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Herbal interventions for enhancing female fertility with a focus on *mangifera indica* bark: A review

Aditya Sagar*¹, Sailesh Kumar Ghatuary², Surendra Ahirwar³,
Kumari Shikha⁴ and Rashmi¹

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Abstract:

Infertility presents significant difficulties for women and their families, and female fertility is a crucial aspect of human reproductive health. Herbal interventions are gaining popularity as viable treatments for infertility, although there are many contributing factors. This review paper investigates the efficacy of herbal medicines in enhancing female fertility, focusing specifically on the bark of the *Mangifera indica* (mango). We examined the scientific research, conventional wisdom, and action mechanisms about the usage of bark from the *Mangifera Indica* plant as a natural fertility booster. The review emphasizes the possible advantages, safety concerns, and opportunities for further study of herbal remedies for female reproductive health. *Mangifera indica* L. plays a significant role in traditional medical practices. Aqueous *Mangifera indica* bark extract (MIBE) is taken orally. They show the changes in hormonal and estrous cycling patterns in female Rats. MIBE also shows some positive effects regarding the male's hormonal profile and sperm quality. The MIBE significantly raised levels of Luteinizing hormone (LH), Testosterone, and Follicle stimulating hormone (FSH), according to the results of a hormonal study. This might be due to the extract's capacity to raise levels of the hormones FSH and LH, which oversee spermatogenesis and estrous cycle pattern. This implies that *Mangifera indica* stem bark may be used in the creation of female reproductive medications.

Keywords: *Mangifera indica* bark; extract; Infertility; Estrous cycle; Herbal.

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A review and analysis of the steps involved in creating and conducting the assessment study for the anti-aging herbal vanishing cream

Rashmi*¹, Sailesh Kumar Ghatuary², Surendra Ahirwar³
Deepansha³, and Aditya Sagar¹

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Abstract:

The current review effort set out to create and assess a herbal vanishing cream (HVC). Comparing herbal cream to synthetic cream, there are various advantages. The majority of face creams on the market are made from synthetic medications and provide fairness to the face, but they also have several negative side effects, like irritation or allergic responses. Herbal cream provides skin a fairer appearance and has no negative side effects. Based on the anti-fungal, anti-microbial, anti-inflammatory, skin-soothing, and anti-aging properties of aloe vera, turmeric, and nutmeg, a polyherbal oil-in-water disappearing emulsion cream was created. Using ethanol as a solvent, the maceration process was used to extract all of the herbs. The prepared vanishing cream was assessed using several metrics. Stability tests on the manufactured vanishing cream revealed it was hard and stable.

Keywords: Herbal, Vanishing Cream, Polyherbal, Anti-aging.

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A comprehensive review on exploring Bhringraj (*Eclipta prostrata*) in herbal cares and explores the role of antidandruff shampoo, conditioner, and oral formulations

Sadhana*¹ Sailesh Kumar Ghatuary² Surendra Ahirwar³, Deepansha³ and Km. Shikha⁴

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Abstract:

The search for herbal and natural hair care solutions has gotten more intense recently, particularly when it comes to anti-dandruff products. Deeply ingrained in ancient Ayurveda medicine for its numerous advantages to hair and scalp health, Bhringraj (*Eclipta prostrata*) has emerged as a promising choice among the wide range of botanical therapies. With an emphasis on antidandruff shampoos, conditioners, and oral dosage forms, this thorough literature review explores the scientific investigation of Bhringraj's potential in the creation of herbal hair care formulations. This provides a basis for understanding its possible efficacy and includes its anti-inflammatory, antifungal, and antibacterial properties on the scalp. The aim is to evaluate the effectiveness of these formulations and discern potential advantages over conventional treatments. Mechanistic insights into Bhringraj's action on dandruff, scalp health, and hair growth are explored, elucidating the molecular underpinnings of its therapeutic effects. Since safety is of the utmost importance, this review aims to evaluate Bhringraj's safety profile in herbal hair care products. Examining possible interactions and adverse effects helps determine whether Bhringraj is suitable for general use. In summary, given the growing popularity of natural hair care products, this literature review summarises what is known about Bhringraj and provides useful information for consumers, researchers, and formulators looking for safe and effective herbal antidandruff remedies.

Keywords: Herbal Extracts, Anti Dandruff, Shikakai, Neem, Bhringraj

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A review: Phytochemical and Pharmacological potential of *Rauwolfia serpentina* (L.)

Mr. Mayank Kumar^{*1,2}, Mr. Karan Singh³, Dr. Rupali Sharma⁴ and Dr. Vimal Kumar Yadav⁵

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Abstract: Rauwolfia bush, local to the orient from India to Indonesia, has been profoundly supported for the treatment of snakebite, bug stings, hypertension, sleep deprivation, mental issues, epilepsy, gastrointestinal problems, fever, and schizophrenia from the pre-vedic period in Ayurvedic arrangement of Indian medication. Rauwolfia having a place with the family Apocynaceae merits a particular, place in the pharmacopeia of present day medication. The foundations of Sarpagandha announced numerous significant dynamic standards extricated as alkaloids, flavonoids, glycosides, phlobatannins, phenols, starches, saponins sterols, tannins, and terpenes. In previous years it was announced as the best phytochemical, reserpine, which has been utilized in the treatment of systolic hypertension and has a few drug applications. This survey addresses data old to current methodology about the dynamic rule as well as therapeutic potential with underline organic instrument of *R. serpentina*. The current survey manage the huge measure of studies attempted in various parts of this plant in the space of plant's chemistry, and pharmacology and fundamentally analyzing its unfriendly after effects, toxicology gives an explored and archived strategy for the active ingredients.

Keywords: Indole alkaloids, Reserpine, Hypertension, *Rauwolfia serpentina*, Pharmacological activity, Sarpagandha

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A review: Hepatoprotective & Other Pharmacological Potential of *Annona squamosa*

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Abstract: Liver is the key organ of the body. It is the largest gland in the body and weighing between 1 and 2.3kg. It is situated in the upper part of the abdominal cavity. Occupying the greater part of the right hypochondriac region one part of the epigastria region and extending into the left hypochondriac region. Its upper and anterior surfaces are smooth and curved to fit the undersurface at the diaphragm. Liver injury is not a single entity; the lesion observed depends not only on the chemical agent involved but also on the period of exposure. After acute exposure one usually finds lipid accumulation in the hepatocytes, cellular necrosis, or hepatobiliary dysfunction, whereas cirrhotic or neoplastic changes are usually considered to be the result of chronic exposures.

Key words: Liver, chemical agent, Lipid, Accumulation, Cellular necrosis

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A review: Pharmacological potential of leaf of *Triumfetta rhomboidea*

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Abstract: Plants have been one of the important sources of medicine even since the dawn of human civilization. In spite of tremendous development in the field of allopathy during 20th century, plants still remain one of the major sources of drug in the modern as well as traditional system of medicine throughout the world. *Triumfetta rhomboidea* is commonly known as Burr bush, a popular Indian medicinal plant, has long been used commonly in Ayurvedic system of medicine. The plant has been found to possess diverse number of pharmacological activities. The present paper gives an account of updated information on its traditional uses, ethnobotany, phytochemistry and its pharmacological activities. The review reveals that wide range of phytochemical constituents have been isolated from the plant and it possesses important activities like Diuretic, analgesic, Anti-Inflammatory, anti-tumour, antioxidant, antiulcer and antimicrobial have also been reported. These reports are very encouraging and indicate that this plant has great potential to be developed as drug by pharmaceutical industries.

Keywords: *Triumfetta rhomboidea*, Pharmacological activities, Ethnobotany

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A research: Screening for novel ligands Dopamine D1 receptor –an HTS approach

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Abstract: Due to absence of brain penetrable selective ligands (Agonist and antagonist) of Dopamine receptor D₁, its challenge to elucidate the physiological role of this receptor and also in different CNS pathologies such as ADHD, Parkinson's, Major depression Schizophrenia and bipolar disorder. High-throughput screening (HTS) campaigns is a starting point for many drug discovery programs. With the advent of HTS, the pharmaceutical industry is anticipating a rush of new potential drugs mined from the millions of uncharacterized small molecules held in chemical repositories. Now a day, several new technological innovations have been designed not only to increase throughput (eg. miniaturization and combinatorial strategies) but also to increase the amount of data derived from a single assay point (multi label screening and high-content Screening [HCS] methods). These technologies coupled with extensive computational speed and integrated bioinformatics programs, have increased the number and output of HTS laboratories dramatically in the same period. So, HTS has been proven to be a valuable and evolving Technique that has greatly changed the drug discovery program. The aim of present study To screen various compounds (synthetic and natural products) on D₁ receptor for agonistic and antagonistic action using HTS approach, validate the active "HITS" define the selectivity and specificity and determine the in vivo efficacy of ligand using pre-clinical mouse models of D₁ receptor action.

Keywords: HTS approach, D₁receptor, screening, ligand, GPCR, *In-vivo*

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A review: Hydrogel as drug delivery system: a new phase in pharmaceutical field

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ABSTRACT

Water-insoluble polymer chains form a network known as hydrogel, which is occasionally observed as a colloidal gel with water acting as the dispersion medium. Crosslinked polymer networks, or hydrogels, are able to absorb large volumes of aqueous liquids. These gels more closely mimic real tissue than any other kind of synthetic biomaterial because of their high water content. A number of methods for creating hydrogels have been documented, including copolymerization and crosslinking of co-monomers with the use of a multifunctional co-monomer as a crosslinking agent. The polymerization reaction is started by a chemical initiator. Hydrogels are employed in certain parts of the human body. The body contains some environmental factors, like high temperatures and low pH. For site-specific controlled drug delivery, pH-sensitive and/or temperature-sensitive hydrogels can be employed. Hydrogels with molecular selectivity, such as glucose or antigens, have potential applications in medication administration and biosensors. Homo- and copolymeric hydrogels have been created using novel synthetic techniques for a variety of medication, peptide, and protein delivery uses. This article's goal is to provide a succinct overview of the uses of hydrogels in the pharmaceutical industry, as well as information on the material's characteristics, preparation process, benefits, and drawbacks.

Key words: Polymer, Hydrogel, Drug delivery, Toxicity

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A Review on Anthelmintics and Heterocyclic moieties

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Abstract:

Parasites have been of concern to the medical field for centuries and the helminthes considerable problems for human being and animals. A large number of medicinal plants are claimed to possess anthelmintic property in traditional systems of medicine and are also utilized by ethnic. Anthelmintic activity is associated with diverse heterocyclic nucleus such as piperazine, pyrimidine, quinoline, azoles (imidazole, 1, 2, 4 triazole, isoxazole, pyrazole, thiazole, thiadiazole), quinazoline, 1,5-benzodiazepines and benzimidazols.

Key words: Anthelmintic activity, earthworms, tapeworms, hookworms, heterocyclic moieties.

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**A review on study of herbal extract for immunity booster with
a focus on *Ocimum sanctum* [Tulsi] leaves**

Gopal Tripathi*¹, Dr.Sailesh Kumar Ghatuary², Surendra Ahirwar³ and Km.Shikha⁴

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Abstract:

Tulsi, known as the "queen of herbs," has been used for millennia. Tulsi is a medicinal plant also known as *osimum sanctum*. Tulsi has a lot of therapeutic benefits. Tulsi has also been demonstrated in studies to be beneficial for diabetes by lowering blood glucose levels. Tulsi was shown to significantly lower overall cholesterol levels in the same research. According to a different study, tulsi's antioxidant qualities are what provide it a positive impact on blood glucose levels. The most effective treatment for severe acute respiratory syndrome is Rama tulsi. Its leaf juice relieves cough, bronchitis, fever, and colds. Another ear drop that is utilized is tulsi oil. Malaria can be cured with tulsi. It works well for cholera, headaches, sleeplessness, hysteria, and indigestion. Every day, millions of people consume fresh Tulsi leaves.

Keywords: punch tulsi extract immunity booster; medicinal uses.

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Material and Methods: This section may be divided into sub-sections if it facilitates better reading of the paper. The research design, subjects, material used, and statistical methods should be included. Results and discussion shall not be drawn into this section. In human experimentation, ethical guidelines shall be acknowledged.

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Experimental Pharmacology Series

What is Experimental Pharmacology (Ex-Pharm) Series

This is a computer assisted learning (CAL) software containing various programs which simulate animal experiments in Pharmacology. These programs can be used to demonstrate effect of drugs on different animals systems. The package is user friendly, highly interactive and full of animated sequences which make simulation appear realistic. The current version of Experimental Pharmacology (Ex-Pharm) Series Software consists of following computer simulated experiments:

Experiments List

01. Experiment on effects of various drugs (Mydriatic, Miotic and Local Anesthetic) on rabbit's eye.

- Epinephrine
- Atropine
- Ephedrine
- Physostigmine
- Lignocaine

02. Study of Analgesic activity with the help of "Tail Flick Apparatus" (Analgesiometer).

03. Study of Analgesic activity with the help of "Hot Plate Apparatus" (Analgesiometer).

04. To study Analgesic activity by writhing test.

05. Study of Antihistaminic drugs/Anti allergic drugs by mast cell stabilization method with help of "Histamine Chamber".

06. Study of Muscle Relaxant activity with the help of "Rota-Rod Apparatus".

07. Study of CNS Depressants & Stimulants Using "Actophotometer".

08. Study of Drugs acting on CNS (Including Anxiolytic Activity) using following modules

- Elevated Plus Maze Method
- Pole Climbing Method

09. Study of anticonvulsant activity using "Electro Convulsimeter" (MES Method).

10. To study PTZ induced convulsions in mice

11. Study of effect of hepatic microsomal enzyme inducers on the phenobarbitone sleeping time in mice.

12. To study the action of strychnine/anesthetic on frog neurons (excitability).

13. Simulation of pupil control

- Simulation of the effects of the physiological stimuli and drugs on the papillary reflexes.
- Simulation of the control in patient with partial parasympathectomy.

14. Test for pyrogens using rabbits.

15. Effect of drugs on isolated guinea pig ileum (in-vitro).

16. To study respiratory depression effect on rabbit.

17. Study of stereotype and anti-catatonic activity of drugs on mice.

18. Experiments on thyroid and anti-thyroid drugs

- The effect of thyroxin, TSH, propylthiouracil on metabolism.

19. Experiments on blood sugar

- The effect of insulin (hypoglycemic activity) and alloxan on blood glucose.

20. Study of anti-inflammatory activity using carrageenan induced paw oedema method

21. Study of diuretic activity using metabolic cage

22. Experiment on Effect of various drugs on Isolated Frog's Heart. (DRC-Dose Response Curve)

- Epinephrine
- Norepinephrine

- Isoprenaline
- Calciumchloride
- Propranolol
- Acetylcholine
- Potassiumchloride
- Atropinesulphate

23. Experiments on effect of different drugs on dog BP & heart rate.

1. Virtual Practice-Effects of drugs on the dog BP and Heart Rate.

2. Effects of Vasopressor and Vasodepressor with appropriate blockers.

a. Virtual Practice-Reversal action of adrenaline on blood pressure and heart rate.

b. Virtual Practice-Reversal action of acetylcholine on blood pressure and heart rate.

24. Experiments on Lagendorff's Apparatus

- Effect of coronary vasodilators on isolated heart
- Effect of parasympathomimetics

25. Experiment on Bioassay of Histamine on the Ileum of Guinea Pig.

26. Bioassay of Acetylcholine on the isolated rectus abdominis muscle of frog

(a) By Matching Method, (b) By Interpolation Method,
(c) By 3 Point Method, (d) By 4 Point Method.

27. Bioassay of oxytocin on the isolated rat uterine horn by following methods

(a) By Matching Method, (b) By Interpolation Method,
(c) By 3 Point Method, (d) By 4 Point Method.

28. Bioassay of serotonin on the isolated rat fundus strip by following methods

(a) By Matching Method, (b) By Interpolation Method,
(c) By 3 Point Method, (d) By 4 Point Method.

29. To record the DRC and to determine the PD₂ value for acetylcholine on frog rectus abdominis muscle.

30. Study of anti-ulcer activity-using pylorus ligation method.

31. Evaluation of effect of acetylcholine (spasmogens) using rabbit jejunum

32. Evaluation of effect of different drugs on ciliary motility.

33. Evaluation of effect of saline purgatives on frog intestine.

34. Determination of acute irritation of a test substance.

- Skin irritation (Including edema formation)
- Eye irritation

* Examination mode will also be provided for modules.

*With the above-mentioned list of Interactive Software Experiments, Modules will also be provided for following

-Different routes of drugs administration in mice/rats.

-Common laboratory techniques of blood withdrawal.

-Different methods of anesthesia and euthanasia.

For whom is the software?

Software is aimed for medical, pharmacy, ayurveda, veterinary and dental science students. The software can also be used by the students of paramedical courses such as nursing, medical laboratory technology and physiotherapy etc.

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