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Formulation and Evaluation of in vitro antidiabetic Polyherbal tablets form some traditional used Herbs

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ABSTRACT

The main objective of the project is to formulate and evaluate poly herbal anti diabetic tablet. Polyherbal antidiabetic formulation consists of six herbs viz., *Nigella sativa* (seed), *Moringa oleifera* (seed), Linum *usitatissimum* (seed), *Trigonella foenum*(seed), *Cinnamum zeylanicum* (bark) and *Macrotyloma uniflorum* (seed). Nine preliminary clumps of tablets were defined by fluctuating the organization off the excipient's extents for phenomenal stream property. The mixed powder of each of the nine preliminary groups were investigated for its stream attributes like mass thickness, tapped thickness, compressibility file, Hausner's proportion and Angle of rest. Absolutely nine preliminaries of plan were completed utilizing various decisions of excipients thinking about various realities of assembling issues just as quality deformities as a top priority. Every one of the resultant plans were assessed for their stream property, consistency of filling, consistency of weight, dampness substance and breaking down time. The dried polyherbal remove was streamlined for its quality measures and its cluster consistency by making nine diverse preliminary clumps (Trial 1,2,3,4,5,6,7,8,9). The preliminaries were exposed to preformulation boundaries to affirm the consistency and quality. The outcome presumes that the preliminary 9 was amazing in all boundaries and the qualities were found inside as far as possible and it was utilized for detail Polyherbal Tablet. The developed polyherbal Phytochemical study showed the presence of flavonoids in this formulation flavonoids, tannins phenolic compounds are by using qualitative phytochemicals anaylsis. The poly herbal tablets and extracts are subjected in to HPTLC analysis estimation of Quercetin and rutin. This may be responsible for the potent anti-diabetic activity. The in vitro antidiabetic activity of tablets was evaluated by glucose uptake assay by using 3T3 Cell line. Further investigations are suggested for solidness concentrates in the detailed polyherbal tablet and furthermore clinical preliminaries need to act in future in Human Volunteers.

Keywords: Glucose uptake assay, 3T3 L1 Cell line, Anti Diabetic Tablet, Quercetin, Rutin, HPTLC.

INTRODUCTION

A natural equation comprises of a particular mix of individual home-grown fixings that are formed for a particular infirmity or gathering of illness conditions. At the point when spices are consolidated together, they become more strong and compelling inside the body than single spice because of their initiating or catalyzing impact upon each other.1As per WHO, Diabetes Mellitus is defined as heterogenous metabolic disorder characterised by common feature of chronic hyperglycemia with disturbance of carbohydrate, protein and fat metabolism.2Tablets are defined as solid preparations intended for oral administration, each containing a single dose of one or more active ingredients. Tablets are prepared by compaction and contain drugs and formulation additives.

MATERIALS AND METHODS

Collection of plant extract

The following plant extract bought from traders, *Trogonella foenum*(fenugreek, seed),*Moringa oleifera* (seed), *Nigella sativa* (seed), *Linum usitatissimum* (Flax seed), *Cinnamum zeylanicum* (bark) and *Macrotyloma uniflorum (horse seed).*

Preliminary Phytochemical Analysis of Extract

The Following Seed Extracts Are *Nigella sativa* (seed), *Moringa oleifera* (seed), *Linum usitatissimum* (seed), *Trogonella foenum*(seed), *Cinnamum zeylanicum* (bark) and *Macrotyloma uniflorum* (seed) Subjected to Preliminary Phytochemical Screening for Detection of the Secondary Metabolite and Primary Metabolite [9-10].

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Review on Scope of Pharmacognosy graduate in various government research instititute in India

S Muthuraj, MK Seeni, P Muthusamy, T Sampathkumar

ABSTRACT

The Pharmacognosy is study of crude drugs, the role of Pharmacognosist difference based on the research institute. In India lot of research of institute available for development of herbal and traditional based drugs such as phytopharmaceutical, chemistry of natural products and siddha, Ayurveda, Unnai propertery drugs. The graduate from Pharmacognosy have lot of carrier opportunities and temporary project Positions such as JRF, Project associate in various research institute such as CSIR-CDRI, CIAMP, IIIM, IHBT NBRI. The another very important scope of Pharmacognosist in AYUSH Department, the ministry of ayush estabalished various research lab for development Ayurveda, siddha, unani, and hemopathy medicine they are like CCRAS, CCRS, CCRH, CCRUM. The role of Pharmacognosist in ayush institute such as authentication and standardization of raw drugs and formulated crude drugs as churna, chooranam etc. Indian pharmacopeia laboratory also a very important carrier opportunites for phamacognosy graduate.

Keywords: Pharmacognosy, AYUSH, Phytopharmaceuticals, Crude drugs, Medicinal plants.

INTRODUCTION

Pharmacognosy is a significant part of drug store that incorporates the logical investigation of underlying, physical, compound, biochemical, and organic properties of unrefined medications and quest for new medications from plant, creature, and mineral sources. It was presented and utilized interestingly by J. A. Schmidt (1811) and C. A. Seydler (1815), individually, to characterize the part of medication or item which manages rough medications. It is the study of nature-inferred drugs and remembers reads for primary, physical, synthetic, organic characters of unrefined medications their remedial use, history, strategy for development, assortment, readiness, safeguarding, and trade [1]. Modern Pharmacognosy involves the broad study of natural products from various sources including plants, bacteria, fungi, and marine organisms [2]. This study acts as an important link between pharmacology and medicinal chemistry which also plays a vital role between tradatonal and allopathic systems of medicines. Organic science incorporates the recognizable proof (scientific categorization), hereditary qualities, and development of plants. Synthetic portrayal of incorporates the seclusion, ID and evaluation of constituents in plant materials [3]. Switch pharmacognosy is utilized to discover new organic focuses for regular mixtures by virtual or genuine screening and distinguish normal assets that contain the dynamic atoms. Turn around pharmacognosy and its converse mooring segment can't just be incorporated into a program for new lead disclosure but on the other hand is a helpful way to deal with discover new applications for recognized compounds [4]. Results of all, pharmacognosy research regions are proceeding to grow, and now remember parts of cell and sub-atomic science for connection to normal items, ethnobotany and phytotherapy, notwithstanding the more customary insightful strategy improvement and Phytochemistry [5]. Larger part of members accept there is parcel of extension to investigate the Complementary and Alternative Medicine (CAM), investigation of which can become principle branch in future. Adaptable nature of the subject has really assisted with advancing the control. Interdisciplinary nature of subject ought to be kept as such to oblige more up to date drifts, which thusly hurry further turn of events [6]. Recent years in India the Pharmacognosy field is well developed in various interdisciplinary drug discovery research institute and public health related Indian system of medicine hospitals such as siddha, ayruvedha, unani and homeopathy. In this review paper mainly focused on job opportunities in the various interdisciplinary research institute and nature of them work.

Carrier Scope of Pharmacognosy Graduate in Council of Scientific and Industrial Research Institute (CSIR)

The Council for Scientific and Industrial Research (CSIR) is a modern research and development organization known for its latest knowledge base in research and development in various scientific and technological fields. CSIR has a history of 65 years and was designed by Dr. Bhatnagar to meet the challenge of time. Want to build a new CSIR to meet the needs of modern India. CSIR is spread all over

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Review Article

A complete review on a complete medicinal plant: *Cucurbita*

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ABSTRACT

Cucurbita is a best source of potassium and beta-carotene, which is a carotenoid that converts to vitamin A. The medicinal plant has many major secondary metabolites, triterpenoids, diterpene, Cucurbita glycosides, cucurbitosides, carotenoids etc. Number of pharmacological reaches has done to report hepatoprotection, inhibit benign prostatic hyperplasia, antioxidant, anticancer, antimicrobial, antiinflamatory, antidiabetic, and antiulcer activities of Cucurbita. It has more therapeutic potential. Our review article focusses to give compilation of Origin, Nomenclature, History, cultivation, various names, various species, composition and pharmacological uses. This article can give potential research areas to explore next, and to formulate new formulation in allopathy and some traditional medicine system.

Keywords: Pumpkin, Cucurbita, Phytoconstituents, Anti-Cancer, Anti Diabetic, Anti-Ulcer activity

INTRODUCTION

From the ancient history to 21st century in many parts of the world and India, plants, animals and other nature things have many influences on our culture and human civilization Since the beginning of civilization, human beings have devoted plants and such plants are protected as a genetic resource and used as edible, medicine, provender, dietary supplements, fertilize and in every other way and those will helps to enhance scope[1] of pharmacognosy. Cucurbita is one of those plants. Species of Pumpkins, Cucurbita pepo or Cucurbita mixta are from the same family as cucumbers, squash and other vine-dwellers that have seeds. Pumpkins are flavoursome and have multi nutrients. Vitamin A in pumpkins is the major vitamin helps to maintain healthy skin and immunity, while fiber used to balance blood glucose levels, balance blood pressure and muscle relaxant to safeguard the circulatory system. Its fat content is low, but it contains anti-inflammatory omega-3 fatty acids in the form of alpha-linolenic acid. Cucurbita possess anti-cancer activity. It also has anti diabetic activity, it helps to maintain rhythm of heart beat and protects heart.The other name of Cucurbita is cupping glass, cucurbimla and also latin meaning Gourd. It will help to

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Original Article

Comparative study of atorvastatin, metformin and telmisartan on high fat induced obesity in Albino Wistar rats

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ABSTRACT

Objectives: To study the anti-obesity activity of telmisartan, atorvastatin and metformin alone and combination on high fat induced obesity in albino Wistar rats.
Materials and methods: Animals were divided into six different groups each comprising three animals. Group 1 (saline control), Group 2 (High fat diet), Group 3 (high fat diet + Atorvastatin), Group 4 (high fat diet + Telmisartan), Group 5 (high fat diet + Metformin), Group 6 (high fat diet + Atorvastatin + telmisartan + metformin).
Results: telmisartan, atorvastatin and metformin alone and combination shows anti-obesity activity on high fat diet induced obesity in albino Wister rats.

Keywords: Atorvastatin, Telmisartan, Metformin and High Fat Diet

INTRODUCTION

Obesity is a condition where a person has accumulated so much body fat that it might have a negative effect on their health. If a person's bodyweight is at least 20% higher than it should be, he or she is considered obese. If your Body Mass Index (BMI) is between 25 and 29.9 you are considered overweight. Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health[1]. People are generally considered obese when their body mass index (BMI), a measurement obtained by dividing a person's weight by the square of the person's height, is over 30 kg/m^2, with the range 25–30 kg/m^2 defined as overweight. Obesity increases the likelihood of various diseases, particularly heart disease, type 2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis.

BMI is defined as the subject's weight divided by the square of their height and is calculated as follows.

$BMI = m / h^2$

where m and h are the subject's weight and height respectively.

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Evaluation of medication adherence on hypertensive patients in a tertiary care hospital

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ABSTRACT

The Present study aims to evaluate the Medication Adherence on hypertensive Patients in a tertiary care hospital located in Bhavani. We used descriptive, Cross-sectional study of over 185 patients who were admitted in the period of October 2020 to March2021. The Descriptive Data collection form and Morisky tool were used as the data collection tool. Our study reports that Patient with hypertension have Poor medication adherence so, the pharmacists need to work hard to improve the medication adherence in patients

Keywords: Hypertension, Medication Adherence, Morisky Scale, Cross-sectional Study

INTRODUCTION

Hypertension is a significant public health problem in many countries. It remains an important public health challenge and one of the most important risk factors for coronary heart disease, stroke, heart failure and end stage renal disease. Cardiovascular diseases have emerged as an important health problem in India. High blood pressure (BP) is a major risk factor and better control can lead to prevention of 300,000 of the 1.5 million annual deaths from cardiovascular diseases in India Epidemiological studies demonstrate that prevalence of hypertension is increasing rapidly among Indian urban populations and using the current definitions more than two-fifths of the Indian urban adult population has hypertension. In India, the prevalence of hypertension reports was increasing rapidly in the urban, i.e. 25% of adults, and gradually even in rural areas, i.e. 10% of individuals are affected. In 2005, a worldwide data showed that 639 million patients with hypertension are seen in low- and middle-income countries and predicted that which may rise to about 60% in 2025

Survey reports on hypertension prevalence conducted in community over a period of three to six decades showed an increase of 30% in urban population (1.24%-36.4%) and 10% in rural population (1.99%-21.2%).

Hypertension: It is defined simply as persistently elevated arterial blood pressure. It is a heterogeneous disease in which, it result from unknown patho physiologic etiology (essential or primary hypertension). This form of hypertension

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Formulation and evaluation of Mefenamic acid solid dispersions

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ABSTRACT

The main objective of this study was to prepare and evaluate solid dispersion of Mefenamic acid, to enhance the dissolution rate, solubility & bioavailability. Mefenamic acid solid dispersion were prepared using Poly vinyl Pyrrolidone (PVP K 30) and Poly Ethylene Glycol (PEG 4000) as hydrophilic carriers by solvent evaporation and kneading techniques. FTIR studies showed that there was no interaction between the drug and polymer. The prepared Solid dispersion KM3(1:3) using PVP K30 showed minimal wetting time of 14 seconds compared with the other formulations. *In vitro* release studies in Phosphate buffer pH of 7.4 revealed that the solid dispersions prepared by kneading method showed faster drug release compared with solvent evaporation method. So, the dissolution profile of solid dispersion containing PVP K30 (1:3) by kneading method was selected as the best formulation because of its faster drug release among all formulations. The development of solid dispersion of Mefenamic acid could be a promising approach to enhance its dissolution rate, solubility and bioavailability.

Keywords: Solid dispersion, Mefenamic acid, PVP K30, PEG4000

INTRODUCTION

Oral administration is the most convenient, widely utilized, and preferred route of drug delivery for systemic action. Poor aqueous solubility is one of the major hurdles in the development of new drugs into oral dosage forms, since dissolution is the first step in the absorption of drugs. The solubility and dissolution behaviour of a drug is key determinant to its oral bioavailability. An improvement of oral bioavailability of poorly water-soluble drugs remains one of the most challenging aspects of drug development. [1,2] Mefenamic acid, an anthranilic acid derivative, is used to treat symptoms of pain, rheumatoid arthritis and dysmenorrhea. Mefenamic acid binds the prostaglandin synthetase receptors COX-1 and COX-2, inhibiting the action of prostaglandin synthetase. Its half-life is 2 hours. It belongs to BCS class II, having low solubility & high permeability. Due to the poor solubility of drug, the dissolution is reduced and hence it suffers from

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