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PHARMACOLOGICAL EFFECTS AND HEALTH BENEFITS OF SELAVU RASAM: A TRADITIONAL SOUTH INDIAN FUNCTIONAL FOOD

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ABSTRACT: SelavuRasam, a traditional South Indian soup, represents a unique intersection of culinary heritage and medicinal practice. Rooted in Ayurvedic and Siddha systems, it is increasingly recognized as a functional food with therapeutic potential. This study explores its pharmacological properties and health benefits, emphasizing the synergistic effects of its diverse ingredients. Core spices such as black pepper, garlic, cumin, turmeric, and asafoetida are complemented by medicinal herbs including *Solanum trilobatum*, *Coleus amboinicus*, *Kedrostis foetidissima*, dried ginger, *Piper longum*, and *Ocimum sanctum*. Together, these constituents contribute to a broad spectrum of bioactivities, including cold suppressant, expectorant, anti-inflammatory, antioxidant, antimicrobial, and digestive-enhancing effects. Traditional knowledge highlights its role in alleviating respiratory ailments and promoting digestive health, while modern pharmacological insights validate these properties through phytochemical and clinical evidence. The findings underscore SelavuRasam's relevance as a culturally significant dietary formulation that bridges food and medicine. By integrating ethnomedicinal wisdom with contemporary scientific perspectives, this paper positions SelavuRasam as a promising functional food capable of supporting health, preventing disease, and preserving traditional knowledge systems.

INTRODUCTION: Food is normally consumed in variety of combinations, in large amount, under different socialized conditions. Traditional foods apart from giving nutrients they have wide pharmacological benefits. To wavier from several diseases, it's important to consume traditional functional foods.

Currently, recommendations are proved to be high to consume and support traditional foods that are prepared from herbs and spices which have more bioactive compounds ¹.

Functional Foods: Functional foods are increasingly known for their role in protective health care. Among them, traditional Indian preparations like Rasam offer a rich source of bioactive compounds. SelavuRasam, a spiced variant consumed widely in Tamil Nadu (esp. in kongu belt), shows the amalgamation of culinary tradition and medicinal utility. Historically used to treat cold, cough, indigestion, and fatigue, its ingredients possess pharmacological properties that

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warrant scientific attention ². With the current approach to polypharmacy and synergism, where multiple compounds work together to address multifactorial pathogenesis, traditional preparations like SelavuRasam rich in diverse bioactive ingredients offer significant health benefits through their holistic and synergistic effects. This paper investigates the health-promoting effects of SelavuRasam and its associated botanicals through a review of their constituent compounds and documented bioactivities.

Rasam- A Functional Food: The word, Rasam in Sanskrit means “the essential products of digestion” ³. The main spices used in the preparation of Rasam are tamarind, turmeric, tomato, sesame oil, chili pepper, garlic, black pepper, coriander and asafoetida. The ingredients are medically demanded for various diseases. Rasam is used as an appetizer and also as medicinal formulation, based on the permutation and combination of its constituent spices. Apart from this it is considered an effective home remedy for common cold, aid digestion, boosts immune system and provides relief from cold and flu ^{4,5}.

Selavurasam: Selavurasam, a green colour rasam, can be called as soup as well, is prepared using several spices and herbs. Hence it has enhancing health benefits when compared with normal rasam. "In South Indian kitchens, SelavuRasam is traditionally prepared during episodes of cold and flu for its soothing and medicinal properties. SelavuRasam was regularly consumed during pandemic situations like COVID-19, owing to its reputation as a natural immunity booster.

Ingredients:

For the Masala Base:

- Groundnut oil (for roasting)
- Small onions (shallots)
- Garlic cloves
- Black pepper
- Thippili (*Piper longum*)
- Dried ginger
- Cumin seeds (added last)

Medicinal Herbs:

- *Solanum trilobatum* (Thuthuvalai)
- *Coleus amboinicus* (Karpooravalli)
- *Kedrostis foetidissima* (Mudakathan)
- *Ocimum sanctum* (Tulsi)
- *Murraya koenigii* (Curry leaves)

For Seasoning:

- Little oil (preferably groundnut oil)
- Cumin seeds
- Small onions (finely chopped)
- Curry leaves

Selavurasam Preparation:

Step 1: Prepare the Selavu Base:

Ingredients to Roast:

- Groundnut oil
- Small onions (shallots)
- Garlic cloves
- Black pepper
- Thippili (*Piper longum*)
- Dried ginger
- Cumin seeds (added last)

Procedure:

1. Heat groundnut oil in a pan.
2. Add small onions, garlic, pepper, thippili, and dried ginger.
3. Roast on low flame until aromatic and lightly browned.
4. Add cumin seeds and roast briefly to preserve their aroma.

Step 2: Add Medicinal Herbs:

Herbs to Include:

- *Solanum trilobatum* (Thuthuvalai)
- *Coleus amboinicus* (Karpooravalli)
- *Kedrostis foetidissima* (Mudakathan)
- *Ocimum sanctum* (Tulsi)
- *Murraya koenigii* (Curry leaves)

Procedure:

1. Add the herbs to the roasted spice mixture.
2. Sauté for about 1 minute to release their essential oils.
3. Allow the mixture to cool.
4. Grind into a smooth paste using minimal water.

Step 3: Seasoning and Rasam Preparation”**Seasoning Ingredients:**

- Little oil (preferably sesame or groundnut)
- Cumin seeds
- Small onions (finely chopped)
- Curry leaves

Procedure:

1. In a separate pan, heat oil.
2. Add cumin seeds, chopped onions, and curry leaves.

3. Sauté until onions turn translucent.

Step 4: Combine and Simmer:

1. Add the ground herbal-spice paste to the pan.
2. Pour in enough water to achieve rasam/soup consistency.
3. Add salt and a pinch of turmeric powder.
4. Simmer until the rasam begins to froth do not overboil.
5. Turn off the flame once frothing starts.

Serving Suggestion:

- Serve hot with rice or sip as a herbal soup.
- Ideal during cold, flu, or seasonal changes for its immunity-boosting and respiratory-relieving properties

Bioactive compounds and therapeutic actions of Selavu Rasam Ingredients: The below plant sources are rich in various micronutrients, macronutrients, phytochemicals and secondary metabolites.

These phytochemicals are responsible for various properties like immunity, anti-diabetic, immunomodulatory, cardioprotective etc., the below table gives the bioactive compounds and their medicinal properties in various ingredients of Selavurasam.

TABLE 1: BIOACTIVE COMPOUNDS AND THERAPEUTIC ACTIONS OF SELAVU RASAMINGREDIENTS

S. no.	Ingredient	Bioactive compound(s)	Pharmacological effects	Ref.
1	Asafoetida (<i>Ferulaassa-foetida</i>)	Ferulic acid derivatives	Antimicrobial, carminative, anti-flatulent	2
2	Black Pepper (<i>Piper nigrum</i>)	Piperine	Enhances drug bioavailability, anti-inflammatory, antioxidant	6
3	Dried Ginger (<i>Zingiber officinale</i>)	Gingerol, shogaol	Anti-inflammatory, digestive stimulant, cardioprotective	7
4	Turmeric (<i>Curcuma longa</i>)	Curcumin	Anti-inflammatory, antioxidant, anticancer	8
5	Thoodhuvalai (<i>Solanum trilobatum</i>)	Solasodine, flavonoids	Anti-asthmatic, antioxidant, anti-inflammatory	9
6	Karpooravalli (<i>Coleus amboinicus</i>)	Carvacrol, thymol	Bronchodilator, antimicrobial, hepatoprotective	10
7	Thippali (<i>Piper longum</i>)	Piperine	Bioenhancer, anti-asthmatic, immunomodulatory	11
8	Garlic (<i>Allium sativum</i>)	Allicin	Antimicrobial, cardioprotective, immunomodulatory	12
9	Cumin (<i>Cuminum cyminum</i>)	Cuminaldehyde	Digestive stimulant, antispasmodic, hepatoprotective	13

10	Appakkovai (<i>Kedrostis foetidissima</i>)	Alkaloids, flavonoids	Antidiabetic, anti-inflammatory, hepatoprotective	14
11	Thulasi (<i>Ocimum sanctum</i>)	Eugenol, ursolic acid	Antimicrobial, antidiabetic	15
12	Curry leaves (<i>Murraya koenigii</i>)	Carbazole alkaloids	Anti-inflammatory, antibacterial, and anti-diabetic effects	16

Micronutrient Profile of Primary Ingredients of Selavurasam: SelavuRasam, a traditional South Indian preparation, a functional food is rich in micronutrients due to its varied herbal and spice composition. Ingredients like *Murraya koenigii* (curry leaves) and *Solanum trilobatum* add significantly to iron, calcium, and vitamin A content¹⁷. Herbs such as *Ocimum sanctum* (tulsi) and *Coleus amboinicus* are known for their zinc

and antioxidant properties¹⁸. Spices like cumin, pepper, and dried ginger enhance magnesium and improve nutrient bioavailability¹⁹.

These values are based on standard nutritional profiles of individual ingredients. It may vary depending on preparation method and ingredient proportions.

TABLE 2: MICRONUTRIENT PROFILE OF 100 ML SELAVURASAM

S. no.	Primary sources in SelavuRasam	Micronutrient	Estimated content (per 100 ml)
1.	Small onions, garlic, curry leaves, tulsi	Vitamin C	~8–12 mg
2.	Cumin seeds, curry leaves, <i>Solanum trilobatum</i>	Iron	~1.2–1.8 mg
3.	<i>Murrayakoenigii</i> , <i>Coleus amboinicus</i>	Calcium	~35–50 mg
4.	Black pepper, dried ginger, cumin	Magnesium	~20–30 mg
5.	Garlic, tulsi	Zinc	~0.4–0.6 mg
6.	Curry leaves, <i>Solanum trilobatum</i>	Vitamin A (Beta-carotene)	~150–200 µg
7.	Groundnut oil, curry leaves	Vitamin E	~0.5–0.8 mg

RESULTS AND DISCUSSION:

Digestive Health: SelavuRasam stimulates gastric secretions and bile flow, aiding digestion. Cumin and asafoetida relieve bloating and indigestion². Dried ginger enhances motility and enzyme activity⁷, and *Coleus amboinicus* supports gut health through its carminative and hepatoprotective properties¹⁰. *Piper longum* further enhances nutrient absorption⁶.

Respiratory and Immune Support: *Solanum trilobatum* is traditionally used to treat asthma and bronchitis due to its bronchodilatory and anti-inflammatory effects²⁰. *Coleus amboinicus* and *Piper longum* also exhibit antiasthmatic properties^{6, 10}. Garlic and *Ocimum sanctum* contribute to immune modulation and antimicrobial defense²¹.

Anti-inflammatory and Antioxidant Effects: Curcumin and piperine exhibit potent anti-inflammatory effects, with piperine enhancing curcumin's bioavailability². *Solanum trilobatum*, ginger, and *Ocimum sanctum* provide additional antioxidant protection^{7, 21}.

Antimicrobial Activity: Garlic, asafoetida, *Coleus amboinicus*, and *Ocimum sanctum* possess broad-spectrum antimicrobial properties^{10, 21}.

These ingredients help prevent infections and support gut microbiota balance.

Metabolic and Hepatic Benefits: *Kedrostis foetidissima* has demonstrated antidiabetic and hepatoprotective effects¹¹. *Ocimum sanctum* also supports metabolic regulation and liver function²¹, making SelavuRasam a potential adjunct in managing lifestyle diseases.

CONCLUSION: SelavuRasam stands as a compelling example of a traditional food with scientifically validated health benefits. The integration of spices and medicinal herbs such as *Solanum trilobatum*, *Coleus amboinicus*, *Kedrostis foetidissima*, dried ginger, *Piper longum*, and *Ocimum sanctum* enhances its therapeutic profile. Its pharmacological effects support its use as a functional food in preventive healthcare. Further clinical trials are recommended to quantify its efficacy and explore its role in integrative medicine.

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