Research Article

PHYTOCHEMICAL INVESTIGATION AND QUANTIFICATION OF NAGDON

Rahul Raikwar*, Rajat Paradkar, Rajesh K. Athya, Rahul Singh,
Mithun Bhowmick and Jagdish Chandra Rathi
NRI Institute of Pharmaceutical Sciences, Bhopal, Madhya Pradesh, India.

ABSTRACT
phytochemicals are chemical compounds produced by plants, generally to help them thrive or thwart competitors, predators, orpathogens. The name comes from the Greek word phyton, meaning plant. Some phytochemicals have been used as poisons and others as traditional medicine. These chemicals used to describe plant compounds that are under research with unestablished effects on health and are not scientifically defined as essential nutrients. Regulatory agencies governing food labeling in Europe and the United States have provided guidance for industry limiting or preventing claims concerning phytochemicals on food product labels. Wormwood is often used as a companion plant, as it has strong pest repellant properties, and deters the growth of weeds. Its best known use is in the making of absinthe, liquor distilled from wormwood which is said to have hallucinogenic effects. Wormwood (Artemisia absinthium) is a perennial that is native to Europe and parts of Africa and Asia but now grows wild in the United States. It is extensively cultivated. Also called shrub wormwood, Artemisia absinthium is a member of the daisy or Asteraceae family. The species name, absinthium, means "without sweetness." Many species of the genus Artemisia have medicinal properties.

Keywords: Nagdon (Warmwood), Phytochemical, Traditional medicine.

I. INTRODUCTION

Phytochemistry is a sub fields of botany and chemistry. Activities can be led in botanical gardens or in the wild with the aid of ethnobotany. The applications of the discipline can be for pharmacognosy, or the discovery of new drugs, or as an aid for plant physiology studies. The study of phytochemicals, which are chemicals derived from plants. Those studying phytochemistry strive to describe the structures of the large number of secondary metabolic compounds found in plants, the functions of these compounds in human and plant biology, and the biosynthesis of these compounds. Plants synthesize phytochemicals for many reasons, including protecting themselves against insect attacks and plant diseases. Phytochemicals in food plants are often active in human biology, and in many cases have health benefits. The compounds found in plants are of many kinds, but most are in four major biochemical classes, the alkaloids, glycosides, polyphenols, and terpenes. This study include extraction and isolation of compounds from the origin plant, followed by defining their structure or testing in laboratory model systems, such as cell cultures, in vitro experiments, or in vivo studies using laboratory animals. Challenges in that field include isolating specific compounds and determining their structures, which are often complex, and identifying what specific phytochemical is primarily responsible for any given biological activity which are chemicals derived from plants. [1-5]

II. MATERIAL AND METHODS

1. Plant material

Nagdon (Warmwoodleaves) collected in September 2017 from Bhopal . The plant material was identified at the field using standard keys and descriptions. Its identity was further confirmed at NRI Institute of Pharmaceutical science, Bhopal, India.

2. Method of extraction: Solvent – Ethanol, alcohol.
Method – Hot Continuous Extraction (Soxhelation).
Procedure: The solvent is heated to reflux. The solvent vapour travels up a distillation arm, and floods into the chamber housing the thimble of solid. The condenser ensures that any solvent vapour cools, and drips back down into the chamber housing the solid material. The chamber containing the solid material slowly fills with warm solvent. Some of the desired compound dissolves in the warm solvent. When the Soxhlet chamber is almost full, the chamber is emptied by the siphon. The solvent is returned to the distillation flask. The thimble ensures that the rapid motion of the solvent does not

transport any solid material to the still pot. This cycle may be allowed to repeat many times, over hours or days. During each cycle, a portion of the non-volatile compound dissolves in the solvent. After many cycles the desired compound is concentrated in the distillation flask. The advantage of this system is that instead of many portions of warm solvent being passed through the sample, just one batch of solvent is recycled.

After extraction the solvent is removed, typically by means of a rotary evaporator, yielding the extracted compound. The non-soluble portion of the extracted solid remains in the thimble, and is usually discarded. Filtrate was collected and dried in water bath till no further reduction in mass of extract was observed. Dried extract was weighed and packed in air tight container.[6-9]

3. Phytochemical Screening-

Phytochemical Screening was carried out using standard methods to detect the bioactive compounds like alkaloids, tannins, phenols, steroids, flavonoids, saponins, glycoside, Terpenoids, Carbohydrate, Sugar, Protein, Nitric acid.[10-15]

III. RESULT AND DISCUSSION

	Phytochemical Constutuent	Observation (in Ethenolic Extract)	Remark
1	Test for tannin	Green precipitate	+
2	Test for steroid	Greenish trasicint color	+
3	Test for alkaloids	Orange red colour	+
4	Test for flavonoids	Pinck colour	+
5	Test for glycoside	Pinck to black red colour	+
6	Test for saponin	Like honey comb	+
7	Test for phenol	Green colour	+
8	Test for tepenoids	Greeyish is colour	+
9	Test for carbohydrate	At violet ring	+
10	Test for redusing sugar	Read vis brown color	+
11	Test for amino of protein	Purplish violet color	+
12	Test for nitric acid	Yellowish is color	+
13	Test for gelatin	Formation of precipitate	+

IV. CONCLUSION

Non standardized procedures of extraction may lead to the degradation of the phytochemicals present in the plants and may lead to the variations thus leading to the lack of reproducibility. Efforts should be made to produce batches with quality as consistent as possible and to develop and follow the best extraction processes.

From the present study the plant leaf extracts of Nagdonshowed an abundant production of phytochemicals as secondary metabolites and they can be used in the pharmaceutical industries for producing a potent drug They are Use for piles , pain, gas, bleeding. In this study, although there are variations in the chemical constituents, the six different plant bark extract of Naggdontested are potential piles agents. The results of this study may also be of commercial interest to research institutes and pharmaceutical industries in the development of new dugs.

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