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SOUVENIR

NATIONAL CONFERENCE

TITLED ON

PHARMACOECONOMICS & HEALTH CARE

Date : 12TH MAY, 2023

AUTHORS

Dr. Amarjeet Singh

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International Journal of Pharmaceutical Research and Applications
Volume 8, Issue 1 Jan-Feb 2023, pp: 1432-1440 www.ijprajournal.com ISSN: 2249-7781

Research Article on Formulation and Evaluation of Metformin Hydrochloride Nanoparticles for the Treatment of Type 2 Diabetes

Saloni Manglik*1 Dr. Amarjeet Singh2 Savisa Rao3 Sandhya Sharma4
1 Assistant Professor, Innovative College of Pharmacy, Greater Noida, U.P.
2.Professor/ H.O.D, Innovative College of Pharmacy, Greater Noida, U.P.
3.Assistant Professor, Maharaja Ranjit Singh Punjab Technical University.
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Submitted: 01-02-2023 Accepted: 10-02-2023

ABSTRACT-
In the previous two decades, there has been a marked increase in the use of Novel Drug Delivery Systems, and this effort makes a little contribution to this advancement. The goal of this Design and Development of Nanoparticles, a type of Novel Medication Delivery System, is to raise the bioavailability of dosage forms, to increase the biological half-life of the drug, and to improve patient compliance. Nanoparticles are prepared by various methods, one of which is Solvent Evaporation Method which is chosen here for preparation of nanoparticles for the treatment of Type 2 diabetes. Nanoparticles are formulated using a suitable formula as mentioned further, and among all the formulations, formula F4 outperformed all other formulations. The evaluation results of F4was, found to be much promising. The formula F4 showed drug entrapment efficiency of 83.67%, percentage yield of 77.42% and In-vitro release of drug was found to be 79.64% in 14 hrs.

Keywords: Novel Drug delivery, Chitosan, Solvent evaporation method, Type2 Diabetes, Nanomedicines

I. INTRODUCTION-

Nanoparticles are among the most important materials of our time, and they have the potential to change the world. There has been various research conducted on this topic. Nanoparticles are now being employed in a variety of industries, including the electronics industry, medicinal applications, medicines, cosmetics, and environmental activities, among others.

Around the world, there is an increase in investment in nanotechnology applications and research. There is insufficient information available about the current use of nanoparticles and the rate at which they are produced. On the other hand, according to current estimates of nanoparticle production rates, around 2,000 tonnes were created in 2004 and the pace of production is predicted to climb to 58,000 tonnes by 2020. Because of the rising manufacturing and utilisation of nanoparticles, there will be an increase in environmental and human health problems as well.

Narrow-banded polymers are not simple molecules in and of themselves, and as such they consist of three layers, which are as follows:
(a) The topmost layer (which can be designed and synthesised with various of small molecules, polymers and metal ions).
(b) The shell layer, (that is a chemically different substance from the core) and
(c) The core(which is essentially the main and the central section of the nanoparticle and is commonly termed as the nanoparticle many times) are the three layers that make up the NP. Because of their remarkable features, these materials have piqued the curiosity of researchers working across a wide range of disciplines.

Nanoparticles are particles with sizes ranging between one and one hundred nanometers and are formed of carbon, metal oxides, metal and organic materials. Nanoparticles have diverse chemical, physical and biological properties as compared to their larger-scale counterparts. This is especially true at the nanoscale. The nanoparticles have a variety of shapes, sizes, and structural configurations. It can be spiral, cylindrical, spherical, conical, hollow core, tubular, flat, and the size ranges are from 1 nm to 1000 nm. It can also be irregular in shape. The surface might be homogeneous or uneven, with surface variations or without surface variations. Some nanoparticles are amorphous or crystalline in nature, containing single or multi crystal solids that areeither in a free or flocculated state, depending on the type of particle (Ealia et al., 2017, Garcia et al., 2007)

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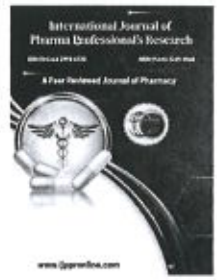

A Review on Personalized Medicine: A Medical Treatment to The Individual Characteristics of Each Patient

MOHAMMAD ASIF[1*], ANSHUMAN PANDEY[2], FARHEEN SANAD KHAN[3], AYUSHI RAI[4], NAJMUS SAQIB[5], QUMRE ALAM[6], AKASH JOHRI[7].

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Keywords: Biomarker, Diagnostic Test (CDx), Genomics, Pharmacogenomics, Next-generation Sequencing, Stratification.

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ABSTRACT:

The idea of Personalised Medicine is not new – Doctors have long recognised that different patients react differently to medical interventions because the goal of medicine has always been to treat each patient as an individual. What is new is that paradigmatic advances in science and technology hold out from hope for the creation of targeted therapeutics and tools for determining who will benefit from a medical treatment and who will have negative side effects. Personalised Medicine has made significant advancements in recent years, demonstrating the capability of science to radically advance medical practice. Despite this, the problems of understanding human health and disease remain sobering. The intricate interplay of environmental, genetic, social, and cultural factors affects not just "Who We Are.." but also "What Disease We Are Prone To. "Fundamental advancements in our comprehension of each of these characteristics, as well as how they interact, will be necessary to realize a genuinely individualized approach to patient-care. Personalised Medicine is something that concerns us all. Our unique viewpoints have an impact on how we interpret this area's evolution. This section explains the idea of Personalised Medicine as well as various modern definitions and uses of the term.

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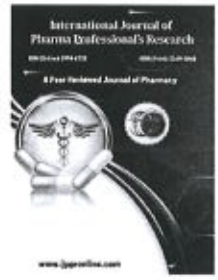

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Volume 12, Issue 4, 816-824 Review Article ISSN 2278 – 4357

A REVIEW ARTICLE ON PATHOLOGICAL MECHANISM OF DIABETIC NEPHROPATHY

Qumre Alam[1]*, Amarjeet Singh[2], Akash Johri[3], AmanPandit[4]

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Qumre Alam
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ABSTRACT

Diabetic nephropathy is correlated with enhanced mortality in diabetic patients and in most of the countries it was the significant reason for renal failure. As a consequence of an association between hemodynamic and metabolic factors, diabetic nephropathy appears to happen. In the diabetic kidney, the glucose- dependent pathway is triggered. These include enhanced oxidative stress and sophisticated glycated end-product accumulation. Hemodynamic factors are also involved in diabetic nephropathy pathogenesis and include enhanced blood related and kidney glomerulus stress and trigger the multiple pathways of vasoactive hormones including rennin-angiotensin and endotheline. This review is aimed at bringing together the present updated mechanism engaged in diabetic nephropathy pathogenesis.

KEYWORDS: Diabetic nephropathy, Endothelin, Rennin-angiotensin, Nephrin.

INTODUCTION

Diabetic nephropathy is the primary reason for chronic kidney disease among people requiring kidney transplantation in European countries as the incidence of diabetes is rising globally. Furthermore, it is correlated with a higher danger in people with cardiovascular disorders sometimes which may leads to death. Vigorous control of blood glucose level as Treg depletion in diabetic mice exacerbated albuminuria and hyper filtration while Treg's adoptive transfer enhanced DN.[26] Well as hypertension by using inhibitors of angiotensin converting enzyme or angiotensin receptor blockers II slow down but don't stop diabetic nephropathy from starting and progressing. Therefore, diabetic nephropathy's illness burden

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JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

COMPARATIVE ANALYSIS OF VARIOUS RAT MODELS OF DIABETIC NEPHROPATHY: STRENGTHS, LIMITATIONS, AND TRANSLATIONAL RELEVANCE)

DEEPA CHAUHAN[1], QUMRE ALAM[2], DR. AMARJEET SINGH[3], AKASH JOHRI[4]

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Abstract:Diabetic nephropathy is a severe complication of diabetes mellitus and a leading cause of end-stage renal disease (ESRD) worldwide. Various rat models of diabetic nephropathy have been developed over the years, each with its strengths and limitations. Understanding these models and their translational relevance is critical for developing effective therapeutic strategies for this debilitating condition. In this review article, we provide a comparative analysis of various rat models of diabetic nephropathy, highlighting their strengths and limitations, and discussing their translational relevance. We examine the key pathological features of diabetic nephropathy recapitulated in these models, including mesangial expansion, glomerular hypertrophy, proteinuria, and tubulointerstitial fibrosis. Among the different rat models of diabetic nephropathy, the streptozotocin (STZ) model is the most commonly used model, but it has limitations in recapitulating the natural history of human diabetic nephropathy. Other models include the Akita model and the Zucker diabetic fatty (ZDF) model, each with their own strengths and limitations. Despite these limitations, rat models of diabetic nephropathy remain an essential tool for studying the pathophysiology of this condition and for developing new therapeutic strategies. Recent advances in genetic engineering and stem cell technologies have led to the development of more sophisticated rat models that closely mimic the pathophysiology of human diabetic nephropathy. These models hold great promise for improving our understanding of diabetic nephropathy and for developing new and effective therapies for patients with this condition.

Keywords: Diabetic nephropathy, rat models, streptozotocin, Akita, Zucker diabetic fatty, pathophysiology, therapeutic strategies, genetic engineering, stem cell technologies.

I. INTRODUCTION

Diabetic nephropathy is a serious complication of diabetes mellitus and a major contributor to end-stage renal disease (ESRD) globally. Several rat models of diabetic nephropathy have been developed over the years, each with its own strengths and limitations[31]. These models have been essential for understanding the pathogenesis of diabetic nephropathy and for developing therapeutic strategies. Therefore, understanding the strengths, limitations, and translational relevance of these rat models is crucial.

In this review article, we aim to provide a comparative analysis of various rat models of diabetic nephropathy, highlighting their strengths and limitations, and discussing their translational relevance[5]. We will also examine the key pathological features of diabetic nephropathy that are recapitulated in these models, including mesangial expansion, glomerular hypertrophy, proteinuria, and tubulointerstitial fibrosis.

Among the various rat models of diabetic nephropathy, the most commonly used model is the streptozotocin (STZ) model due to its simplicity and reproducibility[1]. However, this model has certain limitations in terms of recapitulating the natural history of human diabetic nephropathy. Other rat models of diabetic nephropathy include the Akita model and the Zucker diabetic fatty (ZDF) model, each with its own strengths and limitations. The Akita model, for instance, is a genetic model that closely mimics type 1 diabetes but may have limited translational relevance to human disease[16]. The ZDF model, on the other hand, recapitulates several key features of human diabetic nephropathy, such as proteinuria and glomerular hypertrophy, but has limitations in terms of recapitulating tubulointerstitial fibrosis[6].

Despite these limitations, rat models of diabetic nephropathy remain an indispensable tool for studying the pathophysiology of this condition and for developing new therapeutic strategies. Recent advances in genetic engineering and stem cell technologies have led to the development of more sophisticated rat models that more closely mimic the pathophysiology of human diabetic nephropathy. These models hold great promise for improving our understanding of diabetic nephropathy and for developing new and effective therapies for patients with this condition.

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In this review article, we aim to provide a comparative analysis of various rat models of diabetic nephropathy, highlighting their strengths and limitations, and discussing their translational relevance[5]. We will also examine the key pathological features of diabetic nephropathy that are recapitulated in these models, including mesangial expansion, glomerular hypertrophy, proteinuria, and tubulointerstitial fibrosis.

Among the various rat models of diabetic nephropathy, the most commonly used model is the streptozotocin (STZ) model due to its simplicity and reproducibility[1]. However, this model has certain limitations in terms of recapitulating the natural history of human diabetic nephropathy. Other rat models of diabetic nephropathy include the Akita model and the Zucker diabetic fatty (ZDF) model, each with its own strengths and limitations. The Akita model, for instance, is a genetic model that closely mimics type 1 diabetes but may have limited translational relevance to human disease[16]. The ZDF model, on the other hand, recapitulates several key features of human diabetic nephropathy, such as proteinuria and glomerular hypertrophy, but has limitations in terms of recapitulating tubulointerstitial fibrosis[6].

Despite these limitations, rat models of diabetic nephropathy remain an indispensable tool for studying the pathophysiology of this condition and for developing new therapeutic strategies. Recent advances in genetic engineering and stem cell technologies have led to the development of more sophisticated rat models that more closely mimic the pathophysiology of human diabetic nephropathy. These models hold great promise for improving our understanding of diabetic nephropathy and for developing new and effective therapies for patients with this condition.

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COMPARATIVE ANALYSIS OF VARIOUS RAT MODELS OF DIABETIC NEPHROPATHY: STRENGTHS, LIMITATIONS, AND TRANSLATIONAL RELEVANCE)

DEEPA CHAUHAN[1], QUMRE ALAM[2], DR. AMARJEET SINGH[3], AKASH JOHRI[4]

[1]M.pharm Scholar, Innovative College of Pharmacy, Greater Noida, U.P.
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Abstract:Diabetic nephropathy is a severe complication of diabetes mellitus and a leading cause of end-stage renal disease (ESRD) worldwide. Various rat models of diabetic nephropathy have been developed over the years, each with its strengths and limitations. Understanding these models and their translational relevance is critical for developing effective therapeutic strategies for this debilitating condition. In this review article, we provide a comparative analysis of various rat models of diabetic nephropathy, highlighting their strengths and limitations, and discussing their translational relevance. We examine the key pathological features of diabetic nephropathy recapitulated in these models, including mesangial expansion, glomerular hypertrophy, proteinuria, and tubulointerstitial fibrosis. Among the different rat models of diabetic nephropathy, the streptozotocin (STZ) model is the most commonly used model, but it has limitations in recapitulating the natural history of human diabetic nephropathy. Other models include the Akita model and the Zucker diabetic fatty (ZDF) model, each with their own strengths and limitations. Despite these limitations, rat models of diabetic nephropathy remain an essential tool for studying the pathophysiology of this condition and for developing new therapeutic strategies. Recent advances in genetic engineering and stem cell technologies have led to the development of more sophisticated rat models that closely mimic the pathophysiology of human diabetic nephropathy. These models hold great promise for improving our understanding of diabetic nephropathy and for developing new and effective therapies for patients with this condition.

Keywords: Diabetic nephropathy, rat models, streptozotocin, Akita, Zucker diabetic fatty, pathophysiology, therapeutic strategies, genetic engineering, stem cell technologies.

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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 Vancomycin Loaded Microsphere for the Treatment of Septic Arthritis

Akanksha Tripathi[1], Mrs. Roshan Zehra[2], Dr. Amarjeet Singh[3]

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

Abstract

Appropriate delivery of drug to the sites is crucial via conventional drug delivery system. A controlled and sustained release system microsphere loaded with vancomycin was developed by using porous and pH-responsive poly(lactic-co-glycolic acid) (PLGA). The microspheres, developed through the W/O/W double-emulsion evaporation method, comprised a PLGA-based shell and a core containing Vancomycin.To promote colon targeting of the systems was directly coated with poly(methacrylic acid-co-methyl methacrylate) (Eudragit-S100). The optimized preparation conditions for PLGA–Eudragit–Van microspheres were investigated and characterized, and it demonstrated as a porous microstructures with regular shape and uniform size and the characteristic of controlled drug release. The results of the study showedits further utilization for the treatment of septic arthritis.

Keywords:Polylactic-co-glycolic acid,Targeted drug delivery system, Eudragit-S100, Septic Arthritis

Introduction

Septic arthritis is a painful joint infection and a detrimental RA condition. The disease is caused by the direct introduction or invasion of pathogens (Staphylococcus aureus) migrating from another part of the body via the bloodstream. The pathogenesis of this disease is based on the interaction with the host's immune system and the attachment of pathogens. The infestation of bacteria in the joint space destroys the joint within a few days. Risk factors for septic arthritis include previous rheumatic diseases, low socioeconomic status, leg ulcers, diabetes, previous surgery, alcohol abuse, viral infections, and use of corticosteroids.

Rheumatoid arthritis (RA) is an autoimmune disease. In 2002, the prevalence rate was between 0.5% and 1% of the population. RA primarily affects the lining of the synovial joints and can lead to progressive disability, premature death, and socioeconomic distress. The clinical manifestations of symmetrical joint involvement include arthralgia, swelling, redness, and even limitation of range of motion. Early diagnosis is considered a key improvement index for the most desirable outcomes (i.e., less joint destruction, less radiographic progression, no functional impairment, and remission without disease-modifying antirheumatic drugs (DMARDs)) as well as

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Review Article

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AN ADVANCE REVIEW ON ORAL CONTRACEPTIVES (OC): TYPES, ADVANTAGE, DISADVANTAGE & ITS USAGE

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ABSTRACT

Oral contraceptive pills have been extensively studied since 1960 and are currently used by more than 70 million women daily. In US-wide research of contraceptive methods, it was found that oral contraceptive use was the most common and that first-graders were more likely to use oral contraceptives (18.9%) than other age groups. Oral contraceptives, also referred to as birth control pills, are used to prevent pregnancy. Any of a group of synthetic steroid hormones that block the release of luteinizing hormone (LH) and follicle-stimulating hormone (FSH) from the anterior lobe of the female pituitary gland are referred to as "oral contraceptives." Usually, when FSH and LH are present, the ovaries release oestrogen. Combination Oestrogen Contraceptives are one class of hormonal contraceptives. Progestogen contraceptive preparations come in pill, skin patch, and vaginal ring forms. They are also available in monophasic, biphasic, and triphasic forms. solely progestin-based contraceptives A formulation that is available as pills, injections, implants, hormone spirals that only contain one hormone, synthetic progestogen, and emergency contraceptive pills, sometimes known as "morning after pills," is referred to as a "minipill. " When used correctly, oral contraceptives can prevent unintended pregnancies in between 92 and 99 percent of cases. Readers will learn about several oral contraceptive methods from this review.

KEYWORDS: Oral contraceptive pills, oestrogen, progesterone.

INTRODUCTION

Wealthy countries have seen a rise in the percentage of women utilising contraception since 1982; as of 2016, 62% of American women of reproductive age were taking contraception. 28% of women most regularly use oral contraceptive pills as a form of birth control. Around the world, 8.8% of women use birth control pills.[1]

These hormone therapies temporarily but permanently lower fertility. Today's worrying demographic trends need the usage of antifertility drugs. Urbanization has increased birth rates while reduced death rates, particularly in underdeveloped countries. Many people employed contraceptive methods in the early 20th century, including condoms, diaphragms, spermicidal creams, foam tablets, and others. Using spermicidal creams, tablets, or other effective birth control techniques like condoms and diaphragms. These also falter more often.[2] The Pincus found that an oral history of the usage of progestin for birth control via coitus in addition to contraception. Menstrual cycles can be thrown off. Progesterone had to be administered parenterally, and it was known that high amounts might stop ovulation. Since powerful oral active progestins have been developed, a variety of oral contraceptives containing oestrogens, progestins, or both are now easily accessible for clinical usage (norethynodrel and norethindrone). The possibility that estrogens may postpone ovulation and eventual pregnancy has long been understood. The use of them for this purpose had two problems, though: first, the dose of oestrogen had to be raised in succeeding cycles to prevent escape ovulation, and second, long-term usage of high doses of oestrogen would result in endometrial hyperplasia. Menstrual cycles can be thrown off.

Progesterone had to be administered parenterally, and high amounts might stop ovulation, it was also known.

A range of oral contraceptives including estrogens, progestins, or both are now widely accessible for clinical usage as a result of the introduction of powerful orally active progestins (norethynodrel and norethindrone).

INNOVATIVE
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8. DESIGN, SYNTHESIS AND BETAIONONE BASED HYDROXYINDOLE & CONVERSION TO QUINOLINE CARBOXAMIDE DERIVATIVE

Deepak Prajapati[1], Nitin Kumar[2], Anjali Singh[3], Sonam[4], Neelam Singh[5], Pradeep Kumar[6], Kreetika[7], Sachin Kr Yadav[8], Deepika Chauhan[9], Triloki Prasad

[9]INNOVATIVE COLLEGE OF PHARMACY, GR. NOIDA, U.P.-201306

ABSTRACT

The development of biologically active 3-hydroxyindoline derivatives have b widely explored as these molecules demonstrate a wide range of medici properties like antioxidant, anti-inflammatory and anticonvulsant. They have a been explored for their anti-microbial potential and have shown interesting resu While going through literature, it was observed that the synthetic and therapeu potential of β-ionone based 3-hydroxyindoles have not been investigated. Alrea discussed in introduction, β-ionone derivatives have shown interesting antioxid and anti-inflammatory properties. The aim of present research project is to desi synthesize and evaluate the biological potentials of β-ionone bas -hydroxyindoles.

Keywords: Carboxamide, Quinoline, Beta-ionone, Anti-inflammatory, Biologi Potential

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IJPPR (2023), Vol. 14, Issue 1 *Review Article*

INTERNATIONAL JOURNAL OF PHARMA PROFESSIONAL'S RESEARCH

A REVIEW ON ROLE OF PHYTOMEDICINES IN TREATMENT OF DIABETES MELLITUS

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Keywords:
Diabetes mellitus, Hyperglycaemia, Insulin.

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ABSTRACT:

Diabetes mellitus, both insulin dependent and insulin independent is a common & serious metabolic disorder throughout the world. Traditional plants have been used throughout the world or the treatment of diabetes mellitus. The present paper is an attempt to list of the some medications having anti diabetic and related beneficial effects. These phytomedications besides having natural therapeutic values against various diseases, describes that the anti-diabetic activity is due to the presence of phenolic compounds, flavanoids, terpenoids, coumarins. Some of these medications and their constituents which have role in the management of diabetes mellitus are compiled here and discussed in this review.

Introduction:

"Diabetes mellitus" is one of the most common non-communicable disease in the world and it is a chronic disorder of carbohydrates, fats and proteins metabolism. It is characterized by hyperglycemia, glycosuria, negative nitrogen balance, hyperlipidaemia, ketonaemia. Some phytomedicine preparations helps in lowering blood glucose level and are effective orally.[11, 12]

Blood Glucose Chart

Mg/DL	Fasting	After Eating	2-3 Hours After Eating
Normal	80-100	170-200	120-140
Impaired Glucose	101-125	190-230	140-160
Diabetic	126+	220-300	200+

Causes of Diabetes

The major cause of diabetes is the β cells destruction in the pancreatic islets and this results in insufficient and defective production of insulin which is uncommon. After some time this condition affects most of the cells of muscle and fat tissues, and results in a condition known as "Insulin resistance." Excess

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A RESEARCH ARTICLE ON INDIAN HOSPITALS SURVEY OF HOSPITAL BASED STANDARD PHARMACY PRACTICE

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ABSTRACT

The results of Indian hospital survey of standard pharmacy practice in private hospitals are reported. A sample of private hospitals was selected randomly from the population. Lists of questionnaires were mailed to each head of pharmacy. The gross sample size was 112. The net response rate was 71% (80 usable replies). The average number of hours of pharmacy operation per week reported by the respondents was 118.25.Complete unit dose drug distribution was offered by 80.7% of respondents. Computerized pharmacy systems were used for inpatients at 70.5 % of the hospitals and for both inpatients and ambulatory patients at 12.4 %.This article provides a detailed overview of pharmaceutical services, not an exhaustive analysis. Although the survey sought information on a wide variety of services, the data do not reflect an exhaustive list of pharmaceutical services offered in community hospitals. It is hoped that the findings will stimulate additional studies by other researchers (using survey techniques and other methods) in areas that are more narrowly focused.

KEYWORDS: Clinical pharmacy; data collection; hospital; hospital pharmacy; pharmacy.

INTRODUCTION

The World Health Organization (WHO) defines health as a" state of complete physical, mental and social wellbeing, not merely the absence of disease or infirmity". Health and socioeconomic developments are so closely interrelated that it is impossible to achieve one without the other.[1] Although economic development in India has been gaining momentum over the past decade, our health system is at crossroads.[2] Even though government initiatives

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COMPARATIVE STUDY OF EFFICACY OF TRANSDERMAL PATCH WITH ORAL BIRTH CONTROL PILL FOR CONTRACEPTION

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[1]Research Scholar, [2]H.O.D./Professor, [3]Research Scholar, [4]Assistant Professor
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[1]Innovative College of Pharmacy, Greater Noida, India

Abstract : The use of various birth control methods or devices is known as contraception, commonly referred to as anticonception or fertility control. Family planning is equally important for preventing unintended pregnancies through correct use and accessibility to various birth control methods as needed. Certain sections of society oppose birth control access because they believe it to be immoral, unreligious, or politically unwise. This is a review based study which includes comparison of efficacy of transdermal patch with oral birth control pill for contraception through various search engines like Google scholar and PubMed. Various research papers were studied in which different individuals including randomized users, adolescents and women older than 35 years of age were included. It will provide a better understanding about the contraception and comparison will give a clear view of the easiest route of administration along with minimal side effects of contraceptives.

Index Terms - Contraception, Pregnancy, Anticonception, Birth control, Efficacy

I. INTRODUCTION

1.1 Definition

Birth control, also known as contraception, anticonception, and fertility control, is the use of methods or devices to prevent unwanted pregnancy. Birth control has been used since ancient times, but effective and safe methods of birth control only became available in the 20th century. Planning, making available, and using birth control is called family planning. Some cultures limit or discourage access to birth control because they consider it to be morally, religiously, or politically undesirable. [16]

1.2 Methods of Contraception

Barrier techniques, hormonal birth control, intrauterine devices (IUDs), sterilization, and behavioral techniques are examples of birth control approaches.

Hormonal: There are several different types of hormonal contraception, including oral pills, skin implants, injections, patches, IUDs, and a vaginal ring. They are currently solely available for women but for men they have been and are being clinically investigated.[21] Oral birth control pills are of two types: progestogen-only tablets, also known as minipills and combined oral contraceptives, which include both an estrogen and a progestin.[2] If either is consumed while pregnant, it neither raises the chances of miscarriage nor results in birth defects or abnormalities. Both the varieties of birth control pill prevents fertilization primarily by inhibiting ovulation and cervical mucus thickening. Additionally, they might alter the uterus lining, which would decrease implantation. The user's adherence to take the tablets consistently determines the efficacy of tablets.[19]

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Abstract : The use of various birth control methods or devices is known as contraception, commonly referred to as anticonception or fertility control. Family planning is equally important for preventing unintended pregnancies through correct use and accessibility to various birth control methods as needed. Certain sections of society oppose birth control access because they believe it to be immoral, unreligious, or politically unwise. This is a review based study which includes comparison of efficacy of transdermal patch with oral birth control pill for contraception through various search engines like Google scholar and PubMed. Various research papers were studied in which different individuals including randomized users, adolescents and women older than 35 years of age were included. It will provide a better understanding about the contraception and comparison will give a clear view of the easiest route of administration along with minimal side effects of contraceptives.

Index Terms - Contraception, Pregnancy, Anticonception, Birth control, Efficacy

I. INTRODUCTION

1.1 Definition

Birth control, also known as contraception, anticonception, and fertility control, is the use of methods or devices to prevent unwanted pregnancy. Birth control has been used since ancient times, but effective and safe methods of birth control only became available in the 20th century. Planning, making available, and using birth control is called family planning. Some cultures limit or discourage access to birth control because they consider it to be morally, religiously, or politically undesirable. [16]

1.2 Methods of Contraception

Barrier techniques, hormonal birth control, intrauterine devices (IUDs), sterilization, and behavioral techniques are examples of birth control approaches.

Hormonal: There are several different types of hormonal contraception, including oral pills, skin implants, injections, patches, IUDs, and a vaginal ring. They are currently solely available for women but for men they have been and are being clinically investigated.[21] Oral birth control pills are of two types: progestogen-only tablets, also known as minipills and combined oral contraceptives, which include both an estrogen and a progestin.[2] If either is consumed while pregnant, it neither raises the chances of miscarriage nor results in birth defects or abnormalities. Both the varieties of birth control pill prevents fertilization primarily by inhibiting ovulation and cervical mucus thickening. Additionally, they might alter the uterus lining, which would decrease implantation. The user's adherence to take the tablets consistently determines the efficacy of tablets.[19]

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Formulation and Evaluation of anti-osteoarthritic and anti-inflammatory activity of Nyctanthes Arbor Tristis Linn as Emulgel

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ABSTRACT:
This study was performed to evaluate the various parameters to formulate the Emulgel using Nyctanthes arbor tristis leaves.The formulation contained the gelling various gelling agents and drug and evaluated for phytochemical, viscosity, pH, drug content, and in vitro drug release. The formulation was formed using Carbapol 934,Carbapol 940 and HPMC as the gelling agents. The gel and emulsion was formulated separately and mixed together at the ratio of 1:1. The results of evaluation parameters concluded that the Carbapol 934 was showed the better drug release and drug content. Although, each formulation showed the better spreadability, pH and viscosity but drug content and release was highest in the formulation (Carbapol 934).

Keywords: Nyctanthes arbor tristis, Anti-inflammatory, Emulgel

I. INTRODUCTION

Nyctanthes arbor-tristis Linn, which is part of the family of Oleaceae, is a mythological plant with an extremely medicinal significance in Ayurveda. It is also known as Harsinghar in Hindi as well as parijat Sanskrit as well as night jasmine English. The ancient medicine was known for its efficacy and effect on certain diseases that cannot be ignored[1]. Similarly, Nyctanthes arbor tristis is one of them, a night blossom which contains several active phytochemical classes' chemicals which could be the main reason to pronounce its value in the modern medicine age[2]. The main effect which was researched is anti-inflammatory, which makes it the most valuable and anticipated plant for the anti-arthritis disease. A deciduous shrub or small tree from the family Oleaceae which found in the forest and vitally in home gardens generally considered as the holy tree. The seeds, flowers and leaves are more prominently used as the decoction to treat several diseases[3]. The geographical presence of this plant is more prominent from the southern Pakistan to Northern Nepal. Leaves of Nyctanthes arbor-tristis Linn, They are widely used in Ayurvedic medicines for the treatment of various ailments such as sciaticaand chronic fever, arthritis as well as internal worm infection and also as a laxative diaphoretic and diuretic.The study of phytochemistry on the leaves demonstrated that there were flavanol glycosides (astragaline and Nicotiflorin), Triterpenoid (Nyctanthic acid and Oleanolic acid) and iridoid glycosides (arborside A,B, and C) and Iridoid-glucoside (arborside D). The various components of this plant are with different therapeutic properties; however the current research is focused on the establishment of quality standards for leaf extracts of N. arbor-tristis[4].

Nyctanthes arbor-tritis Linn is a small divine decorative tree. It is domestic plant in plant; it is spread out in the wild sub Himalayan regions and southwards to Godavari. It is commonly known as night jasmine[5]. This is a deciduous tree and the growth up to 10m tall and had quadrangular branches with gray or greenish-white rough bark. In loamy soil, it grows well. The leaves are rough, hairy, opposite and simple. The arrangements of flowers are at the tip of the tree branch. Various parts of Nyctanthes arbor-tritis Linn helps for different disorders by different tribes of India such as Orissa and Bihar and also used in different medical systems like Ayurveda, Sidha and Unani[6]. The leaves of this plant are used in different medical properties such as analgesic, antipyretic, ulcer genic, Anti-stress, anxiolytic, and tranquilizing, antihistaminic and purgative property[7].

Different parts of N. arbortrisitis constitutes of various chemical compound for example Terpenes, steroids, glycosides (iridoid

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In Vitro Investigation of the Anti-Osteoarthritic and Anti-Inflammatory Properties of Nyctanthes Arbor Tristis Linn Emulgel

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Abstract- This study evaluated the cytotoxic and anti-inflammatory properties of an Emulgel formulated using the leaves of Nyctanthes arbor-tristis. The study found that the Emulgel had no cytotoxic effect on RAW 264.7 cell lines at concentrations of 5mg/mL. The anti-inflammatory properties of the Emulgel were assessed by measuring the release of IL-6 from the treated cells, with Formulation 1 showing the potential as an anti-inflammatory agent. The Emulgel was evaluated for its organoleptic properties, homogeneity, pH determination, spreadability, viscosity, extrudability, in vitro drug release, and stability studies. The phytochemical screening confirmed the presence of alkaloids, carbohydrates, saponins, glycosides, steroids, phenols, and flavonoids in the extract of the leaves. The evaluation parameters for the Emulgel showed that Formulation 2 consistently performed well and was the best among other formulations. The stability studies indicated that Formulation 2 was stable and maintained its physical appearance, spreadability, pH, and drug content parameters over a 3-month period at various temperatures. Future research may involve in vivo testing of the formulation in an osteoarthritis model.

Keywords - Nyctanthes Arbor Tristis Linn Emulgel, Anti-Inflammatory Emulgel, Emulgel, Anti-Osteoarthritic Emulgel

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PHYTOCHEMICAL ANALYSIS AND ANTI-INFLAMMATORY ACTIVITY OF NYCTANTHES ARBOR TRISTIS LINN: A CRITICAL REVIEW

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ABSTRACT

Theanti-inflammatory effect and phytochemical analysis of Nyctanthes Arbor Tristis Linnis been critically reviewed in this article based on the available literature and refrences. The plant is its self a treasure of the various classes of the phytochemicals and which are responsible for the various pharmacological activities. Majorly, β-Sitosterol, hentriacontane, benzoic acid, astragalinare present in the leaves which influence the activities of the pro-inflammatory mediators and cell signaling pathways in the nucleus and cytoplasm. In response, Interleukin-6, Interleukin-1, and Tumor Necrosis Factor restricted and activate the Janus kinase signal transducer (JNK) and p38 pathways in the nucleus and again restricted the activity of the inflammatory mediators in the cytoplasm.

KEYWORDS: Nyctanthes Arbor Tristis, Anti-inflammatory, Janus kinase signal transducer (JNK) path ways.

1. INTRODUCTION

Inflammation is an immunologically modulatory response towards the body from the defense system of the body. The response which is triggered by the foreign particle stimulates the immune cells and other mediators to act against the foreign particle.[1]

This response is generally seen in in various diseases such as obesity, depression, schizophrenia, and osteoarthritis.[2]