World Journal of Pharmaceutical Science and Research
www.wjpsronline.com
Research Article
ISSN: 2583-6579
SJIF Impact Factor: 5.111
Year - 2025
Volume: 4; Issue: 3
Page: 1145-1155

FORMULATION AND EVALUATION OF HERBAL TEA

Zoya Khan[1], Krati[2*], Dr. Esha Vatsa[3], Abhishek Bhardwaj[3] and Dr. Amandeep Singh[4]

[1]Student, School of Pharmaceutical Sciences, Jigyasa University (formerly Himgiri zee University), Dehradun.
[2,3]Assistant Professor, School of Pharmaceutical Sciences, Jigyasa University (formerly Himgiri zee University), Dehradun.
[4]Principal & Professor, School of Pharmaceutical Sciences, Jigyasa University (formerly Himgiri zee University), Dehradun.

Article Received: 03 May 2025 | | Article Revised: 24 May 2025 | | Article Accepted: 15 June 2025

***Corresponding Author: Krati**
Assistant Professor, School of Pharmaceutical Sciences, Jigyasa University (formerly Himgiri zee University), Dehradun.
DOI: https://doi.org/10.5281/zenodo.15774226

How to cite this Article: Zoya Khan, Krati, Dr. Esha Vatsa, Abhishek Bhardwaj and Dr. Amandeep Singh (2025) FORMULATION AND EVALUATION OF HERBAL TEA. World Journal of Pharmaceutical Science and Research, 4(3), 1145-1155. https://doi.org/10.5281/zenodo.15774226

ABSTRACT

Herbal tea is a popular natural drink made from the leaves, flowers, seeds, or roots of various plants. Unlike regular tea, it usually doesn't contain caffeine and is known for its health benefits. Herbal teas have been used for centuries in traditional medicine to help with digestion, relaxation, immunity, and more. In this article, we explore how to formulate a herbal tea using selected medicinal plants. The goal is to create a tasty and healthy drink that can support overall well-being. This process involves choosing the right herbs, drying and blending them in the right proportions, and making sure the final product is safe and effective for use. This project promotes the use of natural ingredients and supports a healthier lifestyle. The present study focuses on the formulation and evaluation of a herbal tea blend composed of cinnamon (Cinnamomum verum), fennel (Foeniculum vulgare), Asafoetida (Ferula asafoetida), cumin (Cuminum cyminum), and ginger (Zingiber officinale). These herbs have long been recognized in traditional medicine for their digestive, anti-inflammatory, antioxidant, and immune-boosting properties. The primary aim of this research is to develop a palatable and health-promoting herbal infusion that can offer natural relief from gastrointestinal discomfort, enhance metabolic function, and support overall wellness. The formulation process involved optimizing ingredient proportions to balance taste and maximize therapeutic efficacy. The prepared tea was subjected to sensory evaluation, physicochemical analysis (including pH, moisture content, and ash value), and phytochemical screening to confirm the presence of bioactive compounds such as flavonoids, alkaloids, saponins, and tannins. Antioxidant activity was also assessed using standard in vitro assays. The results revealed that the formulated herbal tea blend not only offers a pleasant aroma and flavour profile but also exhibits significant antioxidant potential, along with properties conducive to digestive health. This study highlights the potential of combining traditional herbs into a functional beverage, reinforcing the role of natural remedies in modern wellness routines.

KEYWORDS: Ginger, Fennel, Cumin, Cinnamon.

INTRODUCTION

Herbal tea is a popular natural drink made from the leaves, flowers, seeds, or roots of various plants. Unlike regular tea, it usually doesn't contain caffeine and is known for its health benefits. Herbal teas have been used for centuries in traditional medicine to help with digestion, relaxation, immunity, and more.[23,24] In this article, we explore how to formulate a herbal tea using selected medicinal plants. The goal is to create a tasty and healthy drink that can support overall well-being. This process involves choosing the right herbs, drying and blending them in the right proportions, and making sure the final product is safe and effective for use.[1,2,25]

The present formulation includes five key ingredients - Asafoetida (*Ferula asafoetida*), Ginger (*Zingiber officinale)*, Cumin (*Cuminum cyminum*), Cinnamon (*Cinnamomum verum*) and Fennel (*Foeniculum vulgare*). These herbs are commonly used in Indian households and Ayurvedic medicine for their medicinal properties.[26,27]

Asafoetida - Asafoetida is known for helping with digestion and reducing gas or bloating. It has a strong smell but only a small amount is used in tea. It can also help reduce stomach discomfort. Resin Root and stem Antispasmodic, digestive and expectorant properties, Endogeneous gum Root and stem exudates (Digestive benefits, respiratory health and antioxidant), Volatile oil Roots Antimicrobial, antioxidant and vasodilator.[3,28,29]

Ginger - Ginger is a very popular herb for treating colds, coughs, and nausea. It also boosts the immune system and keeps the body warm. It adds a spicy and fresh flavor to the tea. Chemical constituents – Terpenes, Phenolic compounds - Gingerol, Paradols, Shogaol, Quercetin, Zingerone, Gingerenone-A, and 6- dehydroginger dione. Carbohydrates[4,5], Lipids, Volatile oils. The nutritional composition are Amino acids, Raw fibre, Ash, Protein Phytosterols, Vitamins, Minerals.[6,7] The Pharmacological uses are Anti-inflammatory, anti oxidant, Carminative etc. It is cultivated in Maritime Southeast Asia, India, Indonesia, China, Nepal, Thailand, Africa etc.[35,1] Physical Appearance – The rhizome is warty and branched., The outer skin is corky and thin, and can be easily damaged. The rhizome has a spicy, citrusy aroma, Young rhizomes are juicy and fleshy, while mature rhizomes are drier and more fibrous.[32,33,34] The Pharmacological uses Anti-inflammatory, anti-oxidant and canti- cancer properties, Antioxidant, anti-inflammatory], antimicrobial and anticancer activities, Decrease the levels of blood lipids and blood pressure.[8,9,30,31]

Cumin - Cumin seeds help with digestion and can reduce stomach pain. They also help improve appetite and may support weight loss. In tea, they give a slightly nutty and earthy taste. Volatile oils Seeds and fruits (Aromatherapy, fumigant, anti-microbial and anti- inflammatory), Cuminaldehyde Seeds (Anti-microbial, anti- inflammatory, antioxidant and antidiabetic properties), Amino acids (Building muscle and repairing tissue).[10,11,36]

Cinnamon - Cinnamon adds a sweet and warming flavor. It is good for controlling blood sugar and has antioxidant properties. It also supports heart health and helps fight infections. 60-70 % cinnamaldehyde, 5-10 % eugenol, benzaldehyde, cuminaldehyde and other terpenes like phellandrene, pinene, cymene, caryophyllane etc. Increases the blood circulation in the uterus and advances tissue regeneration, Anti-microbial, Anti-fungal, Anti-oxidant, Anti-diabetic.[12,13,14,15]

Fennel - Fennel seeds are great for digestion and reducing bloating. They also help freshen breath and add a sweet, soothing flavor to the tea. Fennel contains 1–3% of a volatile oil composed of approximately 50–60% anethole and 20% de-fenchone. Other compounds present in fennel are d-α-pinene, d-α-phellandrene, dipentene, methyl chavicol, feniculum,

anisaldehyde, and anisic acid. Anti-inflammatory, Antibacterial, Antioxidant, Digestive issues, Respiratory issues Lactation, Anti-allergic, Analgesic, Anti-cancer, Anti-stress.[17,18,37,38]

MATERIAL AND METHOD

Method of preparation: The various preparation methods for treatment of raw materials and for the formulation of Herbal Tea. There are five methods used in preparation of herbal tea.

Preparation of coarse powder: The crude drugs were washed, and dried under shade at the room temperature for few days. The dried leaves are collected and grind in a mixer to make a course powder.[39,40]

1. **PROCUREMENT** - The herbs are collected from my home garden and the nearby store.
2. **DRYING OF HERBAL PLANT:** Drying is the most common of medicinal plant preservation and, due to high energy costs, drying is also a large expense in medicinal plant production. Drug quality and consequently earnings are significantly influenced by the drying regime. Conventionally, low drying temperatures between 30 and 50°C are recommended to protect sensitive active ingredients.[41,42,43]
3. **MIXING:** The powdered herbs were mixed together in the right amounts to get a balanced flavor and health benefits. Planting herbs together in one pot Fill the container about halfway with moistened potting mortar and pestle. Remove each herb plant from its nursery pot, gently loosen any circling roots, and position in the container. Group taller herbs in back and shorter ones in front.[44,45]
4. **SEIVING:** Place the powder sample on a set of standard sieves, and sieve the powder particles on the sieves by mechanical vibration or manual shaking. After a time 15min, weigh the mass of powder retained on each sieve no 15 the proportion of particles in different particle size ranges.[46,47,48]
5. **FORMULATION OF POWDER**

- Firstly, I dried the herbs using Hot Air Oven at 100 degrees C for hour.
- After drying I took the dried herbs separately in cleaned and washed mortar and made a powder of them using pestle.

Phytochemical Screening

Phytochemical screening is the process of testing plant-based formulations like herbal tea to identify the presence of natural chemical compounds. These compounds, known as phytochemicals, are responsible for the health benefits and biological activities of plants. Common phytochemicals found in herbal teas include alkaloids, flavonoids, tannins, saponins, terpenoids, and phenolic compounds.[49,50]

- **Test for Alkaloids:** Alkaloids are compounds known for their medicinal properties. To detect them, specific reagents like Mayer's and Dragendorff's are used. When a few drops of these reagents are added to the herbal

extract, the appearance of a white or reddish-brown precipitate shows that alkaloids are present.[50,51]

- **Test for Flavonoids:** Flavonoids are powerful antioxidants. In the Shinoda test, magnesium turnings and hydrochloric acid are added to the extract. A pink or red color shows the presence of flavonoids. Another way is the alkaline reagent test, where sodium hydroxide is added, and a yellow color change confirms flavonoids.[52,53]
- **Test for Tannins:** Tannins give herbal tea its astringent taste and also have antioxidant properties. The Ferric Chloride test is done by adding $FeCl_3$ solution to the tea extract. A dark blue or greenish-black color shows tannins are present.[54,55]
- **Test for Saponins:** Saponins are known for their foaming nature and cholesterol-lowering effect. In the foam test, the extract is shaken with water. The formation of stable foam that lasts for some time indicates the presence of saponins.[19,20,56,57]
- **Test for Terpenoids:** Terpenoids are known for their anti-inflammatory and aromatic properties. In the Salkowski test, the herbal tea extract is mixed with chloroform and concentrated sulfuric acid. A reddish-brown layer at the boundary shows terpenoids are present.[21]
- **Test for Phenolic:** Compounds Phenolic compounds act as antioxidants. The Folin-Ciocalteu reagent is used for this test. When added to the extract along with sodium carbonate, a blue color appears if phenolic compounds are present.[21,22,58]
- **pH Level:** The pH level is an important indicator of the acidity or alkalinity of the tea, which can influence both its flavor and the stability of its bioactive compounds. A pH meter was used to directly measure the pH of the herbal tea. The pH value is recorded 7 for the herbal tea.[59,60,61]
- **Stability Testing of Herbal Tea:** Stability testing is performed to check how long herbal tea remains safe, effective, and good in quality under different storage conditions over time. It helps to ensure that the herbal tea does not lose its color, flavor, aroma, or active ingredients before the expiry date. For herbal tea, stability testing is usually done under controlled conditions — such as normal room temperature, refrigerated temperature, and elevated temperature — and changes are monitored at specific time intervals.[22,62,63]
- **Organoleptic (Sensory) Evaluation:** This test helps ensure the herbal tea is appealing to consumers in terms of taste, aroma, and appearance. Taste Test, Aroma Evaluation, Appearance.

RESULT & DISCUSSION

In the present study, herbal tea was formulated using selected medicinal plants known for their health promoting properties. The formulation was designed to combine taste, aroma, and therapeutic value(64,65). After proper drying, grinding, and blending of the herbal ingredients, the final tea mixture was subjected to various evaluation parameters, and the results are summarized below;

Organoleptic Evaluation (By Senses)

Taste – Checked by drinking the tea for flavor.

- **Smell (Aroma)** – Observed for natural and pleasant fragrance.
- **Color** – Looked at the color of the tea after boiling.
- **Appearance** – Checked for freshness, uniformity, and no visible dirt or impurities.

pH Test

To find out if the tea is too acidic or too basic. A neutral or slightly acidic pH is considered safe for drinking.[66,67,68]

Solubility Test

To check how well the herbal powder dissolves in hot water.

Moisture Content Test

To make sure the tea powder is dry and won't spoil quickly.

Microbial Test

To check if there are any harmful bacteria or fungi present (done in lab settings).

Stability Test

To see if the tea stays good (same color, smell, and taste) after storing for a few weeks.[69,70]

Test	Observation/Result
Appearance	Brownish powder, clean, free from dust or impurities
Color after boiling	Light to medium brown
Taste	Mildly spicy and sweet, pleasant to drink
Aroma	Strong herbal aroma, mainly from ginger and cinnamon
Solubility	Fully soluble in hot water
pH	Around 6.0 – safe for consumption
Moisture content	Low – indicates good shelf life
Stability after 4 weeks	No change in color, taste, or smell

Moisture Content

Moisture content was found to be within acceptable limits, which is important for product stability and prevention of microbial growth.[71,72]

Parameter	Observed Value
Moisture Content (%)	3.5%

Organoleptic Evaluation

The formulated herbal tea was visually evaluated for its color, aroma, taste, and overall appearance(73,74).

Parameter	Observation
Color	Brownish-green fine powder
Odor	Characteristic aromatic herbal smell
Taste	Mild, slightly bitter, pleasant
Texture	Fine and uniform mixture

Phytochemical Testing

Phytochemical tests	Result (Presence/Absence)
Alkaloids	Present (+)
Flavanoids	Present (+)
Tannins	Absent
Saponins	Absent
Terpenoids	Absent
Phenolic compounds	Present (+)

REFRENCES

1. Krati, Dr. Martolia Jaya, et. al, A comprehensive review on in-vitro methods for anti- microbial activity, IP International Journal of Comprehensive and Advanced Pharmacology, 2024; 9(3).
2. Neeru, Shilpi Kashyap, Esha Vatsa, Jitendra Singh and Ankush Sundriyal "Determination of Total Phenolic Content, Total flavonoid Content and Total Antioxidant capacity of different extracts of Roylea elegans Wall. (aerial parts)" World journal of pharmacy and pharmaceutical sciences (WJPPS), 2016; 5(6): 1884-1891.
3. Neeru, Esha Vatsa, Jitendra Singh and Ankush Sundriyal "Pharmacognostic Standardization Parameters of Roylea elegans Wall. (Aerial Parts)" International Journal for Pharmaceutical Research Scholars (IJPRS), 2016; 5(2): 133-140.
4. Kundan Singh Bora and Esha Vatsa "Pharmacognostic Evaluation of Dendrobium macraei Lindl." Universities Journal of Phytochemistry and Ayurvedic Heights (UJPAH), 2016; 1(20): 29-36.
5. Amit Sharma, Bharat Parashar, Esha Vatsa, Shilpa Chandel and Surbhi Sharma "Phyto chemical screening and Anthelmintic activity of leaves of Cedrus deodara (Roxb.)" World journal of pharmacy and pharmaceutical sciences (WJPPS), 2016; 5(8): 1618-1628.
6. Amit Sharma, Surbhi Sharma, Shilpa Chandel, Esha Vatsa and Dr. Bharat Parashar "A review on Morchella esculanta: Therapeutically Potent plant" World journal of pharmacy and pharmaceutical sciences (WJPPS), 2016; 5(9): 685- 699.
7. Esha Vatsa and Kundan Singh Bora "Memory Enhancing Activity of Dendrobium macraei Lindl. in Swiss Albino Mice" British Journal of Pharmaceutical Research (BJPR), 2016; 13(2): 1-11.
8. Vatsa Esha, Chandel Shilpa, Parashar Bharat, Neeru "Physico-Chemical and Phytochemical Evaluation of Dendrobium macraei Lindl. (Whole Plant)" International Journal of Pharmacognosy and Phytochemical Research (IJPPR), 2016; 8(11): 1801-1811.
9. Esha Vatsa, Mehak Aggarwal, Shipra Gautam "Formulation and Evaluation of Polyherbal Facial Scrub" Just Agriculture multidisciplinary e-Newsletter, Article ID: 023, 2021; 1(9): 1-6.
10. Shipra Gautam, Madhubala Thakur, Mehak Aggarwal, Esha Vatsa "Azadirachta indica- A Review as a Potent Anti- Diabetic drug" Just Agriculture multidisciplinary e-Newsletter, Article ID:98, 2021; 1(10): 1-6.
11. Esha Vatsa, Samriti Faujdar, Nidhi Sharma, Shilpa Chandel, Mehak Aggarwal "Dendrobium macraei Lindl.: A review on medicinally potent orchid on the basis of recent evidences" Chinese Journal of Medical Genetics, 2022; 31(3): 560-571.
12. Krati, Babita Rawat, Abhishek Bhardwaj, Amandeep Singh, A Comprehensive Review on Indian Barnyard Millet (Echinochloa frumentacea), International Journal of Pharmaceutical Technology and Biotechnology, 2025; 12(1): 01-07.
13. Krati, Dr. Martolia Jaya, et. al, A Comprehensive review on in-vitro methods for antimicrobial activity" Educational administration: Theory and Practice". 2024; 30(6): 8 (2977-2984).
14. Esha Vatsa, Dr. Samriti Faujdar, Shilpa Chandel, Nidhi Chaudhary, Ashok Kumar, Neeru, "Studies on anti-inflammatory activities of whole plant of Dendrobium macraei Lindl." European Chemical Bulletin, 2023; 12(Special Issue 1): 657-664.
15. Esha Vatsa, Dr. Samriti Faujdar, Nitin Kumar, Nidhi Chaudhary, Shilpa Chandel, Neeru, Mehak Aggarwal "Current studies to justify the medicinal potential of the orchid Dendrobium macraei Lindl." European Chemical Bulletin, 2023; 12(S3): 5822-5830.

16. Divya Negi Rawat, Anjali Bisht, Esha Vatsa, Deepika Chandra, Nidhi Chaudhary, Ashok Kumar "Urinary bacterial profile and antibiotic susceptibility pattern among patients of urinary tract infections" High Technology letters, 2023; 29(10): 115-128.
17. Mehak Aggarwal, Ujjwal Nautiyal, Harmeet Singh, Esha Vatsa, Nidhi Chaudhary, Anjali Bisht, Divya Negi "Development and evaluation of drug delivery system containing luliconazole" High Technology letters, 2023; 29(11): 633-652.
18. Jagriti Gairola, Prashant Kukreti, Anjali Bisht, Divya Negi, Nidhi Chaudhary, Esha Vatsa "Development of Chronotherapeutic Delivery System for the Oral Administration of Aceclofenac for Rheumatoid Arthritis by Using Different Polymers" Journal of Chemical Health Risks, 2023; 13(6): 1180-1192.
19. Nidhi Chaudhary, Dr. Deepak Nanda, Dr. Esha Vatsa, Mithilesh Kesari, Harshita Chandra, Simran Singh Rathore "The Promise of Usefulness of the Evergreen Shrub Cassia auriculata" Journal of Advanced Zoology, 2023; 44(4): 1249-1261.
20. Ms Pooja Yadav, Dr. Esha Vatsa, Dr Arti Rauthan, "Enhancing Menstrual Awareness among Adolescent Girls: Evaluating the Influence of School Initiatives" Journal of Chemical Health Risks, 2024; 14(02): 3141-3149.
21. Mehak Aggarwal, Esha Vatsa, Nidhi Chaudhary, Shilpa Chandel, Shipra Gautam, "Formulation and Evaluation of Polyherbal Face Pack" Research Journal of Pharmacy and Technology, 2024; 17(6): 2481-2485.
22. Esha Vatsa, Mehak Aggarwal, Nidhi Chaudhary, Shipra Gautam, Neeru, Nitin Kumar, "Comparison Based on Pharmacognostical and Pharmacological Profile of Thuja Orientalis Linn. And Thuja Occidentalis Linn.: A Review" Naturalista Campano, 2024; 28(1): 3208-3219.
23. Priya Pandey, Esha Vatsa, Gaurav Lakhchora, Md Shamsher Alam, Niyaz Ahamad Ansari, Mohammad Dabeer Ahamad, Sarafarz Ahamad, Mukul Singh, Nitin kumar, "Nano Medicine Advancements in Addressing Rare Neurological Disorders: A Focus on Globoid Cell Leukodystrophy (Krabbe's Disease) Treatment" African Journal of Biological Sciences, 2024; 6(3): 2654-2684.
24. Esha Vatsa, Nidhi Chaudhary, Priya Khadwal, Mehak Aggarwal, Tanya Aggarwal, and Nishant Bhardwaj, "In vitro Antidiabetic Effect and Phytochemical Screening of Cassia biflora Mill." Indian Journal of Natural Sciences, 2025; 15(88): 87726-87733.
25. Anil Kumar, Dr. Esha Vatsa, "AI-Powered Embryo Selection is revolutionized: A Review" South Eastern European Journal of Public Health, 2025; XXVI (1): 6223-6230.
26. Lohani, V., A R, A., Kundu, S., Akhter, M. Q., & Bag, S. Single-Cell Proteomics with Spatial Attributes: Tools and Techniques. ACS omega, 2023; 8(20): 17499–17510. https://doi.org/10.1021/acsomega.3c00795.
27. Amandeep Singh, Deepak Nanda, Ashok Kumar and Abhishek Bhardwaj. In vitro evaluation of anti-inflammatory activity of ageratum conyzoides leaves by Human Red Blood Cell (HRBC) membrane stabilization method, International Journal of Research in Pharmaceutical and Nano Sciences, 2023; 12(6): 196-202.
28. Amandeep Singh, Deepak Nanda, Ashok Kumar, Abhishek Bhardwaj. In vitro evaluation of anti-inflammatory activity of ageratum conyzoides leaves by Human Red Blood Cell (HRBC) membrane stabilization method, International Journal of Research in Pharmaceutical and Nano Sciences, 2023; 12(6): 196-202.
29. Singh A, Nanda D, Bhardwaj A, Kumar A. A pharmacological investigation for therapeutic potential of Callistemon citrinus as an anthelmintic agent (Bottle-Brush Plant). IP Int J Comprehensive Adv Pharmacol, 2024; 9(3): 206-210.

30. Yogesh Tiwari, Amandeep Singh, Bhupendra Kumar, Ashok Kumar. “In Vitro Evaluation of Alpha Amylase Activity of Bark Extracts of Ficus Auriculata”. International Journal of Innovative Science and Research Technology. December, 2017; 2(12): 88-92.
31. Bhupendra Kumar, Amandeep Singh, Yogesh Tiwari, Ashok Kumar. UV PROTECTIVE ACTIVITY OF GLYCINE MAX SEEDS. Indian Research Journal of Pharmacy and Science, 2017; 15: 1190-1195.
32. Reena Bhatt, Ashok Kumar, Ankita Sharma. Formulation and evaluation of shampoo formulated by glycine max seeds. Indian Research Journal of Pharmacy and Science; 15(2017): 1232-1238.
33. Kumar A, Nanda D and Gupta A. “A Prospective Study on the Risk Determinants and Economic Burden of Adverse Drug Reactions in Tertiary Care Hospital”. Indian Journal of Natural Sciences, 2025; 15(88): 87957-87961.
34. Ashok Kumar, Deepak Nanda and Abhishek Gupta A holistic approach to adverse drug reactions in hospitals: Classification, risk factors, assessment and economic evaluation- A review. J. Exp. Zool. India, 2024; 27: 2337-2348. DOI: https://doi.org/10.51470/jez.2024.27.2.2337
35. Sakshi Garg, Ashok Kumar, Varsha Deva, Preeti Biswas, Harsh Rastogi, Heena Farooqui. Immediate-Release Drug Delivery System, Current Scenario, and Future Perspective-A Narrative Review. Jundishapur Journal of Microbiology, 2022; 15(1): 6509-6519.
36. Ashok Kumar, Deepak Nanda, Abhishek Gupta Pattern of Adverse Drug Reactions and Their Economic Impact on Admitted Patients in Medicine Wards of a Tertiary Care Hospital. Library Progress International, 2024; 44(4): 1120-1139.
37. Alisha Rawat, Meenakshi Sajwan, Yamini Chandola, Nidhi Gaur “Assaultive role of thiamine in coalition with selenium in treatment of liver cancer”, Journal of emerging technologies and innovative research, 2022; 9(1); 2349-5162.
38. Ghildiyal, P., Bhatt, A., Chaudhary, N., Narwal, S.,Sehgal, P. “Study of various biochemical parameters on atrazine induced glucose-6-phosphate dehydrogenase deficiency in brain” International Journal of Health Sciences, 2022; 6(S7): 2552-2558.
39. Alok Bhatt, Arun Kumar, Pallavi Ghildiyal, Jyoti Maithani, Nidhi Chaudhary, Manish Nawani, Sonia Narwal “Phytochemical Profile of Melissa parviflora Benth” Neuro Quantology, 2022; 20(9); 2426-2428.
40. Palika Sehgal, Alok Bhatt, Sonia Narwal, Deepak P. Bhagwat, Nidhi Chaudhary et.al Formulation Characterization Optimization and In Vitro Evaluation of Aceclofenac Topical Emulgel, Neuro Quantology, 2022; 20(14): 1-09.
41. Sneha Rawat, Praveen Kumar Ashok, Abhishek bhardwaj “A review on Oro dispersible Tablet of Telmisartan” Org-Journal of Emerging Technologies and Innovative research (JETIR), May 2023; 10(5):i104-i112.
42. Jaison Varghese, Nitin kumar, Sapna Chaudhar, Abhishek Bhardwaj(2024) “Comparative In-Vitro Antioxidant and Antimicrobial Potential of Some Medicinal Plants” African Journal of Biological Sciences, https://doi.org/10.48047/AFJBS.6.Si3.2024.3340-3346.
43. Asima Imtiyaz, Ajay Singh, Abhishek Bhardwaj(2024) “Green synthesis of iron oxide nanoparticles from Iris kashmiriana (Mazar-Graveyard) Plant Extract its characterization of biological activities and photocatalytic activity” Journal of Industrial and Engineering Chemistry, https://doi.org/10.1016/j.jiec.2024.09.004.
44. Hem Chandra Pant, Bhawana Goswami, Ashok Kumar, Abhishek Bhardwaj, Shanti Rauthan and Amita pandey “A Review Paper on Bacopa monniera and Role of Artificial Intelligence (AI) in Medicinal Plant for Management and Treatment of Various Diseases” Indian Journal of Natural Sciences, 2025; 15(88): 01-10.

45. Vishwajeet Bachhar, Vibha Joshi, Ajay Singh, M. Amin Mir, Abhishek Bhardwaj(2025)"Antibacterial, Antioxidant, and Antidiabetic Activities of TiO2 Nanoparticles Synthesized Through Ultrasonication Assisted Cold Maceration from Stem Extract of Euphorbia hirta" Nano Bioscience, https://doi.org/10.33263/LIANBS141.001.
46. Nidhi Chaudhary, "A review on: The deciduous shrub "Punica granatum", European journal of biomedical and pharmaceutical sciences, 2016; 3(7); 2349-2388.
47. Singh Harmeet and Nidhi Chaudhary, "Evaluation of Lakshadi Guggul on experimentally induced global cerebral ischemia/reperfusion injury". World journal of Pharmacy and Pharmaceutical Sciences, 2016; 6(1); ISSN 2278-4357.
48. Nidhi Chaudhary and Harmeet Singh, "Evaluation of Punica Granatum Leaves Extract In Scopolamine Induced Learning And Memory Impairment In Mice". World journal of Pharmacy and Pharmaceutical Sciences, 6(6); 1677-1703.
49. Amandeep Singh, Pankaj Nainwal, Deepak Nanda,D.A. Jain, SOLUBILITY ENHENCEMENT OF PIOGLITAZONE WITH COMPLEXATION OF HYDROXYPROPYL-β-CYCLODEXTRIN, Digest Journal of Nanomaterials and Biostructures, Apr 2012 2(4): p.91-97.
50. Pankaj Nainwal Deepak Nanda, Amandeep Singh, D. A. Jain, Quantitative spectrophotometric determination of domperidone tablet formulations using ibuprofen sodium as hydrotropic solubilizing agent, Digest Journal of Nanomaterials and Biostructures, 2012; 2(4): 751 – 753
51. Deepak Nanda, Pankaj Nainwal, Amandeep Singh, D.A.Jain, Review on mixed-solvency concept: a novel concept of solubilization, Deepak Nanda et al.,Journal of Pharmacy Research, 2012; 3(2):411-413
52. Pankaj Nainwal, Amandeep Singh, Deepak Nanda, D.A.Jain, NEW QUANTITATIVE ESTIMATION OF ROSUVASTATIN BULK SAMPLE USING SODIUM BENZOATE AS HYDROTROPIC SOLUBILIZING AGENT, Journal of Pharmacy Research, 2012; 3(1): 6-8
53. Nainwal.P, Bhagla.A, Nanda.D, STUDY ON ANTIOXIDANT POTENTIAL AND WOUND HEALING ACTIVITY ON THE AQUEOUS EXTRACT OF FRUITS OF GARCINIA MANGOSTANA, IJPI's Journal of Pharmacognosy and Herbal Formulations, Volume-1
54. Pankaj Nainwal, Kapil Kalra, Deepak Nanda, Amandeep Singh, STUDY OF ANALGESIC AND ANTI-INFLAMMATORY ACTIVITIES OF THE ETHANOLIC EXTRACT ARIAL PARTS OF FUMARIA VAILLANTII LOISEL, Asian Journal of Pharmaceutical and Clinical Research, 2011; 4(1).
55. Amandeep Singh, Pankaj Nainwal, Deepak Nanda, D.A.Jain, SOLUBILITY ENHANCEMENT STUDY OF PIOGLITAZONE USING SOLID DISPERSION AS SOLUBILIZATION TECHNIQUE, International Journal of Science Innovations and Discoveries, Amandeep Singh et al., IJSID, 2011; 1(2): 95—100
56. Amandeep Singh, Pankaj Nainwal, Deepak Nanda, D. A. Jain, THE SOLUBILITY ENHANCEMENT STUDY OF PIOGLITAZONE USING DIFFERENT SOLUBLIZATION TECHNIQUIES, International Journal of Pharmacy & Pharmaceutical Sciences, 2012; 4(2).
57. Deepak Nanda, Pankaj Nainwal, Amandeep Singh, D.A.Jain, SOLUBILITY ENHANCEMENT STUDY OF DOMPERIDONE USING DIFFERENT SOLUBILIZATION TECHNIQUES, International Journal of Pharmacy and Pharmaceutical Sciences 2012; 2(3).

58. Pankaj Nainwal, Priyanka Sinha, Amandeep Singh, Deepak Nanda, D.A.Jain, A COMPARATIVE SOLUBILITY ENHANCEMENT STUDY OF ROSUVASTATIN USING SOLUBILIZATION TECHNIQUES, International Journal of Applied Biology & Pharmaceutical Technology, Oct - Dec -2011; 2(4).
59. Pankaj Nainwal, Deepak Nanda, Amandeep Singh, D. A. Jain, FORMULATION AND EVALUATION OF SOLID DISPERSION OF ROSUVASTATIN WITH VARIOUS CARRIERS,Pharmacie Globale International Journal Of Comprehensive Pharmacy, Issn 0976-8157.
60. Pankaj Nainwal, Amandeep Singh1, Deepak Nanda, D.A.Jain, SOLUBILITY ENHANCEMENT OF AN ANTIHYPERLIPIDEMIC DRUG ROSUVASTATIN BY SOLID DISPERSION TECHNIQUE, International Journal of PharmTech Research IJPRIF ISSN: 0974-4304, March-June 2012; 2: 3.
61. Kshitiz Agrawal, Pragati Bailwal, Amandeep Singh. Prem Saini, DEVELOPMENT OF QUALITY STANDARDS OF SUPRABHATAM CHURNA: A POLY HERBAL FORMULATION, International Journal of Pharmaceutical Research & Development,IJPRD, 2011; 4, June 2012.
62. Kapil Kalra, Amandeep Singh, Manisha Gaur, Ravindra P. Singh, and D. A. Jain, ENHANCEMENT OF BIOAVAILABLITY OF RIFAPENTINE BY SOLID DISPERSION TECHNIQUE, International Journal Of Pharmacy & Life Sciences, Kalra et al., April, 2011; 2(4).
63. Pankaj nainwal, Ranveer batsa, Amandeep singh, Deepak nanda, MEDICINAL PLANT STUDIES INFLUECED BY THE BIOTECHNOLOGICAL METHODS: A UPDATED REVIEW, International Journal of Pharma and Bio Sciences Apr-June-2011; 2(2).
64. Amandeep Singh, Sandhiya Pal, Prem Saini, IN- VITRO EVALUTION OF ANTI-INFLAMMATOTRY ACTIVITY OF TERMANALIA ARJUNA BARK EXTRACT, Journal of Innovative trends in Pharmaceutical Sciences,Vol-1(1): 9-12.
65. Amandeep Singh, Pramila Chauhan, Prem Saini, IN-VITRO ANTI-INFLAMMATORY EVALUTION OF HYDROALCOHALIC LEAVES EXTACT OF PINUS ROXBURGHII BY HRBC METHOD, International journal of Research in Pharmaceutical and Nano Sciences, 2013; 2(3): 268-271.
66. Amandeep Singh, Sumit Negi, Prem Saini, In Vitro Anti-Inflammatory Evaluation Of Leaves Using Hydroalcohalic Extract Of "Mangifera indica" International Journal of Pharmacy and Integrated Life Sciences, V1-(I7) PG (93-98).
67. Aman Deep Baghla, Kshitij Agarwal, Ramesh Verma and Deepak Nanda, Wound Healing Effect of the Aqueous Extract of the Leaves of Psidium guajava Linn., International Journal of chemicals and Life Sciences, 2013; 02 (03): 1104-1106.
68. Aman Deep Baghla, Kshitij Agarwal, Ramesh Verma and Deepak Nanda, WOUND HEALING EFFECT OF THE AQUEOUS EXTRACT OF THE LEAVES OF PSIDIUM GUAJAVA LINN., International Journal of chemicals and Life Sciences, 2013; 02(03): 1104-1106.
69. Bhupendra Kumar, Meenakshi Ghildiyal, Yogesh Tiwari, Deepika Chauhan, Amandeep Singh, IN-VITRO ANTI-INFLAMMATORY ACTIVITY OF GLYCINE MAX SEEDS, Indo American Journal Of Pharmaceutical Sciences, 2018; 05(02): 868-871.
70. Piyali Dey, Jyoti Pandey, Bhupendra kumar, Amandeep Singh, IN VITRO ANTHELMINTIC ACTIVITY OF BARK EXTRACTS OF ARTOCARPUS HETEROPHYLLUS, International Journal of Pharmacy & Pharmaceutical Research, 2018; 03(11): 33-40.

71. Bhupendra Kumar, Yogesh Tiwari, Amandeep Singh, Vineet Kumar, IN VITRO ANTIUROLITHIC ACTIVITY OF FICUS PALMATA LEAVES, International Journal Of Pharmaceutical Technology And Biotechnology, 2019; 6(1): 01-09.
72. Md. Daneyal Khurshid, Vivek Shukla, Bhupendra Kumar and Amandeep A Review Paper on Medicinal Properties of Phyllanthus emblica, International Journal of Pharmacy and Biological Sciences, 2020; 10(3): 102-109.
73. Mr. Dwivedi Vishal, Mrs. Nisha A Bhatt, Dr. Amandeep Singh PREPARATION AND STANDARDIZATION OF NAVKARSHIKA CHURNA, World Journal of Pharmacy and Pharmaceutical Sciences, 2020; 9(8).
74. Mitun Saha1, Mr. Bhupendra Kumar, Dr. Amandeep Singh Review Article on Various Phytochemicals and Different Medicinal Activities of Haritaki International Journal of Innovative Science and Research Technology, June 2020; 5(6).