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A Short Review of *Polianthes tuberose L* considered a Medical Plant in Bangladesh

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ABSTRACT
Polianthes tuberose L. is a flowering plant that belong to the family Agavacea, it is planted in Bangladesh in home gardens it is cultivated. This plant is commercially cultivated for its fragrant flowers. The medical uses of the plant such as it is used for tumor, laxative, cosmetic, sexual disorder, placebo, emetic, hair color, gonorrhea, diuretic. This plant contains flavonoid and other polyphenols. The various pharmacological studies have indicated that the plant has anti-oxidant, anti-microbial, anti-viral, anti-inflammatory, anti-ulcer, immunomodulatory and neuropharmacological properties. The traditional use and the presence of bio active principle of plant indicated indicate the important sources of lead compounds and newer drugs.

Keywords: *Polianthes tuberose, Acathaceae, glycosides, anti- microbial, anti- oxidant.*

INTRODUCTION

Polianthes tuberose L is a flowering plant that belonging to the family Agavaceae, this plant is known as 'Double Pearl Tuberose',, locally the plant is known as 'Rojoigondha'. It is a grass- like plant with underground storage bulb.

With green leaves and the flowering stem rises taller than the leaves and also bears white fragrant flowers. The ethno medical uses in Bangladesh include as treatment for cosmetic, tumor, laxative, cosmetic, placebo, hair color, sexual disorder, emetic, gonorrhea, diuretic [1].

Taxonomic Hierarchy of *Polianthes tuberose*
Kingdom: Plantae
Sub- kingdom: Tracheobionta
Division: Magnoliophyta
Class: Liliospida
Sub-class: Lliales
Order: Liliales
Family: Agavaceae
Genus: Polianthes
Species: Polianthes tuberose L

Ethno Medical Uses of the Plant Parts
Various ethnomedical uses of the plant in Bangladesh are shown in Table 1 and partly compiled from sources as mentioned in references section [2]. The other uses that were obtained from the data collected from the folk medical practitioners of Bangladesh residing in various districts but the data is yet to published.

The parts of this plant have medicinal uses in other countries apart from Bangladesh. This plant used to cure various diseases like gonorrhea, insomnia. The flower of this plant is taken as tea in Dominican Republic for women's health condition. Since traditional use of this plant is against the gonorrhea and the causative organism

is Neisseria gonorrhea is developing of antibiotic resistance [4]. This plant may prove to a new source for discovery of anti-gonorrheal drugs.

Table 1; Ethnomedical uses of *Polianthes tuberose* in Bangladesh

Scientific and English names	Family	Local names	Parts used	Ailments treatment Uses
Polianthes tuberose L.syn. Agave polianthes J. Thiede & U. Eggli, *Polianthes tubulanta* Sesse & Moc., *Polianthes gracilis* Link English: Tuberose	Agavaceae	Rojonigondha	Root, stem. Flowers, whole plant	Tumor, laxative, cosmometic, cooling, placebo, sexual disorder, emetic, hair color, gonorrhea, diuretic.

Reported Photochemical and Pharmacological Activities

The aerial parts of the plants have a new bisdesmosidic cholestane glycoside that has been isolated along with three new spirostanol saponins and a cholestane glycoside [5].

Three long chain alcohol and glycosides that are identified as 3, 29-dihydroxystigmast-5-ene-3-O-B-D-galacto pyranoside,ethyl B-D-galactopyranoside, ethyl-a-D-gycoto pyranoside, and I-tricosanol [6].

Various phytochemical analyses of underground parts of plant that resulted in isolation of four new spirontansol saponins with five monosaccharides [7]. The mild anti-fungal activity has been reported plant extract as a whole. Three phytochemicals constituent present are geraniol, indole and methyl anthranilate that are against the mycelia growth of Colletotrichum gloeoporioides on potato dextrose- agar medium [10].

Pharmacological activity studies

Geraniol (trans-3,7-dimethyl1-2,6-octadien-1-ol) has been possess anti-tumor properties. The study conducted with MIA PaCa-2 human pancreatic cancer, the three compounds that induced a G(0)/G(1) cell cycle arrest that coincided with increase in expression of cyclin Kinase inhibitor proteins p21 that developing antibiotic resistance [4]. This plant may prove a new source for discovery of anti-gonorrheal drugs. The compound appears to beneficial in various froms of parkinson's disease,, diabetes, cardiovascular disease, arthritis and erectile dysfunction and as an anti oxidant and uterine relaxant [21-28].

CONCLUSION

The Geraniol and kaempferol may prove an important component of plant with therapeutic potential, the first against cancer and the second against both cancer and anti-inflammatory disease [29-30]

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