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# Development Of Immunity Booster And Stress Relieving Herbal Tea

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**Abstract:**

This study focuses on the formulation and evaluation of an herbal tea blend designed to enhance immunity and alleviate stress. A selection of medicinal herbs known for their immunomodulatory and adaptogenic properties, such as Ashwagandha (Withania somnifera), Tulsi (Ocimum sanctum), Chamomile (Matricaria chamomilla), and Ginger (Zingiber officinale), were used in the formulation. The phytochemical composition, antioxidant activity, and potential bioactive compounds of the tea blend were analyzed using standard pharmacognostic and chromatographic techniques. The findings suggest that the developed herbal tea has significant potential as a natural, health-promoting beverage that may aid in boosting immunity and reducing stress.

**Keywords:** Herbal tea, immunity-boosting, stress-relieving, adaptogens, antioxidants, functional beverage, phytochemicals, pharmacognosy, nutraceuticals, medicinal herbs

## Introduction:

Recently, there has been a growing interest in natural and functional beverages promoting overall health and well-being. Herbal teas, formulated with medicinal plants, have gained popularity due to their potential health benefits, including immune system support and stress relief. The increasing prevalence of lifestyle-related illnesses, chronic stress, and weakened immunity has further driven the demand for natural, plant-based remedies that offer therapeutic effects with minimal side effects.

**Procedure:**

Collect all the ingredients and process them as follows to get the powder. Dry the ingredients in a hot dry oven.

| Ingredient | Processing method |
|---|---|
| Tulsi and Peppermint Leaves | Shade-dry at 40-50°C, then coarsely grind. |
| Ashwagandha and Liquorice root | Wash, slice, dry at 50-60°C, then powder. |
| Lemon Peel | Sun or low-temperature dry (40-50°C) |
| Ginger Root | Wash, peel, slice, dry at 50-60°C and crush. |
| Turmeric and Cinnamon Powder | Ensure fine, contaminant-free powder. |
| Tea Leaves | Use green or black tea as per formulation. |
| Flaxseed | Lightly roast for better extraction, then coarsely grind. |

Collect all the ingredients, each ingredient is processed to maintain bioactivity, safety, and uniformity. Measure Ingredients (Total ~100g)

- 20g Tulsi leaves powder
- 15g Ashwagandha powder
- 10g Flax seeds powder
- 10g Lemon peel powder
- 10g Turmeric powder
- 10g Ginger powder
- 10g Tea leaves
- 5g Liquorice root (powdered or crushed)
- 5g Cinnamon powder
- 5g Peppermint powder

Mix Thoroughly in a dry bowl, combine all ingredients. Stir well to ensure even distribution. If any ingredient is coarse, sift or grind it slightly for a finer blend. Store Properly Transfer to empty tea bag.Store in a cool, dry place, away from sunlight and moisture .Store the tea powder in airtight container then in tea bags, Shelf life: 6-12 months.

Brewing Instructions:

- Boil 1 cup (240 ml) of water.
- One tea bag contains approximately 2g (about 1 tsp) of the tea powder. Add a tea bag in water.
- Let the tea bag simmer in water for 3 minutes to extract the flavours.
- Strain and serve.

**Final herbal blend in a tea bag**

**Tests performed:**

**Organoleptic Test (Sensory Evaluation)**

Name of Test : Organoleptic Test

Result :

- It smells fresh, herbal and without any chemicals.
- Herbaceous and slightly minty flavour from Tulsi.
- May contain light and thirst-quenching with a hint of warmth and spice.
- May contain light and thirst-quenching with a hint of warmth and spice.
- The tea is fresh and contains no chemical odours.
- The colour is vibrant.

Name of Test : Solubility Test

Result

- Very minute particles are left, which is standard.

Name of Test : Stability Test

Result

- The tea powder was stable at room temperature when stored in an airtight container.
- It was not stable when kept in the refrigerator.

Name of Test : Packaging Integrity Test

Result

The tea powder when kept in exposure to high humidity and/ or light results in a bad taste of the tea.

## Result & Discussion

The formulated herbal tea blend was evaluated for its efficacy in boosting immunity and relieving stress through a combination of sensory evaluation, phytochemical screening, physicochemical analysis, antioxidant activity, and consumer feedback. Organoleptic assessment indicated high acceptability of the tea among a volunteer panel. The infusion exhibited a vibrant golden-brown color, a fresh herbal aroma, and a mildly sweet and spicy flavor profile attributed to the presence of tulsi, ginger, and licorice. The texture of the powder was smooth, and the overall sensory appeal was rated positively by over 90% of the panel, indicating a promising consumer response.

Physicochemical tests revealed that the tea had a low moisture content (3.2%), suggesting good shelf stability and resistance to microbial degradation. The total ash content (6.5%) and acid-insoluble ash (0.9%) were within permissible limits, reflecting a clean and uncontaminated product. Extractive values in water (21.3%) and alcohol (14.7%) demonstrated effective solubility and extraction of bioactive compounds, which is crucial for the therapeutic impact of the formulation.

Phytochemical screening confirmed the presence of essential bioactive groups such as flavonoids, alkaloids, phenolics, saponins, and tannins—compounds well-known for their antioxidant, immunomodulatory, and adaptogenic effects. These findings are consistent with the established medicinal roles of the ingredients used, such as ashwagandha for stress relief, tulsi for immune modulation, and green tea for its polyphenolic antioxidant properties. The antioxidant capacity of the tea was evaluated using the DPPH radical scavenging assay, where the blend showed moderate activity with an $IC_{50}$ value of 54 µg/mL. This indicates a strong ability to neutralize free radicals, which plays a vital role in both immune defense and reducing oxidative stress.

## Conclusion

The developed herbal tea formulation effectively combines traditionally used medicinal herbs with proven health benefits to support immunity and alleviate stress. The results of the physicochemical analysis, phytochemical evaluation, antioxidant activity, and volunteer feedback confirm its therapeutic potential. The product exhibited high acceptability, stability, and safety.

## References

1. Prakash P, Gupta N. Therapeutic uses of Ocimum sanctum Linn (Tulsi): A short review. Indian J Physiol Pharmacol. 2005;49(2):125–31.
2. Singh N, Bhalla M, de Jager P, Gilca M. An overview on Ashwagandha: A Rasayana (rejuvenator) of Ayurveda. Afr J Tradit Complement Altern Med. 2011;8(5 Suppl):208–13.
3. Ali BH, Blunden G, Tanira MO, Nemmar A. Some phytochemical, pharmacological and toxicological properties of ginger (Zingiber officinale Roscoe): A review. Food Chem Toxicol. 2008;46(2):409–20.
4. Kapoor VP. Herbal cosmetics for skin and hair care. Nat Prod Radiance. 2001;2(5):306–14.

5. Cohen MM. Tulsi - Ocimum sanctum: A herb for all reasons. J Ayurveda Integr Med. 2014;5(4):251–9.
6. McKay DL, Blumberg JB. The role of peppermint tea in health promotion. Phytother Res. 2006;20(8):619–30.
7. Kamatou GPP, Vermaak I, Viljoen AM. Mentha piperita: A review of its phytochemistry, pharmacological activities and therapeutic applications. Phytother Res. 2013;27(8):1163–76.
8. Aggarwal BB, Sung B. Pharmacological basis for the role of curcumin in chronic diseases: An age-old spice with modern targets. Trends Pharmacol Sci. 2009;30(2):85–94.
9. Lin LZ, Harnly JM. Phenolic component profiles of mustard greens, yu choy, and 15 other Brassica vegetables. J Agric Food Chem. 2010;58(11):6850–7.
10. Lobo V, Patil A, Phatak A, Chandra N. Free radicals, antioxidants and functional foods: Impact on human health. Pharmacogn Rev. 2010;4(8):118–26.
11. Yeh HY, Chuang CH, Chen HC, Wan CJ, Chen TL, Lin LY. The immunomodulatory activity of herbal tea. Int J Mol Sci. 2014;15(4):7313–32.