the evaluated parameters. The polymeric nano particles were evaluated by *in-vitro* and *in-vivo* anti-diabetic methods and shown potential anti-diabetic activity. Thus, F1 can be concluded as the ideal batch of formulation.

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REPORT

AY: 2022-23

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Author Name: Dr. M. Ravi Kumar

Name of reviewer (1): Dr. P.Neeraja:

Name of reviewer (2): Dr. Y.Shiva kumar:

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Current Trends in Biotechnology and Pharmacy
Vol. 16 (3) 308 - 315, july 2022, ISSN 0973-8916 (Print), 2230-7303 (Online)
10.5530/ctbp.2022.3.44

Formulation and Evaluation of Empagliflozin drug loaded Polymeric Nanoparticles for the Treatment of type 2 Diabetes Mellitus (T2DM)

Neeraja Podichety *[1], Jyothl P [1], Pradeep K[1], Ravi Kumar Maddali[1]

[1]Department of Pharmaceutics, Geethanjali College of Pharmacy, affiliated to Jawaharlal Nehru Technological University ,Cheeryal (V), Keesara (M), Medchal Dt, Hyderabad, Telangana, 501 301, India.

*Corresponding author: drneeraja.gcp@gmail.com

Abstract

Empagliflozin is an inhibitor of sodium-glucose co-transporter-2 (SGLT2). It is used in the management and treatment of diabetes mellitus (type 2). Till now the research done suggests that nano delivery systems may be the choice of drug delivery which can reduce dosing frequency and improve patient compliance. Hence, it was proposed to prepare nanoparticles of Empagliflozin. In this work, it was attempted to prepare nanoparticles of Empagliflozin using Eudragit and HPMC as polymers by solvent evaporation technique. Among the formulations, F1 and F4 have exhibited the best results. Drug loading capacity was between 13.20 to 19.96 percent. Encapsulation efficiency (%) of drug-polymer containing nanoparticles in various ratios was in-between 68.38 to 95.82. It is increased as the polymer quantity increased. For 10 hours, in vitro dissolution testing showed the drug release percentage for all formulations in the range between 89.75 and 97.93 per cent. *In vitro* studies have concluded that nanoparticles of Eudragit are superior for Empagliflozin delivery than HPMC based nanoparticles. The polymeric nano particles were evaluated for anti-diabetic Activity. All the formulations showed optimum results of which formulation containing higher concentration of Eudragit shown the better results in all the evaluated parameters. The polymeric nano particles were evaluated by *in-vitro* and *in-vivo* anti-diabetic methods and shown potential anti-diabetic activity. Thus, F1 can be concluded as the ideal batch of formulation.

Keywords: Polymeric nanoparticles, Empagliflozin, Eudragit, HPMC, Ethyl cellulose

Introduction:

In Diabetes Type 2 (T2D) known as adult-onset diabetes is a type of diabetes marked by high blood sugar levels, insulin resistance, and a shortage of insulin. Non-insulin hypoglycemic medications (non-insulin hypoglycemic agents) are routinely used to treat hyperglycaemia in people with type 2 diabetes. Because type-2 diabetes has several flaws, choosing medicines with complimentary modes of action is another sensible way to improve results. The current treatment of T2DM has the disadvantages such as lower bioavailability, less efficacy and the instant drug release, which leads to higher doses and dosing frequency. Till now the research done suggests that nano delivery systems may be the choice of drug delivery which can reduce dosing frequency and improve patient compliance [1]. Diabetes has a multifactorial pathological nature. Hence, multi-target drugs and personalized medicine may be considered as promising approaches [2].

Empagliflozin inhibits sodium glucose cotrans-

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AY: 2022-23

Title: Research Designs used in Pharmacy Practice

Author Name: Dr. M. Ravi kumar

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: RESEARCH DESIGNS USED IN PHARMACY PRACTICE

AUTHOR: Dr. M. Ravi kumar

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

The flexibility to select the best methodology is provided by the wide variety of quantitative approaches. However, It is essential to understand that every design has its own set of limitation, and this is vital to consider when choosing a research method in the pharmacy practice research. By using both quantitative and qualitative techniques, this study showed the importance of pharmacist's role in the current healthcare system. By conducting inclusive, collaborative, partnership-based, and co-produced research, qualitative research can also be utilised to "democratise" research methodologies.In pharmacy research, a variety of qualitative research techniques may be applied.The ultimate purpose of these articles is to assist readers become more informed about crucial pharmaceutical issues in research designs used in pharmacy practice.

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International Journal of Allied Medical Sciences and Clinical Research (IJAMSCR)

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Research article — *Medical research*

RESEARCH DESIGNS USED IN PHARMACY PRACTICE

Bharat Bhusan Mohapatra*[1], Naga Kishore R[1], Shankaraiah Pulipaka, M. Ravi Kumar, N.Anjaneyulu

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ABSTRACT

The flexibility to select the best methodology is provided by the wide variety of quantitative approaches. However, It is essential to understand that every design has its own set of limitation, and this is vital to consider when choosing a research method in the pharmacy practice research. By using both quantitative and qualitative techniques, this study showed the importance of pharmacist's role in the current healthcare system. By conducting inclusive, collaborative, partnership-based, and co-produced research, qualitative research can also be utilised to "democratise" research methodologies.In pharmacy research, a variety of qualitative research techniques may be applied.The ultimate purpose of these articles is to assist readers become more informed about crucial pharmaceutical issues in research designs used in pharmacy practice.

Keywords: Qualitative methods, Pharmacy practice, Research

INTRODUCTION

Research refers to a search for knowledge. A methodical search for relevant knowledge on a particular subject using science. In actuality, research is a form of artistic scientific inquiry. The term "Research Problem" refers to a difficulty or need that a researcher experiences in either a theoretical or practical context and wishes to resolve. Researchers encounter problems / needs in either theoretical or practical situations, and they seek a solution to them for identification / Selection of the Problem Formulation of the Problem. Research personnel. Various classifications for research designs and methods used in pharmacy practice have been used in the literature. The following are some of the approaches for the classification of research designs; Retrospective design A retrospective study design observes what has happened in the past. It begins and ends in the present. This design involves a major limitation as it looks to collect information about events that occurred in the past. An example of this design is retrospective case-control study.

Prospective design

A prospective study design begins in the present and progresses forward, collecting data from subjects whose outcomes lie in the future. An example of this design is prospective cohort study. Descriptive design-A descriptive study describes a population/sample in terms of distribution of the variables, and frequency of outcomes of interest.

Descriptive studies do not include a comparison group, in contrast to analytical studies that do. Case reports, case series reports, cross-sectional studies, and other descriptive studies surveillance studies, and ecological studies. Analytical design-An analytical study identifies risk factors, associated factors, mediating factors, etc.

Case-control and cohort studies are types of observational studies. Experimental design-In experimental design (also known as interventional design), the investigator performs an intervention and evaluates cause and effect relationships.

Quasi-experimental design-The quasi-experimental design is very similar to the true experimental design described above and it involves an intervention.

The design has been employed when randomization is inappropriate or impossible, especially when implementing complex interventions. Observational design-It involves only observation of natural phenomena and does not involve investigator intervention. Typically, this study design investigates associations and not causation. Examples

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TITLE: Traditional Indian plants used for treatment of Diabetes Mellitus

AUTHOR NAME: Dr. M. Ravi kumar

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Plants have always been a source of medicine for man since time immemorial. The traditional Indian system of medicine is replete with the use of plants to treat diabetic conditions. According to the World Health Organization, up to 90% of the population in developing countries use plants and their products as traditional medicine for primary health care. There are about 800 plants reported to have antidiabetic potential. This review aims to provide in-depth information on the antidiabetic potential and bioactive substances present in Eugenia jambolana, Momordica charantia, Trigonella foenum-graecum and Gymnema sylvestre. This research provides a starting point for future studies aimed at the isolation, purification and characterization of bioactive antidiabetic compounds present in these plants.

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Review article *Diabetes Mellitus*

Traditional Indian Plants Used For Treatment Diabetes Mellitus

Shankaraiah Pulipaka[1,2]*, M. Ravi Kumar[2], Ashish Suttee[1], Bharat Bhusan Mohapatra[2]

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Corresponding Athor: Shankaraiah Pulipaka
Published on : 19.04.2023

ABSTRACT

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Keywords: Anti-diabetic, Eugenia jambolana, Momordica charantia, Trigonella foenum-graecum and Gymnema sylvestre.

INTRODUCTION

Diabetes mellitus is a growing problem worldwide, which entails enormous financial burdens and problems with medical care policy. According to the International Diabetes Federation (IDF), the number of individuals with diabetes exceeded 366 million in 2011, with an estimated 4.6 million deaths each year. The Indian subcontinent has become the capital of this diabetes epidemic. The reported prevalence of diabetes in adults aged 20 to 79 years is as follows: India 8.31%, Bangladesh 9.85%, Nepal 3.03%, Sri Lanka 7.77% and Pakistan 6.72% [1]. Indians show a significantly higher age-related prevalence of diabetes compared to several other populations. At a given BMI, Asian Indians show higher insulin levels, an indicator of peripheral insulin resistance. Insulin resistance in Indians is believed to be due to a higher percentage of body fat. Uncontrolled diabetes leads to a number of complications affecting the vascular system, eyes, nerves and kidneys, resulting in peripheral vascular disease, nephropathy, neuropathy, retinopathy, morbidity and/or mortality. According to the World Health Organization (WHO), up to 90% of the population in developing countries use plants and their products as traditional medicine for primary health care. There are about 800 plants that have been reported to have antidiabetic potential. A wide collection of active substances of plant origin, representing numerous bioactive compounds, has proven its role for possible use in the treatment of diabetes.[2]

Indian medicinal plants with antidiabetic potential

Eugenia jambolana

Eugenia jambolana (black plum or jamun) belongs to the Myrtaceae family, jamun bark is rich in several bioactive compounds including quercetin, betulinic acid, B-sitosterol, eugenin, ellagic and gallic acids, bergenin, tannins and flavonoids. The fruits contain glucose, fructose, raffinose, malic acid and anthocyanins; the leaves are rich in acylated flavonol glycosides, quercetin, myricetin and tannin. The seeds also contain the alkaloid jambosin and the glycoside jamboline, which slows down the diastatic conversion of starch to sugar. Eugenia jambolana's blood glucose-lowering effect may be due to increased insulin secretion from the pancreas or inhibition of insulin degradation, and it has a

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A.Y: 2022-23

Title: Nano technology approaches to systemic Lypus Erythematus

Author Name: Dr. M. Ravi kumar

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Name of reviewer (1): Dr. P.Neeraja

Name of reviewer (2): Dr.Y.Shiva kumar

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TITLE: NANO TECHNOLOGY APPROACHES TO SYSTEMIC LYPUS ERYTHEMATUS

AUTHOR NAME: Dr. M. Ravi kumar

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Systemic lupus erythematous is a autoimmune disease which is a chronic multisystemic heterogenous disease caused by selfdestruction of system by production of autoantibodies due to self-antigens. Novel therapeutic approaches are necessary to treat SLE despite tremendous advancements in therapeutic alternatives and greater understanding of the pathophysiology. An innovative approach that may significantly improve the treatment of serious diseases is immune system modulation based on nanotechnology. Therapeutic delivery may be enhanced by nanoparticle-based delivery systems that target inflammatory tissue or a particular cell for drug administration. Non-steroidal anti-inflammatory drugs, antimalarials, corticosteroids, and cytotoxic/immunosuppressive drugs have all been used to treat SLE in the past, but perhaps more recently, the focus has focused on developing biological agents that can inhibit autoreactive B cells, prevent cytokine signalling, and promote the growth of regulatory T cells. In this review article is being discussed about new technical approaches to treat the systemic lupus erythematous. In 2020, the U.S. market for drugs for Systemic lupus erythematosus (SLE) is anticipated to be worth $50.8 million. With a predicted market size of US$46.9 million by 2027 and a CAGR of 5.7% from 2020 to 2027, China, the second-largest economy in the world, is expected to be the fastest-growing region

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NANOTECHNOLOGY APPROACHES TO SYSTEMIC LYPUS ERYTHEMATUS

Naga Chandrika Pallam [1], S. Rani [2], L. Devikamma[3], Dr. P. Neeraja[4], Dr. M. Ravi Kumar[5]

Department of Pharmaceutics, Geethanjali College of Pharmacy, Hyderabad, Telangana 501301, India

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ABSTRACT

Systemic lupus erythematous is a autoimmune disease which is a chronic multisystemic heterogenous disease caused by self-destruction of system by production of autoantibodies due to self antigens. Novel therapeutic approaches are necessary to treat SLE despite tremendous advancements in therapeutic alternatives and greater understanding of the pathophysiology. An innovative approach that may significantly improve the treatment of serious diseases is immune system modulation based on nanotechnology. Therapeutic delivery may be enhanced by nanoparticle-based delivery systems that target inflammatory tissue or a particular cell for drug administration. Non-steroidal anti-inflammatory drugs, antimalarials, corticosteroids, and cytotoxic/immunosuppressive drugs have all been used to treat SLE in the past, but perhaps more recently, the focus has focused on developing biological agents that can inhibit autoreactive B cells, prevent cytokine signalling, and promote the growth of regulatory T cells. In this review article is being discussed about new technical approaches to treat the systemic lupus erythematous. In 2020, the U.S. market for drugs for Systemic lupus erythematosus (SLE) is anticipated to be worth $50.8 million. With a predicted market size of US$46.9 million by 2027 and a CAGR of 5.7% from 2020 to 2027, China, the second-largest economy in the world, is expected to be the fastest-growing region.

Keywords: Systemic lupus erythematous, autoimmune disease, B cells, nanotechnology

INTRODUCTION

SLE is a systemic lupus erythematous refers to autoimmune disease attack on own body healthy cells and causes inflammation and tissue damage. All autoimmune diseases are not life threatening diseases, but when neglect or improper treatment leads to cancerous. The causes of autoimmune diseases are still specifically unknown, main trigger is stress, improper healthy lifestyle and depression. Autoantibodies to nuclear antigens are produced in high titers, and the illness is characterised by B cell hyperactivity and poor T cell function. SLE-related to associated proteins like the small nuclear ribonucleoprotein (snRNP) particle, autoantibodies exhibit distinct characteristics of diversification. B cells are being targeted in SLE due to their significant role in the disease's pathophysiology.

Pathophysiology of SLE

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AY: 2022-23

Title: Cost variation analysis in different brands of Anti-Cancer drugs available in Indian Pharmaceutical market

Author Name: Dr M. Srinivas

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: COST VARIATION ANALYSIS IN DIFFERENT BRANDS OF ANTI-CANCER DRUGS AVAILABLE IN INDIAN PHARMACEUTICAL MARKET

AUTHOR NAME: Dr M. Srinivas

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Objective of this research was to assess the variation in cost among different brands of anticancer drugs available in Indian pharmaceutical market. The price of different brands of the anticancer drugs available in the Indian pharmaceutical market was assessed. The drug cost was analyzed according to the availability of parenteral and oral drug formulations dosage form. The difference in the maximum and the minimum cost variation of the anticancer drugs manufactured by different pharmaceutical companies was determined; the percentage variation in price was calculated. Percentage variation in cost was analyzed for 41 different formulations of 20 anticancer drugs. Highest cost variability is seen with Estramustine 140 mg capsule (6726.3%) and the lowest with Goserelin 3.6mg injection (13.79%). 12 formulations showed more than 500% cost variation, largest with Estramustine 140mg capsule (6726.3%) followed by Decitabine 50mg injection (1706%), Hydroxyurea 500mg capsule (1700%), Bicalutamide 50mg tablet (1467.9%), Chlorambucil 2 mg tablet (1395%), Bosutinib 100 mg tablet (1,108.7%), Cabazitaxel 60/1.5 ml injection (805.6%), Cabazitaxel 60mg injection (796.5%), Melphalan 2mg tablet (769.99%), Dactinomycin 0.5mg injection (671.69%), Melphalan 5mg tablet (528.81%) and Fludarabine 10mg tablet (514.2%).

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Title: Cost variation analysis in different brands of Anti-Cancer drugs available in Indian Pharmaceutical market

Author Name: Dr M. Srinivas

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Name of reviewer (2): Dr. M. Ravikumar:

Cost variation analysis of anti-cancer drugs report can be made available to the Govt. & private hospitals so that physicians will prescribe low cost and efficient drugs to patients

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RESEARCH ARTICLE

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Cost Variation Analysis in Different Brands of Anti-Cancer Drugs Available in Indian Pharmaceutical Market

Medidi Srinivas[1*], R Ojaswini[1], B Udaya Kumari[1], K G Neharika[1]

Abstract: Objective of this research was to assess the variation in cost among different brands of anticancer drugs available in Indian pharmaceutical market. The price of different brands of the anticancer drugs available in the Indian pharmaceutical market was assessed. The drug cost was analyzed according to the availability of parenteral and oral drug formulations dosage form. The difference in the maximum and the minimum cost variation of the anticancer drugs manufactured by different pharmaceutical companies was determined; the percentage variation in price was calculated. Percentage variation in cost was analyzed for 41 different formulations of 20 anticancer drugs. Highest cost variability is seen with Estramustine 140 mg capsule (6726.3%) and the lowest with Goserelin 3.6mg injection (13.79%). 12 formulations showed more than 500% cost variation, largest with Estramustine 140mg capsule (6726.3%) followed by Decitabine 50mg injection (1706%), Hydroxyurea 500mg capsule (1700%), Bicalutamide 50mg tablet (1467.9%), Chlorambucil 2 mg tablet (1395%), Bosutinib 100 mg tablet (1,108.7%), Cabazitaxel 60/1.5 ml injection (805.6%), Cabazitaxel 60mg injection (796.5%), Melphalan 2mg tablet (769.99%), Dactinomycin 0.5mg injection (671.69%), Melphalan 5mg tablet (528.81%) and Fludarabine 10mg tablet (514.2%).

INTRODUCTION

Cancer is the uncontrolled growth of abnormal cells in the body. Those abnormal cells can form big masses called tumors. These tumors can either be non-cancerous (benign) or cancerous (malignant). A major cause of death in most developed countries and even in a developing country like India is cancer.

Globally, non-communicable diseases (NCDs) account for 71% of total deaths. A study conducted in India found that NCDs account for 63% of all deaths and cancer was among the leading causes of death (9%). Cancer registries are recognized as vital components of national cancer-control programs. In India, the systematic collection of data on cancer has been carried out since 1982 by population-based cancer registries (PBCRs) and hospital-based cancer registries (HBCRs) under the National Cancer Registry Programme (NCRP)-National Centre for Disease Informatics and Research (NCDIR) of the Indian Council of Medical Research, Bengaluru. [1]

Due to the increasing number of targeted therapies in the oncology pipeline, the number of late-stage pipeline therapies increased from 711 in 2017 to 849 in 2018. In 2018, 91% of the late-stage oncology pipeline consisted of small molecules and biologics rather than non-specific therapies such as cytotoxic agents. [2] There have been 64 new active substances launched in oncology over the past five years, bringing the 20-year total to 161. As a result of bio-similar savings, global oncology expenditures are expected to increase by $260 billion by 2025. [3]

In the treatment of many cancers, chemotherapy with anticancer drugs is the primary method. It is believed that early diagnosis and the longer duration of treatment with chemotherapeutic agents are responsible for the high cost of medicine or cancer care. Affordability of anti-cancer drugs may not be a concern in developed countries where medical insurance is in place, but in developing countries such as India, where the medical insurance system is still in its infancy, it becomes a major concern. A patient's compliance with prescribed medicines is also significantly influenced by the cost of the medicines and a higher cost is associated with decreased compliance. [4]

Drug cost also plays a significant role in the treatment of a disease and also it is an essential part of rational drug prescribing. It is not uncommon for the Indian pharmaceutical market to be flooded with a large number of branded formulations of anticancer drugs with major cost variations. This cost variation imposes an unnecessary economic burden on patients.

Cost analysis is one of the types included in partial pharma economic evaluation. In this analysis, we can compare the cost of the drugs with the same drug formulations but with various brand names. So that the patient depending on their availability and usage they can have different alternatives of drugs with different cost which leads to availability to every patient irrespective of the cost. [5]

The Indian market offers various brands of anticancer medications, each with its own unique cost. Some formulations have a maximum cost variation for the drug's brand. Previous studies by Bhanu Prakash *et al.*, [3] in 2016 and Adwal *et al.*, [4] in 2019 have explored the cost variations among different anti-cancer drugs in India. In this study, we aim to investigate the cost variations of several new anticancer agents that have not yet been reported, including different brands and formulations available in the Indian market (Table 1). Our communication presents, for the first time, a report on the variation of cost among different classes of anti-cancer drugs available in the Indian market.

METHODOLOGY

Drug costs were analyzed based on the availability of parenteral and oral formulations. The anticancer drugs are divided into alkylating, antimetabolite and antibiotic agents. In this study, the same drug with different brands names is excluded. Formulations containing a combination of drugs were also excluded.

As part of our comparison, we compared the cost of each drug in its various dosage forms as well as the

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Title: Development of a new RP-HPLC method for estimation of aprepitant from solid dosage form

AuthorName: Dr.R.Siva Kumar

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Name of reviewer (1):Dr.M.Srinivas

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TITLE: DEVELOPMENT OF A NEW RP-HPLC METHOD FOR ESTIMATION OF APREPITANT FROM SOLID DOSAGE FORM

AUTHOR NAME: Dr.R.Siva Kumar

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

The aim of the present work was to develop and validate a simple and efficient method for the analysis of Aprepitant in pharmaceutical dosage forms by reverse phase high-pressure liquid chromatography. A stainless steel column 75 mm long, 4.6 mm internal diameter filled with octasilyl silica chemically bonded with synthetic hybrid silica gel particles of 3.5m diameter was used for elution. The retention time of Aprepitant was 4.05 min. The method showed a good linearity in the concentration range of 0.02478 – 0.07434 mg/mL with a correlation coefficient of 0.9999. The validation characteristics included specificity, linearity, limit of detection, limit of quantification, precision, robustness and stability. Validation acceptance criteria were met in all cases. The method could be successfully used for the analysis of Aprepitant in pharmaceutical dosage forms.

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AY: 2022-23

Title: Development of a new RP-HPLC method for estimation of aprepitant from solid dosage form

Author Name: Dr.R.Siva Kumar

Name of reviewer (1): Dr. M.Srinivas:

Name of reviewer (2): Dr. M. Ravi kumar:

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Research Article
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2022, Volume 10, Issue 10
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Development of A New RP-HPLC Method For Estimation of Aprepitant From Solid Dosage Form.

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1.Centre of Pharmaceutical Sciences, Jawaharlal Nehru Technological University, Hyderabad, Telangana, India.
2.Department of Pharmaceutical Chemistry, Geethanjali College of Pharmacy, Hyderabad, Telangana, India
3.Department of Pharmaceutics, Vaagdevi College of Pharmacy, Hanamkonda, Telangana, India

ABSTRACT

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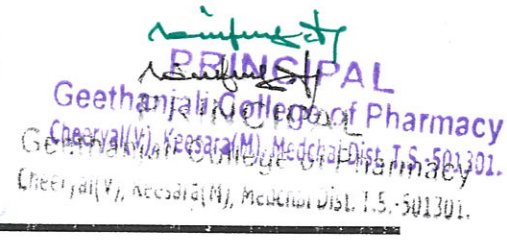
Keywords: Aprepitant, Accuracy, Precision, Linearity, Mobile Phase and Validation



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Research Review Club

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Title: In Silico ATP synthase inhibition activity and anti bacterial activity of selected essential oil against *Escherichia coli* and resistant *Actinetobacter baumanii*

Author Name: Dr.R.Siva Kumar

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: IN SILICO ATP SYNTHASE INHIBITION ACTIVITY AND ANTI BACTERIAL ACTIVITY OF SELECTED ESSENTIAL OIL AGAINST *ESCHERICHIA COLI* AND RESISTANT *ACTINETOBACTER BAUMANII*

AUTHOR NAME: Dr.R.Siva Kumar

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

The rise in the resistant strains has ignited the investigation of the ability of these essential oils to have an effect against them. The aim of this study was to investigate the antibacterial activity of clove oil, oregano oil and tea tree oil against *Escherichia coli* and resistant patient isolate *Acinetobacter baumannii*. Ciprofloxacin was used as standard and DMSO at 1 % was the negative control. To understand the inhibitory action on ATP synthase, docking analysis was done by using Autodock ver. 4.2.6. The study found out that essential oils had potent antibacterial activity against both *E. coli* and *A. baumannii* as all the essential oils recorded zones above 15 mm against *E. coli* and above 20 mm against *A. baumannii*. Tea tree oil had the highest activity among the three essentials against *E. coli* with 21.000±0.00 mm and against *A. baumannii* 28.500±0.500 mm respectively. These results support the antibacterial activity of essential oils. Docking analysis confirmed the ability of active constituents of selected essential oils to inhibit ATP synthase enzyme which is a crucial drug target in antimicrobial activity. Natural products have been at the center stage in the research for alternative agents with antibacterial agents.

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In silico ATP Synthase Inhibition Activity and Antibacterial Activity of Selected Essential Oil against *Escherichia coli* and Resistant *Acinetobacter baumannii*

Bindu Madhavi Boddupalli [a*], Ramalingam Ramani [b], Barnabas Mwambua Jacob [a], Sivakumar Ramaiah [c], Micheal Mungoma [d] and Samwel Wanaina [e]

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[b] *Department of Pharmaceutical Chemistry, School of Pharmacy, Mount Kenya University, Thika, Kenya.*
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Authors' contributions

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

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Author Name: Dr.R.Siva kumar

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: DEVELOPMENT OF HPLC METHOD FOR ESTIMATION OF AMBRISENTAN FROM IMMEDIATE RELEASE TABLETS

AUTHOR NAME: Dr.R.Siva kumar

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

The aim of the present work was to develop and validate a simple and efficient method for the analysis of Ambrisentan in pharmaceutical dosage forms by reverse phase high pressure liquid chromatography. A stainless steel column 150 mm long, 4.6 mm internal diameter filled with octasilyl silica chemically bonded with silica gel particles of 5 mm diameter was used for elution. The retention time of Ambrisentan was 4.451 min. The method showed a good linearity in the concentration range of 12.5-250 µg/mL with a correlation coefficient of 1.000. The validation characteristics included specificity, linearity, limit of detection, limit of quantification, precision, robustness and stability. Validation acceptance criteria were met in all cases. The method could be successfully used for the analysis of Ambrisentan in pharmaceutical dosage forms.

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Research ReviewClub

REPORT

A.Y: 2022-23

Title: Development of HPLC method for estimation of Ambrisentan from Immediate release tablets

Author Name: Dr.R.Siva kumar

Name of reviewer (1): Dr.N.Anjaneyulu:

Name of reviewer (2): Dr. M. Ravi kumar:

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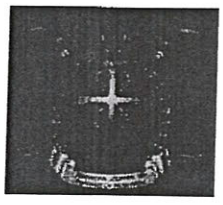
RESEARCH ARTICLE Am. J. PharmTech Res. 2022; 12(03) ISSN: 2249-3387



AMERICAN JOURNAL OF PHARMTECH RESEARCH

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Development of HPLC method for estimation of Ambrisentan from Immediate release tablets.

Ranjith Kumar*[1],Siva Kumar Ramaiah[2], Y. Madhusudhan Rao[3]

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2.Department of Pharmaceutical Chemistry, Geethanjali College of Pharmacy, Hyderabad, Telangana, India

3.Department of Pharmaceutics, Vaagdevi College of Pharmacy, Hanamkonda, Telangana, India

ABSTRACT

The aim of the present work was to develop and validate a simple and efficient method for the analysis of Ambrisentan in pharmaceutical dosage forms by reverse phase high pressure liquid chromatography. A stainless steel column 150 mm long, 4.6 mm internal diameter filled with octasilyl silica chemically bonded with silica gel particles of 5 µm diameter was used for elution. The retention time of Ambrisentan was 4.451 min. The method showed a good linearity in the concentration range of 12.5-250 µg/mL with a correlation coefficient of 1.000. The validation characteristics included specificity, linearity, limit of detection, limit of quantification, precision, robustness and stability. Validation acceptance criteria were met in all cases. The method could be successfully used for the analysis of Ambrisentan in pharmaceutical dosage forms.

Keywords: Ambrisentan, Accuracy, Precision, Linearity, Mobile Phase and Validation

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Assigning of reviewers AY: 2022-23

Title: Effect of Pancha Tulsi against phomphosis azadirachtae-the causative agent of die-back disease

Author Name: Dr.Bharat Bhushan Mohapatra

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Name of reviewer (1):Dr.R.Siva kumar

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: Effect of Pancha Tulsi against phomphosis azadirachtae-the causative agent of die-back disease

AUTHOR NAME: Dr.Bharat Bhushan Mohapatra

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Neem (Azadirachta indica) commonly known as 'Indian lilac' or 'Margosa', is a native tree to India. Neem finds very wide application and both wood as well as non-wood products are utilized in many ways. Neem products have antibacterial, antifungal, insecticidal and other versatile biological activities 1 . However, neem is not free from microbial diseases though having biological activity against various microorganisms. Many bacteria and fungi are known to infect neem 1 . A new fungus Phomopsis azadirachtae was reported on neem causing dieback. The fungus infects the neem trees of all age and size. Twigs blight and fruit rot of Azadirachta indica (Neem) infected with dieback disease 2 , collected from different regions of Medchal, Malkajgiri district, India were analysed to determine the pathogens. The aim of this study was to evaluate the antifungal activity of Pancha tulasi essential oil on the growth of Phomopsis azadirachtae isolated from die-back infected neem twigs and fruit rot. The fungus affects leaves, twigs and inflorescence, irrespective of age, size and height of the tree. Apart from fruit rot, it causes twigs blight in neem. Study reveals the control the 'Die-back' disease is to mix one gram of 'Bavistin' powder in seven/eight litres of water. This could be sprayed on the neem trees after the rainy season. After treating with chemical agents such as Thiophanate (ROKO), Profenofos (Profex) is an organophosphate insecticide, we started spraying Pancha tulasi (aromatic oils)- 5 ml in 10 litres of water for the 7 days to sustain the recovery. The disease results in almost 100% loss of fruit production.

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Author Name: Dr.Bharat Bhushan Mohapatra

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Research article Analytical research

FFECT OF PANCHA TULSI AGAINST PHOMPHOSIS AZADIRACHTAE - THE CAUSATIVE AGENT OF DIE-BACK DISEASE

NAGA KISHORE R*[1], BHARAT BHUSAN MOHAPATRA[1], ABHINAYANI G[1] AND SHALINI V[1]

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ABSTRACT

Neem (*Azadirachta indica*) commonly known as 'Indian lilac' or 'Margosa', is a native tree to India. Neem finds very wide application and both wood as well as non-wood products are utilized in many ways. Neem products have antibacterial, antifungal, insecticidal and other versatile biological activities[1]. However, neem is not free from microbial diseases though having biological activity against various microorganisms. Many bacteria and fungi are known to infect neem[1]. A new fungus Phomopsis azadirachtae was reported on neem causing dieback. The fungus infects the neem trees of all age and size. Twigs blight and fruit rot of *Azadirachta indica* (Neem) infected with dieback disease[2], collected from different regions of Medchal, Malkajgiri district, India were analysed to determine the pathogens. The aim of this study was to evaluate the antifungal activity of Pancha tulasi essential oil on the growth of Phomopsis azadirachtae isolated from die-back infected neem twigs and fruit rot. The fungus affects leaves, twigs and inflorescence, irrespective of age, size and height of the tree. Apart from fruit rot, it causes twigs blight in neem. Study reveals the control the 'Die-back' disease is to mix one gram of 'Bavistin' powder in seven/eight litres of water. This could be sprayed on the neem trees after the rainy season. After treating with chemical agents such as Thiophanate (ROKO), Profenofos (Profex) is an organophosphate insecticide, we started spraying Pancha tulasi (aromatic oils)- 5 ml in 10 litres of water for the 7 days to sustain the recovery. The disease results in almost 100% loss of fruit production.

Keywords: *Azadirachta indica,* Phomopsis azadirachtae, dieback disease, Bavistin, Thiophanate (ROKO), Profenofos (Profex), Pancha tulasi.

INTRODUCTION

Neem(*Azadirachta indica*) is an evergreen deciduous tree. It is commonly called "Indian lilac" or "Margosa" and belongs to the Mahogany family Meliaceae[3]. It is native to Indian sub-continent. The Persian name of the neem is Azad-Darakht-E-Hind, which means 'free tree of India'[4]. Over 20 million trees are found all over India. It is referred as "Tree for solving global problems". Ayurveda regards the tree as a Sarva roga nivarini[5]. Neem tree is also known for its medicinal properties and is a vital ingredient in the production of fungicides and insecticides, effective against a wide array of pathogens. But today it is ironically under attack by a fungus. In the severely infected trees, there is a loss of flowers and fruit.

Pancha Tulsi is an Ayurvedic preparation of five different kinds of tulsi. They all together work to boost the immunity, skin care and overall health care for a body[7-8].

- *Marua Tulsi*, also known as Marjoram and Origanum majorana. Marua tulsi benefits as a tonic for nerve, heart, chronic cold and cough. It may also be helpful for asthma patients[9].
- *Kala Tulsi*, also known as Krishna Tulsi (Ocimum sanctum). It's a purple tulsi that's one of a kind. It is used for throat pain and infection, nasal problem, skin problem, ear-ache and the complete respiratory system[10].

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Research ReviewClub

Assigning of reviewers

AY: 2022-23

Title: Alterations of mitochondrial network by cigarette smoking and E-Cigarette vaping

Author Name: Dr.J.Sunil

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Name of reviewer (1): Dr M. Srinivas

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: ALTERATIONS OF MITOCHONDRIAL NETWORK BY CIGARETTE SMOKING AND E-CIGARETTE VAPING

AUTHOR NAME: Dr.J.Sunil

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Toxins present in cigarette and e-cigarette smoke constitute a significant cause of illnesses and are known to have fatal health impacts. Specific mechanisms by which toxins present in smoke impair cell repair are still being researched and are of prime interest for developing more effective treatments. Current literature suggests toxins present in cigarette smoke and aerosolized e-vapor trigger abnormal intercellular responses, damage mitochondrial function, and consequently disrupt the homeostasis of the organelle's biochemical processes by increasing reactive oxidative species. Increased oxidative stress sets off a cascade of molecular events, disrupting optimal mitochondrial morphology and homeostasis. Furthermore, smoking-induced oxidative stress may also amalgamate with other health factors to contribute to various pathophysiological processes. An increasing number of studies show that toxins may affect mitochondria even through exposure to secondhand or thirdhand smoke. This review assesses the impact of toxins present in tobacco smoke and e-vapor on mitochondrial health, networking, and critical structural processes, including mitochondria fission, fusion, hyper-fusion, fragmentation, and mitophagy. The efforts are focused on discussing current evidence linking toxins present in first, second, and thirdhand smoke to mitochondrial dysfunction.

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Author Name: Dr.J.Sunil

Name of reviewer (1): Dr M. Srinivas:

Name of reviewer (2): Dr.R.Siva kumar:

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MDPI

Review

Alterations of Mitochondrial Network by Cigarette Smoking and E-Cigarette Vaping

Manasa Kanithi [1], Sunil Junapudi [2], Syed Islamuddin Shah [3], Alavala Matta Reddy [4], Ghanim Ullah [3,*] and Bojjibabu Chidipi [5,*]

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* Correspondence: gullah@usf.edu (G.U.); chidipib@usf.edu (B.C.)

Abstract: Toxins present in cigarette and e-cigarette smoke constitute a significant cause of illnesses and are known to have fatal health impacts. Specific mechanisms by which toxins present in smoke impair cell repair are still being researched and are of prime interest for developing more effective treatments. Current literature suggests toxins present in cigarette smoke and aerosolized e-vapor trigger abnormal intercellular responses, damage mitochondrial function, and consequently disrupt the homeostasis of the organelle's biochemical processes by increasing reactive oxidative species. Increased oxidative stress sets off a cascade of molecular events, disrupting optimal mitochondrial morphology and homeostasis. Furthermore, smoking-induced oxidative stress may also amalgamate with other health factors to contribute to various pathophysiological processes. An increasing number of studies show that toxins may affect mitochondria even through exposure to secondhand or thirdhand smoke. This review assesses the impact of toxins present in tobacco smoke and e-vapor on mitochondrial health, networking, and critical structural processes, including mitochondria fission, fusion, hyper-fusion, fragmentation, and mitophagy. The efforts are focused on discussing current evidence linking toxins present in first, second, and thirdhand smoke to mitochondrial dysfunction.

Keywords: cigarette smoking; e-cigarette smoking; mitochondria; fusion; fission

Citation. Kanithi, M., Junapudi, S., Shah, S.I.; Matta Reddy, A.; Ullah, G.; Chidipi, B. Alterations of Mitochondrial Network by Cigarette Smoking and E-Cigarette Vaping. *Cells* **2022**, *11*, 1688. https://doi.org/10.3390/cells11101688

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1. Introduction

Cigarette smoking (CS), e-cigarette (EC) vaping, and other types of exposure to environmental tobacco smoke, including second and thirdhand smoke, are dangerous to human health, causing diseases that affect every organ system [1–4]. Despite thorough documentation of the extensive damages caused by smoking, it continues to be one of the most prevalent public health concerns worldwide, claiming millions of lives each year [2]. Primary and secondary exposure to tobacco smoke significantly raises the risk of cancer [5–7], coronary heart disease [8–10] stroke [11,12], and bacterial and viral infections, and has detrimental impacts during pregnancy [13–15].

The detrimental effects of tobacco smoke are not limited to smokers. Non-smokers exposed to second and thirdhand smoke in the environment also show an increased risk for health concerns [4]. Cigarette smoke is composed of thousands of chemicals, of which many are volatile, carcinogenic, and cause DNA damage [16–18]. These chemicals can reside in the environment until inhaled by non-smokers to continue causing devastating health impacts. Secondhand smoke (SHS) is a mixture of what is exhaled by the smoker and what is emitted by the burning tobacco product, whereas thirdhand smoke (THS) is the residue

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Title: Pivotal role of vitamin D in mitochondrial health,cardiac function and human reproduction

Author Name: Dr.J.Sunil

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: PIVOTAL ROLE OF VITAMIN D IN MITOCHONDRIAL HEALTH,CARDIAC FUNCTION AND HUMAN REPRODUCTION

AUTHOR NAME: Dr.J.Sunil

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Vitamin D, a secosteroid hormone, appears to have significant beneficial effects on various physiological systems, including the musculoskeletal system. Vitamin D assists in the regulation of numerous critical biological functions and physiological processes in humans, including inflammation, oxidative stress, and mitochondrial respiration, and is also linked to cardiac diseases. It is also reported that vitamin D plays a central role in molecular and cellular mechanisms, which reduce oxidative stress, and tissue damage and regulate cellular health. On the other side, hypovitaminosis D reduces mitochondrial activity and increases oxidative stress and inflammation in the body. Hypervitaminosis D increases the prevalence and severity of cellular damage. It has also been reported that vitamin D is involved in many functions of the reproductive system in human and critically play an important role in the reproductive tissues of women and men. Its role is very well defined, starting from female menarche to menopause, pregnancy, and lactation, and finally in male fertility. Hence, the appropriate amount of vitamin D is necessary to maintain the normal function of cell organelles. Based on recent studies, it is understood that vitamin D is involved in the biological activities of mitochondria in cells, especially in cardiomyocytes. In this review, we emphasized the role of vitamin D in mitochondrial respiration, which could significantly influence heart health and human reproduction.

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EXCLI Journal 2022;21:967-990 – ISSN 1611-2156
Received: April 09, 2022, accepted: June 24, 2022, published: July 20, 2022

Review article:

PIVOTAL ROLE OF VITAMIN D IN MITOCHONDRIAL HEALTH, CARDIAC FUNCTION, AND HUMAN REPRODUCTION

Alavala Matta Reddy[1], Mumtaz Iqbal[2], Hitesh Chopra[3], Shaheda Urmi[4], Sunil Junapudi[5], Shabana Bibi[6,7*], Santosh Kumar Gupta[8], Viajaya Nirmala Pangi[9*], Inderbir Singh[3], Mohamed M. Abdel-Daim[10,11]

1 Department of Zoology, School of Life and Health Sciences, Adikavi Nannaya University, Rajahmundry 533296, Andhra Pradesh, India
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https://dx.doi.org/10.17179/excli2022-4935

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Research ReviewClub

Assigning of reviewers AY:2022-23

Title: The impact of theoretical and practical guidance regarding metered dose inhaler technique on Asthma patients

Author Name: Dr.Abdul Nazer Ali

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: THE IMPACT OF THEORETICAL AND PRACTICAL GUIDANCE REGARDING METERED DOSE INHALER TECHNIQUE ON ASTHMA PATIENTS

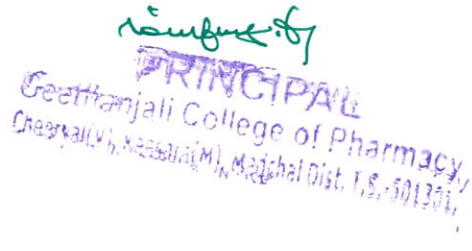
AUTHOR NAME: Dr.Abdul Nazer Ali

DESIGNATION: Professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Background: Asthma is rapidly increasing globally. Inhalation therapy is the backbone for asthma management due to localized delivery and rapid onset of action. Currently, metered dose inhalers (MDIs) are the most widely prescribed and dispensed inhaler devices worldwide due to the advantage of portability, multiple dose delivery and better efficacy. Objectives: The current study aimed to access the effect of educational intervention on asthma patients' competency regarding pressurized metered dose inhaler (pMDI) technique. Methods: Asthma patients were recruited from Pakistan Institute of Medical Sciences (PIMS) Islamabad, Pakistan. Inhaler technique steps based upon "National Asthma Education and Preventive Program" (NAEPP) criteria was set as evaluating tool to evaluate competency of asthma patients regarding MDI appropriate technique. Intervention involved educating study subjects (asthma patients) practically through placebo inhaler and theoretically through inhaler technique directed literature brochures. Pre intervention and post intervention inhaler technique competency was accessed and evaluated statistically. Results: Among 207 asthma patients, majority were never instructed by healthcare professional regarding inhaler technique (78.8%) However, most of the patients were observed to have inadequate inhaler technique (76.3%) at baseline. As the result of educational intervention, the competency of patients regarding inhaler technique was significantly enhanced from 11.6% pre-intervention to 34.8% post-intervention statistically analyzed by McNemar testing. Conclusion: Originally, inhaler technique competency of majority of asthma patients was observed to be inappropriate. However, educational intervention proved to be effective in substantially enhancing the competency of study subjects regarding MDI technique.



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REPORT

AY: 2022-23

Title: The impact of theoretical and practical guidance regarding metered dose inhaler technique on Asthma patients

Author Name: Dr.Abdul Nazer Ali

Name of reviewer (1): Dr. M. Ravi kumar: [signature]

Name of reviewer (2): Dr.Naga kishore: R. N Dishore

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J Young Pharm, 2022; 14(3) : 327-332
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Original Article

The Impact of Theoretical and Practical Guidance Regarding Metered Dose Inhaler Technique on Asthma Patients

Sara Shahid[1,2,*], Fahad Ahmed[3], Gul Shahnaz[1], Muhammad Saqlain[1], Muhammad Ans[4], Anosh Sana[1], Abdul Nazer Ali[5], Ahmad Kamal Ariffin Abdul Jamil[6], Asma Fareed Khan[7,8], Saba Naeem[9], Shakeel Ahmad[9], Aiman Mahmood[4,9], Qandeel Rafi[9], Asifa Anwar[2], Rabeel Khan[2], Naeem Mubarak[2]

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ABSTRACT

Background: Asthma is rapidly increasing globally. Inhalation therapy is the backbone for asthma management due to localized delivery and rapid onset of action. Currently, metered dose inhalers (MDIs) are the most widely prescribed and dispensed inhaler devices worldwide due to the advantage of portability, multiple dose delivery and better efficacy. **Objectives:** The current study aimed to access the effect of educational intervention on asthma patients' competency regarding pressurized metered dose inhaler (pMDI) technique. **Methods:** Asthma patients were recruited from Pakistan Institute of Medical Sciences (PIMS) Islamabad, Pakistan. Inhaler technique steps based upon "National Asthma Education and Preventive Program" (NAEPP) criteria was set as evaluating tool to evaluate competency of asthma patients regarding MDI appropriate technique. Intervention involved educating study subjects (asthma patients) practically through placebo inhaler and theoretically through inhaler technique directed literature brochures. Pre intervention and post intervention inhaler technique competency was accessed and evaluated statistically. **Results:** Among 207 asthma patients, majority were never instructed by healthcare professional regarding inhaler technique (78.8%). However, most of the patients were observed to have inadequate inhaler technique (76.3%) at baseline. As the result of educational intervention, the competency of patients regarding inhaler technique was significantly enhanced from 11.6% pre-intervention to 34.8% post-intervention ($p<0.001$), statistically analyzed by McNemar testing. **Conclusion:** Originally, inhaler technique competency of majority of asthma patients was observed to be inappropriate. However, educational intervention proved to be effective in substantially enhancing the competency of study subjects regarding MDI technique.

Keywords: Asthma, Inhalation therapy, Metered-dose inhalers, Educational intervention, National Asthma Education and Preventive Program.

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DOI: 10.5530/jyp.2022.14.64

INTRODUCTION

Asthma is a chronic inflammatory disease of airways that is characterized by hyper-reactivity of airways that results in bronchial obstruction.[1] Asthma is diagnosed and differentiated from other respiratory conditions based upon previous medical history of patients and measurement of lung functions through spirometry and pulmonary function tests. However, some other medical features for asthma diagnosis include; physical examination for airflow limitation, evidence of wheezing with shortness of breath, airway limitation and allergic status of patient.[2]

The prevalence of asthma has enhanced immensely over the past few years. Currently, about 334 million adults are expected to be suffering from asthma globally. Whereas, it is estimated that further 100 million would be affected by 2025, worldwide.[3] In Pakistan, the prevalence of asthma is approximately 5-10% in adults.[4]

Inhalation therapy plays an integral role in the management of asthma and other respiratory diseases. As compared to systemic administration of medication, inhalation therapy delivers drug right at the site of action, which results in quicker and more efficient onset of action with minimal adverse effects.[5] According to European Respiratory Society and American Thoracic Society guidelines for asthma management, inhaled bronchodilators are the first line treatment for asthma management. Whereas, inhaled corticosteroids (ICS) are most commonly prescribed for long term management of chronic asthma.[6]

Numerous inhalation devices are available worldwide including nebulizers, dry powder inhalers and pressurized meter dose inhalers (pMDIs). Currently, MDIs are the most preferable inhaler devices worldwide due to minimal side effects, greater portability, reduced cost and better efficacy with enhanced lung deposition of active agents.[7] Around 3 million adult asthmatic patients globally, are estimated to be using MDIs.[8]

An optimal inhaler technique is crucial to acquire desired pharmacological effects for effective management of asthma. Use of inappropriate metered dose inhaler technique results in treatment failure.[9] Patients following suboptimal inhaler technique are observed to have poor disease control and are most likely to misuse inhalers, since they tend to gain control over their exacerbated symptoms.[10] Due to increased hospitalization, treatment becomes more expensive, imposing an economic burden to

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Title: High performance liquid chromatography(HPLC) instrumentation and its applications-short review

Author Name: P.Naga Chandrika

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Name of reviewer (1): Dr. P.Neeraja

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TITLE: HIGH PERFORMANCE LIQUID CHROMATOGRAPHY(HPLC) INSTRUMENTATION AND ITS APPLICATIONS-SHORT REVIEW

AUTHOR NAME: P.Naga Chandrika

DESIGNATION: Assistant professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

HPLC is an one of the most important analytical equipment used for many quantitative and qualitative analysis purpose in pharmaceuticals and biological products, it works on adsorption principle in which solid or stationary phase and liquid or mobile phase are involved in order to separate mixture of components into individual components this equipment is used in various purification, isolation, forensic science, research and development. Various types of samples are passed on to the stationary phase through mobile phase based on adhesive and cohesive interactions between sample to sample, sample to mobile phase, sample to stationary phase are held, due to these interactions elution power and retention time(Rt) of isolated components from mixture of components. HPLC has been used in various TDM analyses also due to its high accuracy, efficiency. HPLC have sophisticated instrumental setup in which high pressure mobile phase and sample mixture is passed through stationary phase (column) ,now this pressured eluents through column can exposed to detector by spectroscopy method, since HPLC is an combination of chromatography and spectroscopy.

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Author Name: P.Naga Chandrika

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Try to be specific on HPLC applications

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DOI: 10.24327/IJRSR

Review Article

HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC) INSTRUMENTATION AND ITS APPLICATIONS - SHORT REVIEW

Sreelakshmi R.K[1]*, Srinivas M[2], Naga Chandrika[3], Rajkumar[4] and Durgesh.M.Gavande[5]

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ABSTRACT

HPLC is an one of the most important analytical equipment used for many quantitative and qualitative analysis purpose in pharmaceuticals and biological products, it works on adsorption principle in which solid or stationary phase and liquid or mobile phase are involved in order to separate mixture of components into individual components this equipment is used in various purification, isolation, forensic science, research and development. Various types of samples are passed on to the stationary phase through mobile phase based on adhesive and cohesive interactions between sample to sample, sample to mobile phase, sample to stationary phase are held, due to these interactions elution power and retention time(Rt) of isolated components from mixture of components. HPLC has been used in various TDM analyses also due to its high accuracy, efficiency. HPLC have sophisticated instrumental setup in which high pressure mobile phase and sample mixture is passed through stationary phase (column) ,now this pressured eluents through column can exposed to detector by spectroscopy method, since HPLC is an combination of chromatography and spectroscopy

INTRODUCTION

High performance liquid chromatography or high pressure liquid chromatography is a specific column chromatography equipment in this column is made into stationary phase by packing suitable solid material like silica-G , amylose, cellulose [1]. HPLC consist of two main components which are mobile phase, column by using this two components chromatography analysis is performed in various biochemistry and pharmaceuticals department [2].pump is used to pressured flow of mobile phase on column, HPLC have various capacities in order to withstand back pressure . Analytic nature plays an important role since it shows chemical and physical interaction with stationary phase (column) and mobile phase (3). Analyte solubility in the mobile phase is important as polar solutes are soluble in polar solvents, polarity and nonpolarity of the sample decides the mobile phase and also type of HPLC for analysis (4). The sample to be analyzed is introduced in small volume to the stream of mobile phase and is retarded by specific chemical or physical interactions with the stationary phase(2,4). the amount of retardation depends on nature of analyte and composition of mobile phase and column since either it show more interaction with column then elution time is more. retardation is also more due to interaction of sample and column (5), when interaction between mobile phase and sample is more sample elution is very speed, retardation factor is less (5). The time at which specific sample elutes are known as retention time. Common mobile phase solvents used in the hplc are based on the polarity chart, solvents are taken in combination or isolated form based on physicochemical properties of analyte (6). This mobile phase is run either through gradient program or isocratic program in order to achieve desired separation or purification of sample or analyte(5,6) . HPLC run time also place important role for complex mixture of samples like phytochemicals, xanthophylls, each sample Rt value is specific to each method (7), Rt value difference between sample composition peak important for preparative or collection chromatography to quantify the each components in a sample(6, 8).

Types of HPLC

HPLC operation can be defined into various types based on their analyte chemical profile like polarity nature, molecular weight [9]

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Research Review Club

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AY: 2022-23

Title: Method development and validation of acebrophyline and levocetrizine HCL and montelkast in tablet dosage form by RP-HPLC method

Author Name: D. Ashlesha

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Name of reviewer (1): Dr. N. Anjaneyulu

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: METHOD DEVELOPMENT AND VALIDATION OF ACEBROPHYLINE AND LEVOCETRIZINE HCL AND MONTELKAST IN TABLET DOSAGE FORM BY RP-HPLC METHOD

AUTHOR NAME: D. Ashlesha

DESIGNATION: Assistant professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

A new, simple, precise, accurate and reproducible RP-HPLC method for Simultaneous estimation of bulk and pharmaceutical formulations.Separation of Acebrophyline and Levocetrizine Hcl AND Montelkast successfully achieve done HIBAR C18 250X 4.6mm, 5µm, equivalent in an isocratic mode utilizing NaH2PO4: Methanol: ACN (55:25:20) at a flow rate of 1.0mL/min and elute was monitored at 282nm, with a retention time of 1.778and 2.261 and 2.817 minutes for Acebrophyline and Levocetrizine Hcl and Montelkast respectively. The method was validated and there sponse was found to be linear in the drug concentration range of 50µg/ml to150 µg/ml for Acebrophyline and 50µg/ml to150 µg/ml for Levocetrizine Hcl and a50µg/ml to150 µg/ml for Montelkast . The values of the correlation coefficient were found to0.999 for Nitazoxanide and 1 for Ofloxacin and 0.999 for Montelkast respectively. The LOD and LOQ for Acebrophyline were found to be 0.251 and 0.863 respectively. The LOD and LOQ for Levocetrizine Hcl were found to be 0.0137 and 0.0456 respectively. . The LOD and LOQ for Montelkast were found to be 0.023 and 0.077 respectively. This method was found to be good percentage recovery for Acebrophyline and Levocetrizine Hcl and Montelkast were found to be 100 and 100 and 100 respectively indicates that the proposed method is highly accurate. The specificity of the method shows good correlation between retention times of standard with the sample so, the method specifically determines the analyte in the sample without interference from excipients of tablet dosage forms. The method was extensively validated according to ICH guidelines for Linearity, Accuracy, Precession, Specificity and Robustness.

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REPORT

AY: 2022-23

Title: Method development and validation of acebrophyline and levocetrizine HCL and montelkast in tablet dosage form by RP-HPLC method

Author Name: D. Ashlesha

Name of reviewer (1): Dr. N. Anjaneyulu: N. Anj

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METHOD DEVELOPMENT AND VALIDATION OF ACEBROPHYLINE AND LEVOCETRIZINE HCL AND MONTELKAST IN TABLET DOSAGE FORM BY RP-HPLC METHOD

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Abstract - A new, simple, precise, accurate and reproducible RP-HPLC method for Simultaneous estimation of bulk and pharmaceutical formulations. Separation of Acebrophyline and Levocetrizine Hcl AND Montelkast successfully achieve done HIBAR C18 250X 4.6mm, 5µm, equivalent in an isocratic mode utilizing NaH2PO4: Methanol: ACN (55:25:20) at a flow rate of 1.0mL/min and elute was monitored at 282nm, with a retention time of 1.778and 2.261 and 2.817 minutes for Acebrophyline and Levocetrizine Hcl and Montelkast respectively. The method was validated and there sponse was found to be linear in the drug concentration range of 50µg/ml to150 µg/ml for Acebrophyline and 50µg/ml to150 µg/ml for Levocetrizine Hcl and a50µg/ml to150 µg/ml for Montelkast . The values of the correlation coefficient were found to0.999 for Nitazoxanide and 1 for Ofloxacin and 0.999 for Montelkast respectively. The LOD and LOQ for Acebrophyline were found to be 0.251 and 0.863 respectively. The LOD and LOQ for Levocetrizine Hcl were found to be 0.0137 and 0.0456 respectively. . The LOD and LOQ for Montelkast were found to be 0.023 and 0.077 respectively. This method was found to be good percentage recovery for Acebrophyline and Levocetrizine Hcl and Montelkast were found to be 100 and 100 and 100 respectively indicates that the proposed method is highly accurate. The specificity of the method shows good correlation between retention times of standard with the sample so, the method specifically determines the analyte in the sample without interference from excipients of tablet dosage forms. The method was extensively validated according to ICH guidelines for Linearity, Accuracy, Precession, Specificity and Robustness.

Keywords: *Acebrophyline, Levocetrizine Hcl, Montelkast High performance liquid chromatography.*

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Research Review Club

Assigning of reviewers AY: 2022-23

Title: Preparation and assessment of fast disintegrating tablet of sodium diclofenac

Author Name: D. Ashlesha

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: PREPARATION AND ASSESSMENT OF FAST DISINTEGRATING TABLET OF SODIUM DICLOFENAC

AUTHOR NAME: D. Ashlesha

DESIGNATION: Assistant professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Fast Mouth Dissolving Tablets (FMDT) are a type of oral solid dosage form designed for patients who find it difficult to swallow pills, particularly geriatric and pediatric patients. These tablets disintegrate rapidly when placed on the tongue, releasing the drug into the saliva, which dissolves or disperses, allowing the patient to swallow the medication without the need for water. Additionally, some drugs that are soluble in saliva can be absorbed from the mouth, pharynx, and esophagus, potentially improving bioavailability by avoiding first-pass metabolism. Considering these benefits, the formulation of FMDT of Diclofenac Sodium was considered appropriate. A literature review found that FMDT of Terbutaline Sulphate have not been developed. Hence, an attempt was made to formulate and evaluate FMDT of Diclofenac Sodium using various techniques to improve patient compliance and develop a new, convenient dosage form for geriatric and pediatric patients.

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Research ReviewClub

REPORT

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Author Name: D. Ashlesha

Name of reviewer (1): Dr. N. Anjaneyulu:

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PREPARATION AND ASSESSMENT OF FAST DISINTERGRATING TABLET OF SODIUM DICLOFENAC

N. Mamatha, University College of Technology, Osmania University, Hyderabad, 500039
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B Shirisha, University College of Technology, Osmania University, Hyderabad, 500039

Abstract - Fast Mouth Dissolving Tablets (FMDT) are a type of oral solid dosage form designed for patients who find it difficult to swallow pills, particularly geriatric and pediatric patients. These tablets disintegrate rapidly when placed on the tongue, releasing the drug into the saliva, which dissolves or disperses, allowing the patient to swallow the medication without the need for water. Additionally, some drugs that are soluble in saliva can be absorbed from the mouth, pharynx, and esophagus, potentially improving bioavailability by avoiding first-pass metabolism. Considering these benefits, the formulation of FMDT of Diclofenac Sodium was considered appropriate. A literature review found that FMDT of Terbutaline Sulphate have not been developed. Hence, an attempt was made to formulate and evaluate FMDT of Diclofenac Sodium using various techniques to improve patient compliance and develop a new, convenient dosage form for geriatric and pediatric patients.

1. INTRODUCTION

Most commonly employed oral dosage forms are tablets and capsules. Compressed tablets are the most widely used dosage forms for a number of reasons. They are convenient, easy to use, less expensive, tamper- proof, easy to pack and ship and more stable than other oral dosage forms. Also tablets lend themselves to certain special release profile products such as enteric or delayed release products. 1 A Fast Mouth Dissolving Tablet (FMDT) can be defined as an oral solid dosage form which when placed on tongue, disintegrates rapidly, releasing the drug, which dissolves or disperses in the saliva and then swallowed. Some drugs are absorbed from the mouth, pharynx, and oesophagus as the saliva passes down in to the stomach. The main problem with the common oral dosage forms is that they have to be swallowed along with water. Many patients find it difficult to swallow tablets, 'Fast Dissolve', 'Quick Dissolve', 'Rapid Melt', 'Quick Disintegrating', 'Mouth Dissolving', 'Orally Disintegrating', 'Oro Dispersible', 'Melt - in-Mouth' etc. are terms that represent the same drug delivery systems. Recently Orally Disintegrating

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Research Review Club

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AY: 2022-23

Title: Method development and validation for simultaneous estimation of lamivudine and raltegravir by UV spectrophotometry and RP-HPLC

Author Name: D. Ashlesha

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Name of reviewer (1): Dr. N. Anjaneyulu

Name of reviewer (2): Dr. M. Ravi kumar

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: METHOD DEVELOPMENT AND VALIDATION FOR SIMULTANEOUS ESTIMATION OF LAMIVUDINE AND RALTEGRAVIR BY UV SPECTROPHOTOMETRY AND RP-HPLC

AUTHOR NAME: D. Ashlesha

DESIGNATION: Assistant professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

The UV-spectroscopic method and RPHPLC method were developed and validated for the estimation of Lamivudine/Raltegravir per ICH guidelines. Buffer(opa): Acetonitrile (50:50) was used as the solvent. The λmax of Lamivudine/Raltegravir was found to be 302 nm and it was proved linear in the concentration range of Lamivudine 1-8µg/ml and for Raltegravir 2-16µg/ml with a correlation coefficient value of 0.999. Accuracy studies of UVspectroscopy method was performed at three different levels, i.e., 50%, 100%, and 150% and recovery was found to be in the range of 99.6 to 100.8% for Lamivudine and the range of 98.3 to 101.2% for Raltegravir respectively. The limit of detection (LOD) and limit of quantification (LOQ) were found to be 0.117 and 0.357 µg/ml for Lamivudine and 0.19 and 0.583 for Raltegravir. A simple, fast, accurate and precise RP-HPLC method was developed by using Acetonitrile: water, 0.1% ortho phosphoric acid(60:40) .The method was developed by using Kromosil 250 column (250 mm × 4.6 mm, 5µm particle size).and the mobile phase was pumped with Acetonitrile and water (hplc grade water)and PH was adjusted to 3.2 by using ortho phosphoric acid and the mobile phase was pumped at 1ml/min flowrate and the temperature was maintained at 30°c.the retention time for Lamivudine/raltegravir were found to be 2.110 and 4.617 and the total run time was found to be 8min,the no of Theretical plates and Tailing factor of Lamivudine and Raltegravir were found to be 2584,1.36 and 3448,1.09, RP-HPLC method was found to be Linear in the range of Lamivudine/Raltegravir is 37.5-225µg/ml and 75- 450µg/ml with a correlation coeffiecient of 0.999 the accuracy studies of RP-HPLC method was performed at three different levels i.e.,50%,100%,150% and recovery was found to be 99.24 to 100.13% for Lamivudine and 98.18 to 99.27% for Raltegravir respectively. Repeatability and intermediate results of Lamivudine/Raltegravir were found to be 0.55,1.33 and 0.8,0.4.the % RSD was less than 2 the solution stability was determined at 0hr&24hr the %RSD of solutions were less than 2.the Ruggedness values were found to be 0.092 and 0.184 respectively. the %purity of the Dutrebis(label claim 150mg,300mg) was found to be 99.64 for Lamivudine and 100.5 for Raltegravir. The limit of Detection(LOD) and limit of Quantification(LOQ) were found to be 0.441 and 1.336µg/ml for Lamivudine and 0.031 and 0.093µg/ml for Raltegravir for RP-HPLC method. the sample was degraded in acidic,basic,peroxide,heat,photolytic,neutral and the results of Lamivudine/Raltegravir were found to be 5.85,2.6,3.66,1.88,0.83,0.92 and 5.66,2.76,4.89,1.81,0.78,0.69 respectively the above method was a rapid tool for routine analysis of Lamivudine/Raltegravir in the bulk and Pharmaceutical Dosage form.

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METHOD DEVELOPMENT AND VALIDATION FOR SIMULTANEOUS ESTIMATION OF LAMIVUDINE AND RALTEGRAVIR BY UV SPECTROPHOTOMETRY AND RP-HPLC

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TITLE: DESIGN AND EVALUATION OF HERBAL PREPARATIONS OF COLEBROOKEA OPPOSITIFOLIA AND AZADIRACHTA INDICA LEAF EXTRACTS FOR TOPICAL DELIVERY

AUTHOR NAME: D. Ashlesha

DESIGNATION: Assistant professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Herbal medicines, also known as herbal drugs, are finished products containing active ingredients derived from plant materials such as leaves, stems, roots, or combinations thereof. They have gained widespread popularity as a natural alternative to traditional therapies for various diseases. In the form of dietary supplements, herbal medicines are consumed in the form of tablets, capsules, powders, teas, extracts, or fresh or dried plants. Despite the common perception that herbal medicines are safe, they should not be consumed without a prescription. The increasing consumption of herbal medicines reflects a global trend towards the use of natural remedies.

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Author Name: D. Ashlesha

Name of reviewer (1): Dr. Bharat Bhushan Mohapatra:

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DESIGN AND EVALUATION OF HERBAL PREPARATIONS OF Colebrookea oppositifolia AND Azadirachta indica LEAF EXTRACTS FOR TOPICAL DELIVERY

D. Ashlesha, Department of Analysis, Geethanjali College of Pharmacy, Cheeryal Village, Keesara Mandal, Hyderabad, Telangana 501301

B Shirisha, University College of Technology, Osmania University, Hyderabad, 500039

N. Mamatha, University College of Technology, Osmania University, Hyderabad, 500039

Abstract - Herbal medicines, also known as herbal drugs, are finished products containing active ingredients derived from plant materials such as leaves, stems, roots, or combinations thereof. They have gained widespread popularity as a natural alternative to traditional therapies for various diseases. In the form of dietary supplements, herbal medicines are consumed in the form of tablets, capsules, powders, teas, extracts, or fresh or dried plants. Despite the common perception that herbal medicines are safe, they should not be consumed without a prescription. The increasing consumption of herbal medicines reflects a global trend towards the use of natural remedies.

1. INTRODUCTION

The formulation and evaluation of herbal formulations of Colebrookea oppositifolia and Azadirachta indica leaf extracts for topical delivery involves combining these two plant extracts and developing them into a product suitable for topical application. This process involves determining the optimal concentration of the extracts, choosing appropriate excipients, and assessing the physical and chemical stability of the final product. The aim of this formulation is to deliver the active ingredients from these plants effectively through the skin for therapeutic benefits. The evaluation of the formulated product involves various tests such as skin irritation, in vitro drug release, and skin permeation studies to determine its safety and efficacy for topical use. The successful formulation and evaluation of these herbal extracts can lead to the development of a new natural product for the treatment of various skin conditions.

Colebrookea oppositifolia Smith belongs to the family Lamiaceae. Leaves are used in the treatment of wounds, bruises and fracture besides possessing antifertility activity; roots are used in the treatment of epilepsy; oil possesses fungitoxic property. Some of the phytoconstituents reported are: bark contains flavone glycosides viz. chrysin, negletein and landenein; leaves contain quercetin, flavones 5, 6, 7-tri and 5, 6, 7, 4-tetra methoxy flavones; root contains

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Assigning of reviewers A.Y: 2022-23

Title: Efficacy of oral ciprofloxacin and oral cefixime in leukorrhea patients in a tertiary care hospital:Comparative study

Author Name: S.Kiranmai

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Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

TITLE: EFFICACY OF ORAL CIPROFLOXACIN AND ORAL CEFIXIME IN LEUKORRHEA PATIENTS IN A TERTIARY CARE HOSPITAL:COMPARATIVE STUDY

AUTHOR NAME: S.Kiranmai

DESIGNATION: Assistant professor

COLLEGE: GEETHANJALI COLLEGE OF PHARMACY

Abstract

Leukorrhea is a yellowish, whitish, or greenish discharge through the female vaginal opening which may be usual or a marker of infection. In women, leukorrhea is a prevalent problem, especially in India which shouldn't be neglected. Leukorrhea is usually treated with fluoroquinolones and cephalosporin antibiotics. The initial objective of the study is to compare the efficacy of drugs ciprofloxacin and cefixime in patients with Leukorrhea. To determine which drug is more effective in a certain period to relieve the patient condition before laboratory investigations done. In this study, the efficacy on Ciprofloxacin v/s cefixime in patients with leukorrhea in gynecology OPD, a total of 100 samples was taken into consideration out of which 50 prescriptions consisting of ciprofloxacin and 50 prescriptions consisting of cefixime. It was observed statistically that relief of symptoms varied in 2 groups, however clinically Group-A subjects(ciprofloxacin) showed better efficacy compared to Group B (cefixime). These findings confirm that the ciprofloxacin is preferable for patients having leukorrhea (White discharge).

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EFFICACY OF ORAL CIPROFLOXACIN AND ORAL CEFIXIME IN LEUKORRHEA PATIENTS IN A TERTIARY CARE HOSPITAL: COMPARATIVE STUDY

P. Ramya[1], S. Ashwini[1], N. Madhuri[1], Dr. S. Kiranmai[2], Dr. Padma[3]

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Corresponding Author: P. Ramya

ABSTRACT

Leukorrhea is a yellowish, whitish, or greenish discharge through the female vaginal opening which may be usual or a marker of infection. In women, leukorrhea is a prevalent problem, especially in India which shouldn't be neglected. Leukorrhea is usually treated with fluoroquinolones and cephalosporin antibiotics. The initial objective of the study is to compare the efficacy of drugs ciprofloxacin and cefiximein patients with Leukorrhea. To determine which drug is more effective in a certain period to relieve the patient condition before laboratory investigations done. In this study, the efficacy on Ciprofloxacin v/s cefixime in patients with leukorrhea in gynecology OPD, a total of 100 samples was taken into consideration out of which 50 prescriptions consisting of ciprofloxacin and 50 prescriptions consisting of cefixime. It was observed statistically that relief of symptoms varied in 2 groups, however clinically Group-A subjects(ciprofloxacin) showed better efficacy compared to Group B (cefixime). These findings confirm that the ciprofloxacin is preferable for patients having leukorrhea (Whitedischarge).

Keywords: Antibiotics, Leukorrhea, gynecological problem, white discharge, leukorrhea symptomsassessment questionnaire, OPD of gynecology.

INTRODUCTION

Vaginal discharge is generally creamy and yellow-coloured discharge is referred to as leukorrhea. The vaginal discharge drains out microbes and cell debris through the vagina, keeping it clean and infection-free[4-6] of cases. Physiological leukorrhea is a normal episode of white vaginal discharge. [4-6] If the appearance, consistency, thickness, or odor of the discharge varies from common, leukorrhea might become abnormal. Antibacterial and antifungal medications are given to treat leukorrhea infections. Yeast infections are treated with vaginal gels and creams. Treatments are usually grounded on the fundamental source and require an expert diagnosis from a gynecologist before being implemented. Antibacterial such as fluoroquinolones, clindamycin, cephalosporins, tetracyclines, and nitrofurantoin are given to treat leukorrhea. Since most treatment options have antibiotic resistance and less efficacy in cases of lower abdominal infections, we chose to compare the 2 different classes of antibiotic efficacy that are readily available. Here Ciprofloxacin and cefixime are currently being compared in respect of efficacy among those classes.

MATERIALS AND METHODS

STUDY DESIGN: The study was designed to be a prospective, observational, in comparing the efficacy of ciprofloxacin v/s cefixime in patients with leukorrhea. A