Journal of Advances and Scholarly Researches in Allied Education
Vol. 16, Issue No. 5, April-2019, ISSN 2230-7540

Screening the Active Phytocontants of *Nyctanthes Arbor-Tristis* Extract

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Abstract – Nyctanthes arbor-tristis extract Belongs to dicot family could be a little sacred decorative tree. This plant has several healthful properties. Totally different components are used historically for treatment of varied diseases like neuralgia, chronic fever, antidiabitic, antioxidant and antibacterial activity etc. For extraction of plant both Hot (Chloroform and Methanol) and cold (Petroleum Ether) extractions method were performed by using different solvent. The plant based mostly knowledge has become a recognized tool in explore for new sources of drugs. Standard procedures were used to take a look at the presence of assorted phytochemicals. Tannins, saponins, flavonoids and phenol all were found during this plant. The present study finished that this therapeutic valuable plant have possessed different important phytochemicals that helps within the therapeutic properties of the studied plants normally utilized in different disease.

Keywords: Nyctanthes Arbor-Tristis, Phytochemical, Tannins, Saponins, Flavonoids etc.

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INTRODUCTION

Plant primarily based medicines area unit the premise of the many of the trendy pharmaceutical industries gift for our numerous ailments. Healthful plant having one or a lot of its elements contain substance that may be used for therapeutic purpose or that may be a precursor for synthesis of helpful medicine (Sofoworo, 1982). Most of the plants utilized in ancient Indian system of medication are found active against a good form of microorganisms (Khan *et al.,* 1994, Ahmad *et al.,* 1998, Ahmad and Beg, 2001). Phytochemical compounds area unit gift in plant elements area unit the natural bioactive compound found in plants, that work with fibers and nutrients to create an integrated a part of system against stress conditions and numerous diseases. Within the gift study we have a tendency to not solely evaluate the necessary bioactive compounds of each plant however conjointly its comparative study did. The quantitative estimation of varied trace components concentration is critical for effective dose concentration and conjointly for understanding their medicine actions.

The present study deals with the phytochemical standardization of methanolic extract of *Nyctanthes arbor-tristis* leaves. The most aim of {the gift|this|the current} study is to judge the phytochemical compound present in crude extract of *Nyctanthes arbor-tristis* leaves. The extract therefore obtained when standardization could also be used as healthful agents and will be any processed and incorporated in any dose kind adore tablets and capsules.

MATERIALS AND METHODS

Sample Collection

The plant parts of *Nyctanthes arbor-tristis* leaves were collected from field of Durg and Bhilai, and then the plant identified taxonomically and was preserved for extraction.

Preparation of Solvent Extracts for *Nyctanthes arbor-tristis* leaves

The leaves of *Nyctanthes arbor-tristis* plant were properly washed with H2O, then once remotion leaves were shed dried and crushed to get powder. Dried powder of *Nyctanthes arbor-tristis* leaves concerning 50gm were hot extracted with five hundred milliliter fuel victimization soxhelt equipment. The soxheletion at 30˚c was done for one week to obtain extract. The extract was evaporated in water bath at 70˚c to obtain crude for phytochemical analysis. Once the whole

evaporation, the load of the extracts was recorded and so labeled. The extractions stored separately at 4˚C in air tight bottle.

Maceration Method for *Nyctanthes arbor-tristis* leaves

Dried powder of *Nyctanthes arbor-tristis* leaves about 50gm were of cold extracted with 200 ml Petroleum Ether using rotary shaker and were incubated for 1 week at 25˚c at least 5 times vibration per day. The extract were filtered exploitation textile material and gaseous exploitation rotary distillation equipment, this extract dried in 50˚c oven for 24 hours and finally kept at 4˚c temperature.

After applied the phytochemical check, the higher than phyto constituents were found in Nyctanthes arbor-tristis leaves extract.

PHYTOCHEMICAL SCREENING

Chemical tests for the screening and identification of bioactive chemical constituents within the healthful plants underneath study were allotted in extracts victimization the quality procedures as delineate by Sofowara (1993), Trease and Evans (1989) and Harborne (1973).

Test for Alkaloids

5 ml of the ready extracts were gaseous to status. The residue was taken in five cubic centimeter of acid, saturated with binary compound and filtered. The filtrate was individually tested with following reagents:

- **Dragendorff's Test:** The acidic solutions were treated with Dragendorff's reagent (potassium bismuth iodide) gives orange precipitate.
- **Mayer's Test:** Test solutions were treated with Mayer's reagent (potassium mercuric iodide) gives cream colure precipitate.

Test for Glycosides

- **Keller Killiani Test (for digitoxose):** Test solutions were treated with few drops of Ferric chloride solution and mixed, and then sulphuric acid containing ferric chloride solution is added, it forms two layers. Lower layer shows reddish brown colour while upper layer turns bluish green.
- **Baljet Test:** Test solutions were treated with sodium picrate gives yellow to **orange** colour.
- **Legal Test:** Test solutions were treated with a drop of 2% sodium nitroprusside and a drop of sodium hydroxide is then added. Production of a deep red color constitutes a positive test.

Test for Flavonoids

- **Magnesium Ribbon test:** Test solutions were taken in a test tube. Few magnesium ribbons are dipped and conc. HCl is added over them. Magenta (brick red) color develops indicating presence of Flavonoids.

Test for Tannins

- **Gelatin- Lead Acetate Test:** Test solutions were treated with lead acetate solution. This solution gives a white precipitate, when a 1% solution of gelatin containing 10% sodium **chloride** is added.

Test for Phenolic Compounds

- **Ferric chloride Test :** The solutions were treated with few drops of ferric chloride solution gives dark color.

Test for Carbohydrates

- **Fehling's Test** (for reducing sugars)**:** Test solutions were treated with few drops of Fehling's reagent [Dissolve 34.66g. of Copper sulphate in distilled water and make up to 500 ml (solution A). Dissolve 173 g. of potassium sodium tartarate and 50 g. of sodium hydroxide in distilled water and make volume up to 500 ml (solution B). Mix two solutions in equal volume prior to use for detection of reducing sugars. It gives brick red color on warming with the test sample.

Test for Saponins

- **Foam Test:** Test solutions were shaking shows foam formation, which is stable for at least 15-20 minutes. Positive for **presence** of Saponins.

Test for Amino Acid

- Test for Cysteine: To test solution, add few drops of 40% NaOH and 10% lead acetate and solution boiled. Black ppt of lead sulphate is formed.

OBSERVATIONS

Table No. 1: Comparative Table of Phytoconstituents of *Nyctanthes arbor-tristis* leaves

S. No.	Phytochemicals	*Petrolium Ether*	*Chloroform*	*Acetone*	*Methanol*
1	Alkaloids	+ve	+ve	+ve	+ve
2	Terpinoid	+ve	+ve	+ve	+ve
3	Phenols and Tannins	+ve	+ve	+ve	+ve
4	Saponins	+ve	+ve	+ve	-ve
5	Flavonoids	+ve	-ve	-ve	-ve
6	Quinines	-ve	-ve	-ve	+ve
7	Proteins	+ve	-ve	-ve	+ve
8	Steroids	+ve	-ve	-ve	-ve
9	Cardiac Glycosides	+ve	-ve	+ve	+ve
10	Carbohydrates	-ve	-ve	-ve	+ve
11	Amino Acid	-ve	-ve	-ve	-ve

RESULTS AND DISCUSSION

Plants that shows that phytochemical constituent's i.e., terpenoids, flavonoids, alkaloids, reducing sugars and phenols etc. are either gift or absent in these plants and therefore the results were summarized in Table one. In our studies it had been investigated that alkaloids and flavonoids are gift in *Nyctanthes arbor-tristis* leaves were found. In previous studies it had been rumored that flavonoids and terpenoids were gift in crude extract of the *Nyctanthes arbor-tristis* leaves (Pietta, 2000) whereas alkaloids and phenols were found in it.

Many organic chemistry constituents of plants are shown to possess wonderful biological activities (Gupta *et al.,* 1993; Cowan, 1999; Iwu *et al*., 1999; Ogunleye and Ibitoye, 2003; Tshikalange *et al.,* 2005). Each hand-picked healthful plant for screening was found to possess tannins. Tannins have wonderful rigorous properties. They are acknowledged to hasten the healing of wounds and inflamed mucose membranes. Flavonoids are gift in each hand-picked healthful plant as a potent soluble inhibitor and radical scavenger that stop aerophilous cell injury and even have sturdy metastatic tumor activity (Rio *et al.,* 1997 and Salat *et al.,* 1995). It additionally helps in managing polygenic disease elicited aerophilous stress. Terpenoids are found to be helpful within the hindrance and medical care of many diseases, together with cancer. Terpenoids are acknowledged to possess antimicrobial, antifungal, antiparasitic, antiviral, anti-allergenic, medication, antihyperglycemic and antiinflammatory and immunomodulatory properties (Rabi *et al.,* 2009 and Wagner *et al.,* 2003). Additionally, terpenoids may be used as protecting substances in storing agriculture merchandise as they're acknowledged to own insecticidal properties similarly (Sultana *et al.,* 2008).

In these gift studies the phyto-constituents rumored in *Mentha arvensis* leaf extract are tannic acid, Cardio glycosides. phenols, steroids, flavonoids and in black caraway seed extract cardio glycosides, flavonoids, Cynogenic glycosides, alkaloids, reducing sugar are gift.

Since the plant is wealthy during a wide range of secondary metabolites corresponding to tannins, phenols, steroids, flavonoids and cardio glycosides, it can be accustomed manufacture a lot of effective's antimicrobial agent to demonstrate the extract from the leaves of *Nyctanthes arbor-tristis* as effective as fashionable drugs to combat *E.coli* and genus *Pseudomonas.* currently thanks to biologically and medicine screening of those healthful plant exploitation the trendy tool could results in some new safe and fascinating drug that can be any exploited for isolation and characterization of the novel phytochemical medicine used within the treatment of infectious diseases particularly within the conditions of drug resistant microorganisms.

CONCLUSION

The present study was conducted to judge the presence of bioactive compound in *Nyctanthes arbor-tristis* leaves extract. This study may be a preliminary analysis of antimicrobial activity of *Nyctanthes arbor-tristis l*eaves. It indicates that plant extract have the potential to come up with novel metabolites. The plant extracts incontestable anti-bacterial activity may end in the invention of novel anti-bacterial agents. Besides a similar manner, even be used for self-medication in domestic settings. These square measure with chemicals and taxonomically terribly effective and various compounds with antimicrobial activity. they're wide employed in the treatment of various microorganism diseases caused by *E.coli* and *P. aeruginosa* data of the chemical constituents of plants is fascinating as a result of such data are price for synthesis of advanced chemical substances. Results obtained during this investigation indicate that *Nyctanthes arbor-tristis* leaves extract, wealthy in phenol exhibited highest inhibitor.

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