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Research Article

**EXTRACTION, PHYTOCHEMICAL TEST AND TOTAL
ALKALOIDS CONTENTS OF MURRAYA KOENIGII EXTRACT**Sifali Singh, Dr. Vivekanand Katare*¹, Ms. Nisha Kalme¹, Dr. Prabhat Kumar Jain²¹Vivekanand College of Pharmacy, Bhopal (M.P.), ²Scan Research Laboratories, Bhopal (M.P.)**Article Received:** December 2022 **Accepted:** December 2022 **Published:** January 2023**Abstract:**

Herbs are used for the treatment of chronic and acute conditions and various ailments, including major health concerns. Herbs are used around the world to treat conditions and diseases, and many studies prove their efficacy. One of the greatest benefits associated with herbal medicine is the non-existence of side effects. Also, they tend to offer long-lasting benefits in terms of overall wellness. There are a few risks associated with herbal medicine as well. *Murraya koenigii* or *Bergera koenigii*, is a tropical to sub-tropical tree in the family Rutaceae (the rue family, which includes rue, citrus, and satinwood), and is native to Asia. The plant is used as antihelmintics, analgesics, digestives, and appetizers. The green leaves of *M. koenigii* are used in treating piles, inflammation, itching, fresh cuts, dysentery, bruises, and edema. This study deals with the extraction, phytochemical test & estimation of alkaloid content in *M. koenigii*. The extraction was performed by maceration and the hydroalcoholic solvent was used. Phytochemical test and estimation of total alkaloid was performed according to standard procedure. The result showed that the percentage yield after extraction was found to be 16.23%. Phytochemical test revealed the presence of alkaloid, saponin, phenol, flavonoid, proteins & amino acids. The total alkaloid content of hydroalcoholic extract of *Murraya koenigii* was found to be 0.578 mg/100 mg.

Keywords: *Murraya koenigii*, Phytochemical test, Total alkaloids contents.**Corresponding author:****Vivekanand Katare,**

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INTRODUCTION:

Ever since ancient times, in search for rescue for their disease, the people looked for drugs in nature. The beginnings of the medicinal plants' use were instinctive, as is the case with animals. In view of the fact that at the time there was not sufficient information either concerning the reasons for the illnesses or concerning which plant and how it could be utilized as a cure, everything was based on experience. In time, the reasons for the usage of specific medicinal plants for treatment of certain diseases were being discovered; thus, the medicinal plants' usage gradually abandoned the empiric framework and became founded on explicatory facts. Until the advent of Photochemistry in 16th century, plants had been the source of treatment and prophylaxis. Nonetheless, the decreasing efficacy of synthetic drugs and the increasing contraindications of their usage make the usage of natural drugs topical again (Stojanoski, 1999; Kelly, 2009).

The plant Camomile (*Matricaria recucita* L.), known under the name Chamaemelon, is used as an antiphlogistic to cure wounds, stings, burns, and ulcers, then for cleansing and rinsing the eyes, ears, nose, and mouth. Owing to its mild carminative action, it is particularly appropriate for usage with children. Dioscorides deemed that it had abortive action, on which he wrote, "The flower, root, and the entire plant accelerate menstruation, the release of the embryo, and the discharge of urine and stone, provided that they are used in the form of an infusion and baths." This untrue belief was later embraced by both the Romans and the Arabs; hence the Latin name *Matricaria*, derived from two words: mater denoting "mother," i.e. matrix, denoting 'uterus'. Dioscorides differentiated between a number of species from the genus *Mentha*, which were grown and used to relieve headache and stomach ache. The bulbs of sea onion and parsley were utilized as diuretics, oak bark was used for gynaecological purposes, while white willow was used as an antipyretic. As maintained by Dioscorides, *Scillae bulbosus* was also applied as an expectorant, cardiac stimulant, and antihidrotic (Tucakov, 1990). This study deals with Extraction, phytochemical test and total alkaloids contents of *Murraya koenigii*

MATERIAL AND METHODS:

Collection of Plant:

The selected plant namely *Murraya koenigii* (Curry Leaves) was identified and collected from various

areas of Madhya Pradesh on the basis of geographical availability. All collected plant drug were cleaned, shade dried, pulverized into moderately coarse powder and stored in airtight container for further use.

Extraction of Plant Drugs by Maceration:

The Collected plant drug (leaves) was cleaned properly and washed with distilled water to remove any kind of dust particles. Cleaned and dried plant drug was converted into moderately coarse powder in hand grinder. Maceration was carried out in a closed conical flask for 72 h. 100 g powdered plant drug sample and Hydroalcohol as the extraction solvent were used. The suspension after maceration was centrifuged and the supernatant evaporated under reduce pressure. The solvent free methanol extracts obtained was evaluated. The extracts obtained with each solvent were weighed to a constant weight and percentage w/w basis was calculated.

Preliminary Phytochemical Screening:

Preliminary phytochemical screening means to investigate the plant material in terms of its active constituents. In order to detect the various constituents present in the different extracts of *Murraya koenigii* (Curry Leaves), was subjected to the phytochemical tests as per standard methods.

Total alkaloids content estimation:

The plant extract (1mg) was dissolved in methanol, added 1ml of 2 N HCl and filtered. This solution was transferred to a separating funnel, 5 ml of bromocresol green solution and 5 ml of phosphate buffer were added. The mixture was shaken with 1, 2, 3 and 4 ml chloroform by vigorous shaking and collected in a 10-ml volumetric flask and diluted to the volume with chloroform. A set of reference standard solutions of atropine (40, 60, 80, 100 and 120 µg/ml) were prepared in the same manner as described earlier. The absorbance for test and standard solutions were determined against the reagent blank at 470 nm with an UV/Visible spectrophotometer. The total alkaloid content was expressed as mg of AE/100mg of extract.

RESULTS AND DISCUSSION:

The result showed that the percentage yield after extraction was found to be 16.23%. Phytochemical test revealed the presence of alkaloid, saponin, phenol, flavonoid, proteins & amino acids. The total alkaloid content of hydroalcoholic extract of *Murraya koenigii* was found to be 0.578 mg/ 100 mg.

Table 1: Extractive values obtained from *Murraya koenigii* (Curry Leaves) using different solvents

S. No.	Solvent	Color of extract	Yield	% Yield
1	Methanol + water (80:20)	Brown	16.23g	16.23%

Table 2: Preliminary phytochemical screening of *Murraya koenigii* (Curry Leaves)

S. No.	Phytoconstituents	Test Name	Hydroalcoholic extract
1	Alkaloids	Hanger's Test	+
	Tannins	Gelatin Test	-
2	Glycosides	Leagel's test	+
3	saponins	Froth test	+
4	terpenoids	Salwaski's test	-
5	phenols	Ferric chloride test	+
6	Carbohydrates	Gelatin Test	-
7	Flavonoids	Lead acetate	+
8	Proteins & Amino acids	Precipitation test	+

Table 3: Total alkaloid content of extract

S. No.	Extract	Total alkaloid content (mg/ 100 mg of dried extract)
1.	Methanol + water	0.578

CONCLUSION:

From the above study, it is concluded that a number of Phytoconstituents are identified in the Hydroalcoholic extract of *Murraya koenigii* (Curry Leaves) such as Flavonoids, phenols, Alkaloids, proteins, amino acids etc. The study also showed that the plants are a source of significant natural antioxidant and may be beneficial in protection against oxidative stresses. Hence, there is necessity to explore the applicability of these plant resources which are rich in phytochemical/Alkaloids may have been beneficial effects of health.

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