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Medicinal Potential of Poisonous Plants of Tehsil Kahuta from District Rawalpindi, Pakistan

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Abstract: Medicinal potential of some poisonous plant was studied from Kahuta Rawalpindi district. *Calotropis procera* is a remedy for asthma, leprosy and skin diseases. *Convolvulus arvensis* is mild poisonous plant. It is an excellent remedy for skin diseases and is also used for washing hair to remove dandruff. Oil of *Ricinus communis* is useful in constipation in children and the plant is used as an antiseptic. Root of *Euphorbia helioscopia* is used as an anthelmintic. *Tribulus terrestris* is also a mild poisonous plant for humans but poisonous for goats. The leaves of *Cannabis sativa* are antispasmodic, narcotic and sedative.

Key words: Ethnobotany, Kahuta, Rawalpindi, poisonous and medicinal plants and chemical constituents

Introduction

Poisonous plants are those which cause serious problems or even death occur, if a small quantity of its stem, leaves, seeds, fruits and roots are ingested. According to Chopra (1984), it is also defined as "A poisonous plant is the one which, as a whole or a part there of under all or certain conditions and in a manner and in amount likely to be taken or brought into contact with an organism, will exert harmful effects or cause death either immediately or by reason of cumulative action of the toxic property, due to the presence of known or un-known chemical substances in it and not by mechanical action". The effect of a poison may also be destroyed or modified by heating, boiling, or drying. Some herbs are not poisonous if used externally, but are harmful if used internally. Some other plants are normally harmless but they may become toxic if preparative from them are taken in excess in strong doses or for along period of time.

Herbal remedies are receiving increasing attention worldwide. Many of the important plant derived drugs have been instrumental and essential in ushering in the era of modern medicine. Today, natural products represent 50% of all drugs in clinical use. Plants have been used for their therapeutic potential in various segments of the society for centuries.

Materials and Methods

During the fieldwork trips were arranged in 74 proper harvest time of plants and information collected from the inhabitants of the area. The out come of the results were rechecked and compared with literature. Plant specimens were collected preserved and identified in the herbarium of Quaid-i-Azam University, Islamabad. After this analysis of the data was done and indigenous knowledge was documented which are as follows:

Family: Asclepiadaceae:

Botanical Name: *Calotropis procera* (Willd.) R. Br.

Common Name: Aak (Urdu, Sindhi), Ak (Hindi)

Distribution: Sparsely distributed throughout the area.

Chemical constituents: Leaves and stalk contain voruscharin, calotoxin, calotropin, uscharidin, trypsin, calactin, uzarigenin, syriogenin and proceroside isolated from latex, benzoyllineolone and benzoylisolineolone from root bark and cyanidin-3-rhamnoglucoside isolated from flowers.

Poisonous constituents: Many substances obtained from latex, trypsin, calotoxin and calotropin, which apparently are jointly responsible for toxicity of plant (Adams, 1963).

Medicinal use: All parts of the plants are poisonous. The

latex of the plant causes blindness as well as irritate to the skin and mucous membrane. Approximately 4 ml to 5 ml of latex may cause death. Roots and bark are used as tonic, sudorific, antispasmodic and expectorant, in large dose emetic. Flowers digestive, stomachic. Milky juice is poisonous. Also used in leprosy, asthma, fever with enlarged liver and cough, skin diseases. Powdered bark is locally used in dysentery, stem is used for toothbrush and the ash of plant is used for coloring cloth. The plant may cause severe bullous dermatitis, labored respiration, increased blood pressure and death (Duke, 1986). Corona of the flowers is used to cure asthma.

Family Convolvulaceae:

Botanical Name: *Convolvulus arvensis* L.

Common Name: Leli (Punjabi), Prasarna (Hindi)

Distribution: Common

Chemical Constituents: Plant contains convolvulin, tannin. A substance has been isolated from the extracts of roots, which is water-soluble and has vitamin "K", like blood coagulation effect. It also contains resin 42%, campesterol, alpha-Amyrin, stigmaterol, beta-Sitosterol, n-alkanes and n-alkanols isolated from aerial parts. Umbelliferone and scopoletin isolated, presence of isoferulic acid confirmed.

Poisonous constituents: The principle toxic substances are convolvulin and tannin.

Medicinal use: The root contains cathartic properties and some European authorities regard it as poisonous because it produces severe gastrointestinal irritation. Dried rhizome contains about 4.9% of a potent purgative resin (Chopra and Abrol, 1983). The roots are known as purgative but not so much in use. For worms "Chanona" saag is used with food. The whole plant is used for skin diseases. For washing hair to remove dandruff. Roots are also laxative and used in diarrhoea.

Family: Euphorbiaceae:

Botanical Name: *Ricinus communis* L.

Common Name: Erand (Punjabi), Arand (Urdu)

Distribution: Common weeds in field and open places.

Chemical Constituents: Fixed oil (Oleum Ricini USP 45 to 50%) consisting of glycerides of ricinoleic isoricinoleic, dihydroxy stearic acid etc. A crystalline alkaloid called Ricinine, a toxin "ricin", lipase and other enzymes, gums etc. Free ricinolic acid is produced by the hydrolysis of castor oil in the intestine.

Poisonous constituents: The principal toxic substances are ricinine, glycerides of ricinoleic, isoricinolic and

dihydroxystearic acid.

Medicinal use: Oil is given to children in case of constipation. The bark is used for healing of wounds and sores. A paste of root is applied for toothache. Fruit is roasted in ghee and is used for the remedy of "Chamber (skin disease). Leaves are crushed and used to kill the bed bugs. The plant is used as an antiseptic. Oil obtained from the seeds is used as laxative. A poultice of leaves is applied to boils, swellings and to relieve pain from the joints. Fresh leaves are used for softening the boils, coated with some bland oil, the hot leaves are applied over the abdomen of children to relieve flatulence, over the pubic region of women to promote menstrual flow, over the breasts of nourishing mothers as a lactagogue and over the inflamed breasts during lactation to soothe the mammary glands and even a guinea worm sore for expelling the worms.

The juice of leaves is given internally for increasing the milk flow. The bark is used for healing of wounds and sores. The roots of the plant are also used as an ingredient of various prescriptions for nervous diseases and rheumatic affections such as lumbago, pleurodynia and sciatica. The dry roots are used as febrifuge, the leaves warmed over fire and applied to the breasts of women, acts as galactagogue i.e. increase the milk secretion. For this purpose the decoction of leaves is also used. The breasts are bathed with it for quarter of an hour and then boiled leaves, in the form of a poultice are spread over them.

Ricinine is a violent irritant of the intestine, kidneys and bladder. It gives rise to inflammation of the bile duct and very often to jaundice and to dysuria. It is given to after childbirth to the lying in women and before childbirth to facilitate delivery, in operations for lithotomy, in peritonitis, dysentery and inflammatory diseases of the urinary organs. The oil is also put into ears, if they are invaded by insect's etc. It may also be dropped into the eye in conjunctivitis and is especially useful for dissolving cocaine, homatropine and other alkaloids used in eye cases. For peenash (maggots in the nose), castor oil heated to concentration is sniffed into the affected nostrils. Castor oil is much praised for its efficacy in chronic articular rheumatism in which it is used in various combinations. Castor oil seeds are mainly employed for the preparation of castor oil, which is used as purgative and lubricant. Ricinoleic acid is absorbed into the blood and tissues and excreted with milk, which when sucked, imparts to the child its purgative action.

Family Euphorbiaceae:

Botanical Name: *Euphorbia helioscopia* Linn

Common Name: Chatri Dodak (Urdu), Dhodal (Hindko)

Distribution: Common

Chemical constituents: The fresh herb contains a non-hemolytic saponin and phasin. The dried plant has neutral saponin and an acidic saponin with haemolytic properties.

Poisonous constituents: The major toxic principles are the non-haemolytic saponin and phasin.

Medicinal use: The plant is used as a cathartic. Seeds with roasted peppers are given in cholera. Milky juice is applied to eruption the roots are known as anthelmintic. Milky latex is known to be poisonous and causes swelling on the skin. It is used as galactagogue.

Family Zygophyllaceae:

Botanical Name: *Tribulus terrestris* L.

Common use: Bhakra.

Distribution: Uncommon

Chemical Constituents: Plant contains tribulosin, gracillin, trillin and dioscin. Diosgenin, ruscogenin and a dihydroxy spirosteroidal sapogenin isolated from aerial parts. Root contains campesterol, sitosterol, stigmasterol, diosgenin and neotigogenin.

Poisonous constituents: It contains harman, harmine and hydrocyanic acid (Duke, 1986).

Medicinal use: The fruit is regarded as tonic, diuretic, cooling and aphrodisiac. Also used in urinary disorders, impotency, cough and heart problems. The seeds are recommended in hemorrhages, diseases of the bladder, kidney stone and gout. This plant contains a photosensitizing principle, observed by Brochmann (1943), which has caused poisoning among sheep's. Efforts to isolate the hepatic toxin have so far been fruitless, it causes the blood to accumulate phylloerythrin, photodynamic agent produced by the microbial break down in the stomach of the sheep. Sheep dosed with plant juice die within few hours, without showing any symptoms (Chopra, 1984).

Family Cannabinaceae:

Botanical Name: *Cannabis sativa* L.

Common Name: Bhang (Urdu, Hindko and Pushto)

Distribution: Growing wild throughout the area.

Chemical constituents: It includes, cannabinol, cannabidiol, resin, cannabine, pseudocannabinol, cannabinin and several terpenes.

Poisonous constituents: It includes, cannabinol, resin, cannabine, cannabinin etc.

Medicinal use: The plant is used as tonic, narcotic, sedative and anodyne. Dried and crushed leaves are taken as drink for their narcotic action also used, as refrigerant. The leaves are antispasmodic, narcotic, sedative digestive and astringent. Paste of fresh leaves is used for tumours. The preparation made from dried leaves and flowers known as Bhang or Hashish is given in dyspepsia, gonorrhoea and bowel complaints. The dried pistillate flowering tops coated with resinous exudation and known as ganja is swallowed as an antidote to poison. Chares is the resinous exudation on the leaves is active principle of this plant. Cannabinin is a powerful sedative and hypnotic in action. This plant yields valuable fiber from the inner bark of the stem and is used to make ropes.

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