

PHYTOCHEMICAL SCREENING OF SOME HERBS GINGER GARLIC AND ONION

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ABSTRACT

Phytochemical Screening revealed that the presence of Carbohydrate, Protein, Alkaloid, Saponin, Tanin, Steroid, Flavonoid, Volatile oil and total phenol. Ginger, Garlic, and onion was Successfully extracted and examine the value of Qualitative and quantitative phytochemical analysis. Phytochemical analysis is examined two solvent aqueous and alcohol. The results Concluded that the alcoholic solvent is good as compare to aqueous.

KEYWORDS: Phytochemical ,ginger, Garlic, Onion.

INTRODUCTION

Culinary herbs are the major resource of various efficient drugs of traditional medicines, folk medicines, modern medicines, food supplements, chemical synthetic drugs and pharmaceutical intermediates. Phytochemicals acknowledged from ancient therapeutic plants are very helpful in invention of novel drugs. Phytochemicals are capable to prevent various persistent diseases because of their distinct properties.
Spices are discussed in below

Ginger: Ginger is from the Zingiberaceae family. It is commonly produced in India and Australia. It is available fresh and dried, as ginger extract and ginger oil, and in tinctures and capsules. Ginger has long been used for culinary and medicinal purpose. Possible health benefits include reducing nausea, pain, and inflammation.

Garlic: *Allium sativum* or garlic is member of family liliaceae, it is one of the most considered medicinal plants. Garlic has a higher concentration of sulfur than any other allium species. Alliin (Sallylcysteine sulfoxide) is most plentiful sulfur compound in garlic while Allicin or diallyldisulfide or diallyl thiosulfinate is most biologically active compounds present in garlic. Garlic has effective results for anti-microbial, cardiovascular and anti-cancer activity, curative results found for the treatment of hypoglycemia, liver dysfunction, heavy metal poisoning and hyperthyroidism. Allicin is remarked as strong scavenging and antioxidant compound, studies indicates that other compounds such as polar compounds of phenolic and steroidal origin may play stronger roles.

Onion: The *Allium cepa* (Onion) belongs to liliaceae family. It is a bulbous aromatic plant and commercially cultivated globally. It is the most cultivated specie of the genus *Allium*, onion is source of various biologically active compounds i.e. flavonoids, polyphenols and thiosulfates. Onion is used as salad in food, dietary intakes of onion lower down plasma low-density lipoprotein (LDL) cholesterol. It contains flavones, flavonols and isoflavones so its use as salad is good for health. It is the miracle food (31). Several studies have revealed that onion (*Allium cepa* L.) have various therapeutic benefits such as antidiabetic effects, antimicrobial effects, cardiovascular risk reduction, cancer risk reduction etc.

MATERIALS AND METHOD

Collection of plant and Preparation of Extract

Crisp onion bulbs, Ginger and Garlic were obtained from nearby market in chitrakoot and afterward wash with water evacuate dust particles. kept in room temperature for dryness and pound for powder. 5 gram sample powder of seed and rhizome was separately dispersed in 100ml of two solvents (ethanol and water). The solutions were vigorously shaken at room temperature for 6hrs and left for 18 hrs (maceration). After that solution filtered with Whatman No.1 filter paper. The filtrates were used for the photochemical analysis.

Test for Alkaloids

Mayer's test: Add few drops of Mayer's reagents to 1 ml of the acidic, aqueous extract of the drug. White or pale yellow colour is formed.

Test for Carbohydrate

Anthrone's Test: To 2 ml of anthrone's test solution, add 0.5 ml of aqueous extract of drug. A green or blue colour indicates the presence of carbohydrates.

Benedict's Test: To 0.5 ml of aqueous extract of drug, add 5 ml of Benedict's solution and boil for 5 minutes. Formation of coloured ppt. is due to presence of carbohydrates.

Test for Proteins

Bieuret's test: To 1 ml of hot aq. extract of drug, add 5 – 8 drops of 10% w/v NaOH solution followed by 1 or 2 drops of 3% w/v CuSO₄ solutions. A red or violet colour is obtained.

Millon's test: Dissolve small quantity of aq. extract of drug in 1 ml of distilled water and add 5 - 6 drops of millon's reagent. A white ppt. is formed which turns red on heating.

Test for resins- Dissolve the 1 ml of extract in 1 ml of acetone and pour the solution into 5 ml distil water. Turbidity indicates the presence of resins.

Test for Starch- Dissolve 0.015g of iodine and 0.075g of KI in 5 ml of distil water and add 2-3 of an aq. extract of drug. A blue colour is produced.

Detection of flavonoids

Test for flavonoids- In the test tube containing 0.5 ml of alcoholic extract of drug, add 5-10 drops of dil. HCl followed by small piece of 'Mg'. In the presence of flavonoids, pink, reddish pink or brown colour is produced.

Ferric chloride test: A few drops of neutral ferric chloride solution were added to 1 ml of above alcoholic solution. Formation of blackish red color indicates the presence of flavonoids.

Test for Steroids

Liebermann's Burchard's test: Add 2 ml of acetic anhydrate solution to 1 ml of petroleum ether extract of drug in chloroform followed by 1 ml of concentrate H₂SO₄. A greenish colour is develop which turns to blue.

Detection of Phenols: 1 ml of extract dissolved in alcohol or water was treated with a few ml of neutral ferric chloride solution. Any change in color indicates the presence of phenols.

Detection of tannins: 5 ml leaf extract was dissolved in minimum amount of water and filtered. Then the filtrate was subjected to the following tests:

Ferric Chloride test: To the filtrate, a few drops of ferric chloride solution were added. A blackish precipitate indicates the presence of tannins

RESULTS AND DISCUSSION

Various phytochemicals present in all selected samples. Carbohydrates, proteins, tannins, saponins, alkaloids and starch were observed in the ethyl acetate and methonolic extracts of all the selected samples. All results are given in Table

Table 1.1: Phytochemical Screening of Water and Methonolic Extracts of Selected Samples.

Test	Alkaloid		Carbohydrate		Protein		Flavonoid		Saponin		Tanin		Steroid		Phenol		Volatile oil	
Sample	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M
Ginger	+	+	-	-	-	+	+	-	+	+	+	+	-	+	+	+	-	-
Garlic	+	+	+	-	-	+	+	-	+	+	-	+	+	-	+	+	+	+
Onion	-	+	+	+	+	+	+	-	+	+	+	+	+	-	+	+	+	+

Phytochemical screening of water and methonolic extracts of selected samples has given. Phytochemical screening has been done for alkaloids, carbohydrates, flavonoids, protein, resin, saponin, starch, steroid and tannins. Alkoids, resins and saponins were present in almost all water and methanolic extract of selected samples while carbohydrates, prpteins, starch were absent in both water and methanolic extract of selected samples.

CONCLUSION

The choice of rough plant extricates for screening projects has the capability of being more effective in introductory strides than the screening of unadulterated mixes confined from common items.

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