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Review Article

BIOLOGICAL ACTIVITY SOURCES FROM TRADITIONALLY USEDTRIBE AND HERBAL PLANTS MATERIAL

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ABSTRACT

In the modern era, the consciousness about the cancer disease got enhanced and the research in the treatment of this major disease reached a milestone by spreading its influence into the terrain of the natural herbal plant kingdom to serve the humanity at a great level as 80% of the present population depends principally on tribe and herbal medicine. In chosen 9 plants of anticancer and biochemical activity such as vinblastine, vincristine, and forskoline, the artemisia connection with this, many modern drugs derive from a natural plant product which acts as chemical stimulators. Minerals and biochemical contents are determined in various traditional plants. Among those traditional plants, we have, *Centella asiatica*, *Euclea*, *Euphorbia*, *Foeniculum vulgare*, *Tulbaghia violacea*, from 7 different plant families in our study.

Keywords: Anticancer, Antibacterial, Traditional plants, Antitoxicity, Plant extract.

INTRODUCTION

Since the earliest times naturally occurring traditional plant containing mineral and biochemical substances provided the sources of medicine for mankind. For a long time, nature has been a source of medicinal agents; for thousands of years, impressive medicinal drugs have been isolated trains tragically natural sources and a mass has exploited, particularly the plant kingdom, which has proved to be very usual for eating most of our human health conditions. Experimentations have succeeded in the distinction of those plants which have beneficial effects from those that are toxic (or) merely non-effective. Throughout the centuries, a human has found that are trial and ways to relieve their pain and sickness. The World Health Organization (WHO) estimated 80% of the population of developing countries relies on traditional medicine [1]. Mostly Plant drug is utilized for their primary health care needs, and the prevailing threats of an existing plant wealth compels for an immediate scientific evaluation of the medicinal properties of plant, and globally there has been an increased interest to identify compounds that are pharmacologically potent that have low (or) no side effects for use in therapeutic purpose and this is disease of, especially - Andhra Pradesh People's as the leading course of death. It accounts for 25% of all the death in the 20th century and spreading further with continuances in the united states and the India (North India and South India humans Presently Dua *et al*.) [2].

In South Africa, Asia-Country's, especially India has a healthy supply of plants (about 23,500 species of higher plants) [3] together with a high degree of endemicity (36.6%) with the indigenous. South African flora [4] of which 4000 plant taxa are ethno medicinally used [5], and approximately 500 species are used in traditional medicine by an estimates 70% South Africans as a regular life basis [4] and the Indian Countries are wealthy supply of plant (about 18,000 species), of higher plants together with a medium condition of degree of endemicity (35-45%) in the Indian Counties, especially south side India of which 3000 plant taxa are ethno medicinally used, and approximately 200 species are used in traditional medicine by an estimates 75% Indian sides. These plants are used either separately (or) in combination. Few data and scientific information exist for ethno medicinally (or) traditionally medicinal plants used in African and Indian countries nowadays; extensive interest is given to natural products, especially plant-derived natural products. That shows various pharmacological properties (including cytotoxic) and cancer chemopreventative effects [6].

Therefore, South Africa has huge potential in identifying an original compound to treat might infection multidisciplinary systematic investigations are in process as greatest efforts to battle this disease, but the sure-shot, supreme cure is yet to be bringing into world medicine. In recent times, a superior prominence has been given toward the researches on complementary and alternative medicine that deals with cancer organization. More than a few studies have been conducted on herb under a multitude of ethno botanical grounds. For example, Hartwell has collected data on about 3000 plants, those of which have power over anticancer property and subsequently been used as potent anticancer drugs. Ayurveda, a folk Indian medication of plant drugs has been successful from very early times in using these natural drugs and preventing or suppressing various tumors using various lines of treatment. The broad aim of this article is to provide a general outline of descriptions of cancers and their management from an Ayurveda practitioners' perspective underlying its scientific principles involved in treating these conditions with the use of natural products nearly 7 family's belonging to the *Catharanthus roseus (Linn.),* Mint, Asteraceae, Apiaceae, Ebenaceae, Euphorbiaceae, *Alliaceae.* This following family was selected for the present study. These plants (1) vinblastine, (2) vincristine, (3) forskoline, (4) Artemisia, (5) *Centella asiatica*, (6) *Euclea*, (7) Euphorbia, (8) *Foeniculum Vulgare*, and (9) *Tulbaghia Violacea*, selected because they are by a traditional healer, as a mixture which gives to his cases patients, a detailed description of the plant family and the selected plants is a follows. Furthermore, this article reviews to explain the details regarding research on anticancer Ayurveda traditionally herbs and also includes a summary of treatment strategies for various cancers and statistics for all cancers, females and males in Africa, America, Asia, and Indian countries. Different types of cancers in worldwide shown in Table 1.

Each year, the American Cancer Society estimates the numbers of new cancer cases and deaths expected in the United States in the current year and compiles the most recent data on cancer prevalence in humanity, and survival based on prevalence data from the National Cancer Institute, the Centers for Disease Control and Preclusion, North American Association of Central Sarcoma Registries, and humanity data from the National Center for vigor data. A total of 1,660,290 new cancer patients and 580,350 cancer deaths are predictable to occur in the United States in 2013.

During the period of the most part of recent 5 years for which there are data (2005-2009), holdup-adjusted cancer prevalence rates decline slightly in men (by 0.6% per year) and were established in women, even as cancer death rates decreased by 1.8% per year in men and by 1.5%

Table 1: Statistical data for various cancer diseases in more developed and less developed countries

Cancer type	More developed countries	Less developed countries	Total
All	25,03,772	28,14,132	53,17,905
Breast	5,79,285	4,71,063	10,50,346
Colon/rectum	3,18,694	1,80,059	4,98,574
Kidney	79,090	39,158	1,18,255
Leukemia	58,416	85,912	1,44,321
Liver	73,270	3,25,108	3,98,364
Lung	4,70,836	4,30,919	9,01,746
Melanoma	50,608	14,571	65,177
Oral cavity	59,959	1,09,533	1,69,524
Ovary	91,307	1,01,060	1,92,379
Prostate	4,15,568	1,27,419	5,42,990
Stomach	2, 08,282	3,50,176	5,58,458

per year in women. Overall, cancer death tariff has declined 20% from their peak in 1991 (215 to 2009). Death rates continue to decline for all four major cancer sites (lung, colorectum, breast, and prostate). Over the past 10 years of data (2000-2009), the largest annual declines in death rates were for chronic myeloid leukemia (8.4%), cancers of the stomach (3.1%) and colorectum (3.0%), and non-hodgkin lymphoma (3.0%). The reduction in overall cancer death rates since 1990 in men and 1991 in women translates to the avoidance of more or less 1.18 million deaths from cancer, with 152,900 of these deaths avert in 2009 unaccompanied. Additional progress can be accelerated by applying accessible cancer control knowledge across all segments of the residents, with a prominence on those groups in the lowest socio-monetary category and other underserved populations. Approved anticancer drugs in India from nine plants-derived compounds have been approved for use as anticancer drugs in India.

1. Vinblastin, 2. vincristine, 3. Etoposide, 4. Teriposide, 5. Taxol, 6. Navelbine, 7. Taxotere, 8. Topotecan, and 9. Irinotecan, The International Agency for Research on Cancer the specialized cancer agency of the WHO as released the statistical data for causes of cancer in the world wide. Database on a number of cancer cases (WHO) - 2013.

Asteraceae (Fig. 1)
Order: Asterales
Family: Asteraceae

Fig. 1: Asteraceae

The Asteraceae is the largest angiosperm family. It is rich in secondary chemicals (alkaloids of the pyrrolizidine, pyridine, quinoline, and diterpenoid groups) which are of particular medicinal interest such as the great variety of sesquiterpene lactones' as well as acetylenic compounds [4]. Others secondary metabolites in the Asteraceae are the prevalent flavonoids and saponins and tannins which are less prevalent in the lower taxa. Plant species belonging to the subfamily Tubuliflorae also have been reported to have antimalarial, anticancer, and immune stimulant properties which support the medicinal uses of South African plants [4] the group has more than 23,000 presently acknowledged species, broaden transversely 1,620 genus, and 12 subfamilies in circumstances of statistics of the genus. Asteraceae is rivaled barely by Orchidaceous [7], and the main feature of the family is the composite flower type in the form of capitula surrounded by involucral bracts. The name "Asteraceae" come as of Aster, for the most part, well-known genus in the family that derives from the Greek significance idol and is associated with its inflorescence star form. As for the term "Compositae," more ancient but still valid, it obviously makes reference to the fact that the family is one of the few angiosperms that have composite flowers. This family has a remarkable ecological and cost-effective magnitude and is present from the Polar Regions to the tropics, colonize all accessible habitats; the Asteraceae may well correspond to as much as 10% of the autochthon flora in many regions of the world.

The majority member of the Asteraceae is herbaceous, but a momentous number is also bushes, vines, and trees. The family has a universal allocation and is more widespread in the dry and semi-arid region of subtropical and lowers temperate latitude Asteraceae is an inexpensively significant family. Some members provide products as well as cooking oils, lettuce, sunflower seed, artichokes, sweetening agent, coffee alternate, and tea. Asteraceae is significant in herbal medicine, including Grindelia, Echinacea, yarrow, and many others. A number of species have come to be considered insistent, including, most especially in North America, dandelion, which was at the beginning introduced by European settlers who used the young leaves as a salad green.

Artemisia (Fig. 2)
Order: Asterales
Family: Asteraceae
Subfamily: Asteroidean
Tribe: Anthemideae
Genus: Artemisia

Fig. 2: Artemisia

Artemisia is a huge, varied genus of plants with between 200 and 400 species belong to the daisy family Asteraceae. The general names for a range of species in the genus include mugwort, wormwood, and sagebrush. Artemisia comprises robust herbaceous plants and bushes, which are known for the prevailing compound constituents in their essential oils. Artemisia species grow in temperate climates of both hemispheres, frequently in dry or semiarid habitat. Famous species include: vulgaris, tridentata, annua, absinthium, dracunculus, and abrotanum, the leaves of many species are roofed with white hairs. Most species have a strong aroma and bitter tastes from terpenoids and sesquiterpene lactones, which exist as an aversion to discourage herb ivory the small flowers are wind-pollinated, Artemisia genus are used as food plants by the maggot of a number of Lepidoptera genus. A number

of botanists crack the genus into more than a few genera, but DNA analysis [8] does not support the maintenance of the genera Crosses tapeworm, Filifolium, Neopallasia, Seriphidium, and Sphaeromeria, three other separates out genera Stilnolepis, Elachanthemum, and Kaschgaria are maintained by this substantiation. Infrequently, some of the species are called age, cause doubt with the salvia sage in the family Lamiaceae. Artemisia oils had inhibitory effects on the growth of bacteria, yeasts, and dermatophytes, *Fonsecaea pedrosoi*, and *Aspergillus niger* Artemisinin, and its derivatives are a group of drugs that possess the most rapid action of all current drugs against malaria, [9] treatments containing an Artemisinin derivative are now standard treatment universal for *Plasmodium falciparum* malaria. The starting composite Artemisinin is inaccessible from the plant Artemisia annua.

BOTANISTSICAL USE OF ARTEMISIA

It is mostly the leaves that are used medicinally as infusions, decoctions, inserted directly into the nostrils; vapors are also inhaled when boiled in water, but sometimes the roots are also used to cure extravagance fever and colds [10]. Artemisia afra jacq.ex wild.Var.afra is used to treat many ailments such as stomachic, colds, influenza, fever, cough, infection, anthelmintic, colic, intestinal worms, headache and earache, loss of appetite, cancer, and malaria. Artemisia absinthium has been reported to have anthelmintic, stomachic, and febrifuge properties. The antimalarial sesquiterpene lactones Artemisinin was isolated from annua, which has led to the search for similar antimalarial compounds in afra [4].

Following prelude tests which may strengthen traditional use to treat a headache and upper respiratory tract overcrowding and also have antimicrobial activity against a variety of fungi and bacteria, which supports it is used to treat disease [11].

PHYTOCHEMICALS IN THE ARTEMISIA GENUS

From the leaves of the African species, the triterpenes "α-and β-amyrin" and "freiedelin" have been identified [4]. The existence of two luteolin methyl ethers was discovered from the leaf exudates flavonoids [4]. In the above ground parts of afra 10 guaianolids and 5 glaucolids were found when the sesquiterpene lactones were analyzed [12]. Essential oils acquire from a number of South African populations of afra leaves were examined, and extensive variation in the oil composition has been verified [4]. "α-and β-thujone" greater than β-thujone and thujone has low solubility in water, 1, 8-cineole, camphor, and α-pinene were identified as the main constituents of the oil [4]. In rabbit, volatile oils of afra have revealed to produce degenerative changes in the liver, hemorrhagic nephritis, as well as pulmonary edema [13].

Apiaceae (Fig. 3)
Order: Apiales
Family: Apiaceae (or) umbelliferae

Fig. 3: Apiaceae

The Apiaceae (or Umbelliferae), commonly known as carrot or aromatic plant family, this family is big, with more than 3700 species increase crosswise 434 genera, it is the 16th largest family of flowering plants [14], included in this family are the well-known plants: Angelica, anise, arracacha, asafetida, caraway, carrot, celery, *C. asiatica*, chervil, cicely, coriander, cumin, dill, fennel, hemlock, lovage, sea holly, and the now-extinct silphium.

Apiaceae are annually, biennial, or recurrent herbs though minorities are undergrowth or trees. Their leaves are of uneven size and interchange agreed or alternate with the upper leaves becoming nearly opposite. In some taxa, the texture is rubbery, fleshy, or even rigid, but always with stomata. They are petiolate or per foliate and more or less covering, the cutting edge usually dissect and pinnatifid, but complete in some genus.

Most commonly, crushing their leaves emit a manifest stench, sweet smelling to the fetid, but lacking in some members. The flowers are almost always aggregate in incurable umbels, simple or compound, often umbelliform cymes, hardly ever in heads. The name is derived from the kind, genus Apium, which was at the beginning used by Pliny, the Elder, circa 50 AD for a celery-like plant [16]. The family was one of the first to be predictable as a distinct group in Jacques Dales champs' 1586 Historia general was a planetarium. With Robert Morison's 1672 Plantarum umbelilliferarum distribution nova, it became the first group of plants for which a systematic study was published.

***C. asiatica* (Fig. 4)**
Order: Apiales
Family: Mackinlayaceae
Genus: Centella
Species: *C. asiatica*

Fig. 4: *Asiatica*

C. asiatica, commonly Centella, gotu kola in Sinhala, Mandukaparni in Sanskrit, vallarai in Tamil, Sleuk tracheakkranh in Khmer, Kannada, Kodakan in Malayalam. An annual plant of the family Mackinlayaceae or subfamily Mackinlayoideae of family Apiaceae and is native to India, northern Australia, Melanesia, Papua New Guinea, Indonesia, Iran, Malaysia, and other parts of Asia [16,17].

It is used as a medicinal herb in Ayurveda medicine, traditional Chinese drug, and Trisanthus cochinchinensis *C. asiatica* grows in tropical, swampy areas [18]. The stems are slender, creep stolons, green to reddish-green, concerning plants to each other. The leaves are borne on pericladial petioles, approximately 2 cm. The rootstock consists of rhizomes, budding upright down. They are crimes in color and covered with root hairs [19]. The flora is rose-pink to red, curved benches near the exterior of the soil. Each flower is partially enclosed in two green bracts. The asexual flowers are minute in size, with 5-6 corolla lobes per flower. Each one flower bears five stamens and two styles. The fruit is compactly reticulate, unique it from species of Hydrocotyle which have flat, corrugated, or warty fruit [20].

BOTANISTSNICAL USE OF *C. ASIATICA*

C. asiatica Urban is frequently used for the treatment of various diseases in the Ayurveda medicine system [21]. The dried leaves are mainly used medicinally [22].

It has been used to treat leprosy, wound healing, inflammation, diuretic, fever, skin, complaints, rheumatoid arthritis, acne, circulatory problems, purgative, asthma, bronchitis, epilepsy, immune system deficiencies, syphilis, pulmonary tuberculosis, anxiety, eczema, antiviral activity, fungal infections, anti-hematoma activity, cognition-enhancement, and antitumor activity. *C. asiatica* has been subjected to extensive experimental and clinical investigations [23].

C. asiatica

C. asiatica is a commonly known as penny-wort, gotu kola. Hydrocotyle, Indian penny, marsh penny, thick-leaved penny, and white rot, and belong to the Apiaceae family. In china, Southeast Asia, India, Srilanka, Africa, and Oceanic countries, it has been widely cultivated as a vegetable (or) Spice [24]. This plant has a pan tropical distribution, growing predominantly in the Southern Hemisphere. *C. asiatica* is a creeping plant often found in most places. It has extensive distribution within South Africa, from the cape peninsula northwards along the moist eastern parts [22]. It is a perennial weed that forms a thin stem. The leaves are characteristically round or kidney-Shaped on, elongated, slender stalks, and tiny, and inconspicuous flowers are borne in groups of three [22].

PHYTOCHEMICALS IN THE CENTELLA GENUS

The isolated 10 compounds from the methanol (MeOH) and chloroform ($CHCl_3$) extracts [24]: 11, 12-dehydroursolic acid lactones (1), ursolic acid (2), pomolic acid (3), 2α, 3α-dihydroxyurs-12-en-28-oic acid (4), 3-epimaslinic acid (5), asiatic acid (6), corosolic acid (7), 8-acetoxy-1,9-pentadecadiene-4,6-diyn-3-ol (8), β-sitosterol 3-O- β-glucopyranoside (9), and rosmarinic acid (10), which they tested for ant proliferative activity (cytotoxicity) on human gastric adenocarcinoma (MK-1), cervical epithelial carcinoma (HeLa), and murine melanoma Cells. The ant proliferative activity of these compounds ranged from 8 to 200 μM.

Asiaticoside was isolated from *C. asiatica* and was reported to possess an IC50 of 1.58±0.15 mg/ml in MCF-7 cells [33]. Previously, it was reported by a lot of people that a methanolic extract of *C. asiatica* and potentially purified fractions inhibit proliferation of transformed cell lines; it had an IC50 of 62 μg/ml for mouse ehrlich ascites carcinoma and 75 μg/ml of Dalton's lymphoma ascetic cells [21]. The methanol extract and potentially purified fractions were also non-toxic to normal lymphocytes [24,25]. The methanolic extract from the aerial parts of *C. asiatica* inhibited *in vitro* the growth of (MK-1), HeLa, and B16F10 cells and that it could possibly be accounted mainly by ursolic acid.

Ebenaceae (Fig. 5)

Order: Ericales

Family: Ebenaceae

Fig. 5: Ebenaceae

Ebenaceae is a family of peak plants, belong to order Ericales, which include ebony and persimmon among approximately 768 [26] species of trees and bushes. The species are frequently evergreen plants resident to the tropics and subtropics, with a small number of deciduous genus native to calm regions [27]. Ebenaceae are woody plants that frequently grow in poor or acid soils establishing a mycorrhizal symbiotic relationship with particular fungus species providing mainly mineral nutrients and water. Ebenaceae are very opposed to rural and ornamental trees by their beautiful plant life.

Certain genus of diospyros are the source of most kinds of ebony wood, and not all species bear edible fruit they are a pan tropical family, most diverse in the rainforests of Malaysia, India, tropical Africa, and tropical America [28], but a few species extended to live in calm regions. The majority species have moderately small fruit, but apple and plum sizes are numerous. They are of immense ecological significance because they are the food of many vertebrates. The calyxes often remains attached to the fruit behind harvest but becomes easier to eradicate as it ripens. The deciduous diospyros kaki from Korea and Japan, cultured in the Mediterranean area too, is the most widely cultivated species. Fruits are rich in tannins and thus avoided by most herbivores while immature, when ripe they are excitedly eaten by many animals, however, such as the rare Aders' Duiker.

They are high in glucose, with an impartial protein profile, and possess a variety of medicinal and chemical uses. Various botanical species in other families have similar foliage as Rutaceae or Lauraceae due to convergent growth and forest of such plants are blur forest called laurel jungle. This vegetation is modified to high precipitation and clamminess, and has left with a liberal coating of buff, creating them lustrous in exterior, and a narrow, pointed-oval shape by a "drip tip," which permits the leaves to shed water despite the humidity, allow transpiration to keep on. The plant life is fed by the larva of plentiful Lepidoptera species. The aroma of the plant can be strong. Some species have aromatic wood. They are important and conspicuous trees in many of their resident ecosystem, such as plain dry forest of the previous Maui Nui in Hawaii [29], Caspian Hyrcanian diverse forests, Kathiarbar-Gir dry deciduous forest, Louisiade Archipelago rainfall forest, Madagascar plain forests, Narmada dale dry deciduous forest, New Guinea mangroves, or South Western Ghats montage rain forests.

***Euclea* (Fig. 6)**

Order: Ericales

Family: Ebenaceae

Genus: *Euclea*

Fig. 6: *Euclea*

Euclea is a genus of blossom in vegetation, belonging to family unit Ebenaceae. The genus includes 20 genuses of evergreen trees

and bushes, resident in Africa, the Comoro Islands, and Arabia. More than a few species are used for lumber, producing a hard, dark heartwood timber similar to ebony. *Euclea* occurs in the tropics-subtropics throughout the world and about 20 species are found in South Africa [30]. The genus is characteristic of the cape flora, and very few specimens are widespread in South Africa [31]. Sexes are separating on different trees. Fruits are spherical and one-seeded berries [32]. Fruits are small, thinly fleshy, edible, but not very palatable.

BOTANISTSNICAL USE OF *EUCLEA*

In South Africa, native people use the *Euclea* genus extensively for various purposes. Isle pseudebenus fruit is fed to chickens to harden their eggshells [22]. The twigs of *Euclea pseudebenus*, *Euclea ceispa*, *Euclea divinorum,* and *Euclea natalensis* are used as toothbrushes. Roots of *E. ceispa*, *E. divinorum,* and *E. natalensis* are used for dyes in basket weaving because of the dark brown or black dyes produced when pounded and boiled [32,33]. The source of the dyes can be linked to the presence of a few compounds such as dispersion and 7-methyljuglone, as well as other coupons [33].

The ebony tree, *E. pseudebenus*, has pitch black wood and is valuable as general timber for building and carving [33]. The wood of *Euclea undulate* is used for firewood in the Little Karoo in South Africa [33]. *Euclea* species have many uses in traditional medicine, including as treatment for chest complaints, bronchitis, pleurisy, chronic asthma, urinary tract infections, and venereal diseases [34]. *E. undulate* is used for a toothache and headache [22]. The powdered roots of *E. natalensis* are also used for the toothache and headache. The Zulus use it as a remedy for scrofula. The infusions are used for abnormal pains while charred powdered root is applied by the shangaans to treat skin lesions caused due to leprosy [35]. The roots are also burned, and the smoke inhaled as a hypnotic [33,22]. An infusion of the roots of *E. ceispa* is taken orally for epilepsy [33].

PHYTOCHEMICALS IN THE *EUCLEA* GENUS

There is a varied range of phytochemicals established in the different genus of *Euclea* contains compounds, such as mamegakinone, a rare compound, diosindigo, 2-methylnapthazarin, Lupeol, and terpenoids such as betulin [36,37]. *E. natalensis*, *Euclea cripsa,* and *Euclea schimperi* have very common compounds such as mamegakinone and bn-quinones (8, 8'-dihydroxy-4, 4'dimethoxy-6, 6'-dimethyl-2, 2-binaphthyl-1,-quinone) [35]. Lupeol, ursolic acid, and betulin were the species *E. pseudebenus* showed the presence of Naphthoquinones such as 2-methylnaphthazarin, 2, 2,-binaphthyl-1-1, quinones, mamegakinone, and diospyrin [38-40] isolated 4, 8-dihydroxy-6-methyl-1-1tetralone from the root bark of *E. natalensis,* and this was the first time that this substance was found in another genus other than that of diospyros. Some of the most frequently used anticancer drugs have derived from quinonoid natural products. Experimental evidence exists for lapachol and other naphthoquinones base drugs to be too toxic for human use as antitumor drugs [41].

Medical use has been found for some naphthoquinones based drugs, e.g., 2-methyl-1, 4-naphthoquinones, and mendione in combination radiation they can act as radiosensitizers or can be used in combination with other chemotherapeutic agents [41]. Lower redox potential naphthoquinones are less toxic than the higher redox potential naphthoquinones, which are a hydroxyl group (mono-or-dihydroxy substitution) at the 5-and 8-positions which make it a high redox potential naphthoquinones. Cytotoxicity induced by most other naphthoquinones probably also involves both oxidative stress and alkylation, because alkylation of enzymes involved in the metabolism of hydrogen peroxide could make the cell highly susceptible to oxidative stress [41].

Euphorbiaceae (Fig. 7)
Order: Malpighiales
Family: Euphorbiaceae

Fig. 7: Euphorbiaceae

Euphorbiaceae, the Spurge families, are a large family of flowering plants with 300 genera and approximately 7500 species. Most are herbs, but some, in particular in the tropics, are well bushes or trees. Some are moist and look like cacti. This family occurs mostly in the tropics, with the preponderance of the genus in the Indo-Malayan region and tropical America a high-quality second. There is huge diversity in tropical Africa, but it is not as plentiful or varied as in these two other tropical regions.

On the contrary, the Middle East, South Africa, and Southern USA [42], the leaves are bartered, hardly ever opposite, with stipules. They are for the most part simple, but where amalgams are for eternity palmate, on no account pinnate. Stipules may be condensed to hairs, glands, or spines in succulent species are sometimes absent [42]. The genera in tribe Euphorbieae, sub tribe Euphorbieae show a highly specialized form of a pseudanthium called calcium. This whole bargain resembles a single flower [42]. The fruit is frequently a schizocarp. A typical schizocarp is a regime, a capsular crop with three or additional cells, each of which splits open at the mellowness in to take apart parts and then breaks away explosively, scattering the small seeds [42]. Even today in recent studies and many areas of the world in traditional medicine, these plants have shown that they are still used to treat cancerous conditions although paradoxical tumor-promoting activities also exist [43].

Euphorbia (Fig. 8)
Order: Malpighiales
Family: Euphorbiaceae
Tribe: Euphorbiae
Genus: Euphorbia

Fig. 8: Euphorbia

Euphoria is a genus of blossoming plants belonging to the family Euphorbiaceae; consisting of 2008 species [44], Euphorbia is one of the largest and most diverse genera in the plant kingdom, along with Rumex and Senecio [45].

Members of the family and genus are generally referred to as spurges. *Euphorbia antiquorum* is the kind species of the genus Euphorbia [46]. The family is primarily found in the tropical and subtropical regions of Africa and the Americas but also in temperate zones universal. There exists a wide range of insular species on the Hawaiian Islands, where spurges are cooperatively known as "akoko" and on the Canary Islands as "tabaibas."

BOTANISTSNICAL USE OF EUPHORBIA

The flowers of Euphorbia produce quantities of nectar and honey, but when added to drinking water, it causes a burning in the mouth. The toxic latex most frequently causes severe irritation and blistering of the skin. It can also cause temporary or even permanent blindness if it does come in contact with the eyes. A fish poison is prepared from the *Euphorbia ingens* E. Mey. ex boss, by the Africans in the Limpopo valley. A bundle of grass is soaked in the latex, tied down to a stone and thrown into a pool with fish [32] eill rise within 15 minutes. Others use the latex of *E. ingens* as a drastic purgative, an antidote for dipsomania and cancer treatment [32], due to its toxicity several deaths have been reported from an over-dose. The latex also has several side effects such as extreme, intractable purging, fierce abdominal pain, and vomiting.

***E. ingens* (Figs. 9 and 10)**
Order: Malpighiales
Family: Euphorbiaceae
Genus: Euphorbia
Species: *E. ingens*

Fig. 9: *Euphorbia*

Fig. 10: Euphorbiaceae

This family of plants contains herb, bushes, trees, and succulents. The vegetation often contains a milky latex or sap that can be extremely harmful. According to Leistner (2000), it contains over 300 genera and over 5000 species, of which 50 genera and 484 species are found in Southern Africa [44]. The species name ingenious means huge. The flowers are a magnet for butterflies, bees, and other insects, which gather pollen and nectar from them, pollinating the trees in the progression. Seeds are a good quality foundation of food for many fruit and berry utilize birds. Birds also like nesting in this foliage, whole nesting birds such as woodpeckers often use dead sections [22].

The latex of this tree is immensely toxic and be able to cause severe skin irritation, loss of sight, and severe sickness to humans and animals if swallowed. If properly applied, it can be medicinally used as a purgative or for the cure of ulcers. It is said to be used by the Venda and Sotho people as a cure for cancer. Kindling is used as a fish poison in South Africa and Zimbabwe [33]. The wood from the main trunk is light and tough and is used to create doors, planks, and boats. A fire is made in the region of the tree before it is cut down to set the sap. Fruits of *Euphorbia ingenious,* photo: G. Nichols, these plants are easy to grow and make wonderful addition to a succulent backyard or rockery. As it is juicy, it needs little to no preservation, being a very resilient plant.

It does best in the open sun, need very little water and can, therefore, endure periods of lack. Because of its noxious latex sap no vermin seem to bother these trees [45].

E. ingens is commonly known as candelabra tree or in Afrikaans the "gewone naboom," and is part of the Euphorbiaceae. It can become an enormously large branched tree that can reach a height of up to 10 m. *E. ingens* is often predominantly found on rocky koppies and occurs at low to medium altitudes in a wide range of deciduous woodland types [32]. They are often connected with termite mounds. This tree makes heavy branches from rather low down and therefore, these branches make the individual crown and candelabra form, shape, not as clearly obvious as with all the other species of Euphorbia.

With *E. ingens* it, however, forms a typically enormous, branched, and rounded crown. With the other Euphorbia species, the lower branches shed each year, and new branches form at the top to give the characteristic increasingly long stem. This then gives rise to the characteristic crown of branches. The branches are irregularly constricted and usually four- to five-winged [32]. Spines are sometimes completely absent. Paired spines are most common, frequently reduced and up to 2 mm long. Obsolescent spine shields are generally found which become corky and senescent; In April, the yellowish-green inflorescence is cyathia of the normal pattern. These lobed capsules become conspicuous in August and are up to 10 mm in diameter.

PHYTOCHEMICALS IN THE EUPHORBIA GENUS

During the investigation of antioxidant activity of Euphorbia thymifolia L., It was found that MeOH, CHCL3, ethyl acetate (EtOAc), n-Butanol and water fractions and 3-o-galloy-4,6-(s) -HHDP-D-glucose, rugosin B, and 1, 3,4,6-tetra-o-galloyl-K-β-d-glucose, pure compounds possessed antioxidant activities [49]. Antiviral activity was also found during this study for an EtOAc fraction and 3-O-galloy-4,6-(s) -HHDP-D-glucose. From *E. ingens,* various of the macro cyclic diterpene ingol were isolated, as well as from the dried latex of *Euphorbia resinifera* Berg [50]. In 1970, *E. ingens* latex and *Euphorbia lathyris* seed oil isolation and characterization led to the reporting of a new irritant and co-carcinogenic hexadecanoic acid monoester [51].

From the latex of *Euphorbia lactea*, methanol and acetone extracts led to the isolation of a new ingol ester and a diterpene parent alcohol: 3,12-di-o-acetylingol 8-tigliate and 16-hydroxy-ingol-3,5,16,20-tetraacetate [50]. Several others compounds isolated from *E. ingens* include the diterpeneingenol and 3,7,12-triacetate-8-nicotinate [63], as well as the Euphorbia factors l1, l5, and l6 which are esters of ingenane-type poly-functional diterpene alcohols of which Euphorbia factors l1

was characterized as 3-hexadecanoate of the polyfunctional parent alcohol ingol [53], ingenol 3,20-dibenzoate, and certain ingenoids have potent antineoplastic activity with some of the most potent cytotoxic agents known [43]. Their IC 50 values are in the sub-Nano molar range.

It was documented that ingenoids have important properties such as tumor promotion, induce apoptosis in jurkart cells through an AP-1 and NF-kB-independent pathway, skin irritancy, protein kinas c activation, vascular cell adhesion molecule-1 inhibition, nerve growth factor promotion, pro-inflammatory, molluscicide, and antiviral activities [43].

Apiaceae (Fig. 11)
Foeniculum vulgare
Order: Apiales
Family: Apiaceae (or) umbelliferae
Genus: Foeniculum
Species: *F. vulgare*

Fig. 11: Foeniculum

Fennel is a plant species in the genus *Foeniculum*. It is an ingredient of the family Apiaceae. It is an enduring, perennial, umbelliferous aromatic plant, with yellow flowers and fluffy leaves. It is native to the shoreline of the Mediterranean but has grown to be widely naturalized in many parts of the globe, especially on dry soils near the sea-coast and on riverbanks. It is a highly aromatic and full herb with culinary and medicinal uses and along with the similar-tasting anise is one of the prime ingredients of absinthe.

Florence fennel or finocchio is assortment with a distended, bulb-like stalk base that is used as a vegetable. Moreover, it's strong and long history of medicinal use, it has been used since antiquity to reduce the gripping effect of laxatives and also to treat flatulence especially infants [56]. Fennel contains anethole, which can explain some of its medical special effects, acts as phytoestrogens [54]. The essence of fennel can be used as a safe and effective herbal drug for primary dysmenorrheal, but could have lower potency than mefenamic acid at the current study level [55]. Apparently, it has been known to increase milk emission, endorse menstruation, facilitate birth, and increase libido [57]. Chronic coughs have been treated with syrup made from the juice, and to enhance the renal excretion of water where the roots are used as a diuretic. Commonly, it is also used for a poor appetite and indigestion [44].

BOTANICAL USE OF FOENICULUM

F. vulgare has a long history of medicinal use; it has been used since antiquity to reduce the gripping effect of laxatives and also to treat flatulence especially in infants [44]. Apparently, it has been known to increase milk emission, promote menstruation, make possible birth, and increase libido [57]. Chronic coughs have been treated with syrup made from the juice, and to enhance the renal extraction of water where the roots are used as a diuretic. Commonly, it is also used for a poor appetite and indigestion [44].

For centuries, fennel was exported from country to country due to its therapeutic effects and large culinary utilization [57]. Fennel seeds are used for savory formulations, sauces liqueurs, and confectionery, etc., and the swollen base are freshly consumed in a salad or cooked as a vegetable [58].

PHYTOCHEMICALS IN THE *F. VULGARE*

The main constituents of the essential oil of *F. vulgare*, Trans -anethole, di-anethole, limonene, and further oligomers with estrogenic effect are described to be the actual pharmacological active ingredients of the plant [69,70]. *F. vulgare* extracts added to creams showed to reduce the hair diameter and the growth in women with idiopathic hirsutism [68]. The seeds have been used in Turkish folk medicine as a tranquilizer, tonic, and soporific drug [70]. Formerly, *F. vulgare* was also reputed to enhance milk secretion, encourage menstruation, facilitate birth, and increase libido [68] problems, such as mild dyspeptic, spasmodic gastrointestinal complaints, bloating, and flatulence, are effectively treated with fennel, and its herbal drug preparations [71]. *F. vulgare* fruit were found to have antioxidant activity, and it was also established to be an active diuretic, antipyretic [71].

Fennel seed is used for their anti-inflammatory, antispasmodic, antimicrobial property and estrogen promote action. Fennel seed is expansively used in the cure of anemia, menorrhagia, dysmenorrheal, fibroids, stomachaches, sore gullet, coughs, bad-breath, skin diseases, eye infection, intestinal worms and flatulence [56], intense weight, and poor milk emission in breast feed women.

Taking fennel dry seed right away after eating food is a habit practiced by many Indians but highly beneficial for the digestive method. Anethol is one of the main constituent established into the oil of Fennel. The best variety of Fennel yield from 4% to 5% of explosive oil, the prime constituent of which are anethol (50-60%) and fenchone (18-22%).

Anethol is also found in anise oils as a chief constituent [59]. Fenchone possesses a pungent, camphoraceous odor and flavor, when present; it gives a strong sour taste to many of the commercial oils.

Alliaceae (Fig. 12)
Order: Asparagales
Family: Amaryllidaceous

Fig. 12: Alliaceae

Allioideae is the botanical name of a monocot subfamily of flowering plants in the family Amaryllidaceous, order Asparagales. It was

formerly treated as a separate family, Alliaceae [60]. The subfamily name is derived from the generic name of the type genus, *Allium*. Successive revisions of the influential Angiosperm Phylogeny Group classification have changed the circumscription of the family unit, in the 1998 version, Alliaceae were a divergent family, in the 2003 adaptation, combining the Alliaceae with the Agapanthaceae,and the Amaryllidaceae sensu stricto was suggested but optional, in the 2009 adaptation, only the broad circumscription of the Amaryllidaceae is allowed, with the Alliaceae reduced to a subfamily, Allioideae [60]. Note that quite a few of the plants that were once included in family Alliaceae has been assigned to the subfamily Brodiaeoideae [60]. Some of the species of *Allium* are important food plants for example onions, chives, garlic, and leeks [61]. Species of *Allium, Gilliesia, Ipheion, Leucocoryne, Nothoscordum,* and *Tulbaghia* are cultivated as ornamentals [62].

13 of the total of about 20 genera are endemic to temperate South America. *Nothoscordum* ranges from Argentina to Canada. *Allium* is indigenous to most of North America, Eurasia, and North Africa [63]. The largest genera are *Allium*, *Nothoscordum,* and *Tulbaghia* [63]. Some of the generic limits are not clear. *Ipheion*, *Nothoscordum,* and possibly others are not monophyletic [64]. Allioideae is divided into three tribes, Allieae, Tulbaghieae, and Gilliesieae. Allieae contains only one genus *Allium*. Tulbaghieae contains only *Tulbaghia*. Gilliesieae [60] contains the remaining genera. Allieae is sister to a Clade composed of *Tulbaghia* and Gilliesieae.

BOTANICAL USE OF TULBAGHIA

For traditional medicinal purposes, the leaves and bulbs of *T. violacea* Harv are used against fever and colds, oral infections also for asthma and tuberculosis [22,65]. Esophagus cancer is treated with the leaves of *T. violacea* and the freshly harvest bulbs used for stomach problems, and decoctions are administered as enemas.

This attractive plant is ideal for the sage backyard, as both the leaves and flowers can be used in salads and other dishes [66]. The crushed leaves may be used to cure sinus headaches and to discourage moles from the garden (by their strong smell) [67].

The smell repels fleas, ticks, and mosquitoes when flattened on the skin, the fresh bulbs are boiling water, and the decoctions are taken verbally to clear up coughs and colds [68]. The bulb has been used as medication for pulmonary tuberculosis and to destroy intestinal worms. In their natural habitation garlic may prove to have the same or equivalent antibacterial and antifungal activities as has been systematically verified for genuine garlic. The vegetation is used to treat cancer of the esophagus. Wild garlic is a very good snake nauseating agent and, for this reason, the Zulus plant it around their homes [69].

T. VIOLACEA

T. violacea is fast rising, bulbous plants that reach a height of 0.5 m. The leaves are long, narrow, strap-like and slightly fleshy, smell strongly of garlic when aching. They grow from fat, tuberous ancestry which increases to form clumps of plants [70,71]. The pinkish light purple, tubular flora, cluster into umbels of up to twenty flowers, are held on top of the leaves on a tall flower stalk and emerge over a long period in summer. They too have smell of garlic when picked [66]. The fruit, triangular capsule, are grouped into head and when ripe they split to release the trampled, hard black seeds. This is a fashionable garden plant that is useful for difficult hot corners of the garden as it will put up with expanded drought, although it flourishes with regular watering distribution [67].

PHYTOCHEMICALS IN THE *T. VIOLACEA*

Preliminary evidence showed that this plant species may have the Same/Similar medicinal properties as garlic, such as antibacterial and antifungal activities.

T. violacea could be a promising and important indigenous phototherapy for inhibiting Candida albicans the causative agent for candidacies, which are the fourth leading sources of nosocomial infections [72]. Mortality rates from systemic candidacies are currently reaching 50% [72]. The active ingredients/compounds are sulfur-containing which gives the characteristic smell of garlic. The main sulfur-containing substance is alliin [22]. It is said to have similar activities as of garlic since both belong to the Alliaceae family [22].

***Mentha* (Mint) (Fig. 13)**
Order: Lamiales
Family: Lamiaceae
Tribe: Mentheae
Genus: *Mentha*

Fig. 13: *Mentha*

Mentha is also known as Mint, in Greek as míntha is a genus of flowering plants in the family Lamiaceae [73,74]. The species are not obviously discrete, and an estimate of the number of species varies from 13 to 18 [75]. Hybridization between some of the species occurs naturally. Many other hybrids as well as frequent cultivars are known in cultivation. The genus has a sub-cosmopolitan distribution across Europe, Africa, Asia, Australia, and North America [76]. Mints are scented, almost exclusively perennial, rarely annual, herbs. They have wide-spreading underground and over grounds to Lon sand [77] erect, square [78], and branched stems. The leaves are arranged in opposite pairs, from oblong to lanceolate, often downy and with serrate outskirts.

Leaf colors range from dark green and gray-green to purple, blue and sometimes pale yellow [76]. Flowers are white to purple and produced in false whorls called verticillasters. The corolla is two-lipped with four sub equivalent lobes, the upper lobe usually the largest.

The fruit is a small, dry capsule containing one to four seeds. While the species that make up the *Mentha* genus are widely scattered and can be found in many environments, most *Mentha* grows best in wet environments and moist soils. Mints will grow 10-120 cm tall and can spread over an indeterminate area. Due to their tendency to spread unchecked, mints are considered invasive [79].

Mint was formerly used as a medicinal herb to treat stomach ache and chest pains, and it is commonly used in the form of tea as a home medication to help assuage stomach pain. In Rome, Pliny suggested that a wreath of mint was a good thing for students to wear since it was thought to "invigorate their minds." During the middle ages, powdered mint leaves were used to whiten teeth. Mint tea is a strong diuretic. A common use is as an antipruritic, especially in insect bite treatments. The strong, sharp flavor, and scent of mint is sometimes used as a mild decongestant for illness such as the common cold [80]. Mint is also used in some shampoo products.

Forskolin (Fig. 14)

Fig. 14: Forskolin

The place of origin is China. Forskolin is commonly used to raise levels of cyclic adenosine monophosphate (cAMP) in the study and research of cell physiology [81].

Forskolin resensitizes cell receptors by activating the enzyme adenylyl cyclase and increasing the intracellular levels of cAMP. The cAMP is a significant indication carrier necessary for the proper biological response of cells to hormones and other extracellular signals. It is required for cell communiqué in the hypothalamus, pituitary gland axis and for the feedback control of hormones [82]. Forskolin has also been tried to treat glaucoma.

A labdane diterpene produced by the plant "Coleus forskohlii" commonly used in the study and research of cell physiology [83].

Linn (*C. roseus*) (Fig. 15)
Order: Gentianales
Families: Apocynaceae
Genus: Catharanthus
Species: *C. roseus*

Fig. 15: Catharanthus

C. roseus, commonly known as the Madagascar periwinkle, is a species of Catharanthus native. It is an evergreen sub shrub or herbaceous plant growing to 1 m tall. The flowers are white to dark pink with a darker red center, with a basal tube 2.5-3 cm long and a corolla 2-5 cm diameter with five petal-like lobes.

The fruit is a pair of follicles 2-4 cm long and 3 mm broad [83]. The leaves are oval to oblong, 2.5-9 cm long and 1-3.5 cm broad, glossy green, hairless, with a pale midrib and a short petiole 1-1.8 cm long, which are arranged in opposite pairs. In the wild, it is an endangered plant, the main cause of decline is habitat destruction by slash and burn agriculture. However, it is widely cultivated and is naturalized in subtropical and tropical areas of the world [83].

The species has long been cultivated for herbal medicine and also as an ornamental plant. In Ayurveda, the extracts of its roots and shoots, though poisonous, is used against several diseases. In traditional Chinese medicine, extracts from it have been used against numerous diseases, including diabetes, malaria, and lymphoma. The substances vinblastine and vincristine extracted from the plant are used in the treatment of leukemia and Hodgkin's lymphoma. It can be extremely toxic and is cited as an ornamental plant, it is appreciated for its hardiness in dry and nutritionally deficient conditions, popular in subtropical gardens where temperatures never fall below 5°C-7°C, and as a warm-season bedding plant in temperate gardens. This disagreement between historical indigenous use and recent patents on *C. roseus*-derived drugs by western pharmaceutical companies, without recompense, has led to accusations of biopiracy [84]. It can be dangerous if consumed orally. It is noted for its long flowering period, throughout the year in tropical conditions, and from spring to late autumn, in warm temperate climates. Full sun and well-drained soil is preferred. Numerous cultivars have been selected, for variation in flower color (white, mauve, peach, scarlet, and reddish-orange), and also for tolerance of cooler growing conditions in temperate regions.

Notable cultivars include "Albus" (white flowers), "Grape Cooler" (rose-pink; cool-tolerant), the Ocellatus Group (various colors), and "Peppermint Cooler" (white with a red center; cool-tolerant) [83]. *C. roseus* is used in plant pathology as an experimental host for phytoplasmas [85]. This is because it is easy to infect with a large majority of phytoplasmas, and also often has very distinctive symptoms such as phyllody and significantly reduced leaf size Vinblastine.

Vinblastine was first isolated by Robert Noble and Charles Thomas Beer at the University of Western Ontario from the Madagascar periwinkle plant.

Vinblastine utility as a chemotherapeutic agent was first suggested by its effect on the body when the plant was consumed in tea. Drinking the tea led to a decreased number of white blood cells, so it was hypothesized that vinblastine might be effective against cancers of the white blood cells such as lymphoma [86]. It is also used to treat Langerhans cell histiocytosis. Vinblastine was traditionally obtained from *C. roseus*, also known as Vinca rosea, a Madagascar periwinkle, and it is an ant microtubule drug used to treat certain kinds of cancer, including Hodgkin's lymphoma, non-small cell lung cancer, breast cancer, head and neck cancer, and testicular cancer. It is generated in the plant by the joining of two alkaloids catharanthine and vindoline [87].

PHYTOCHEMICALS AND MEDICINAL USES VINBLASTINE

Vinblastine is a Vinca alkaloid and a chemical analog of vincristine. Vinblastine is reported to be an effective component of certain chemotherapy regimen, particularly when used with bleomycin and methotrexate in VBM chemotherapy for Stage IA or IIA Hodgkin lymphomas. The enclosure of vinblastine allows for lower doses of bleomycin and reduced overall toxicity with larger resting periods among chemotherapy cycles [88]. Moreover, it is used for the following treatment of Hodgkin's sickness, non-Hodgkin's lymphomas, mycosis fungicides, testicular cancer; Kaposi's sarcoma related to acquired immune deficiency syndrome (AIDS), Letterer-Siwe disease, and it slows or stops the growth of tumor cells in your body. The duration of treatment depends on the types of drugs and is also used to treat non-small cell lung cancer, bladder cancer, head cancer, neck cancer and cervical cancer, idiopathic thrombocytopenia purpura and autoimmune hemolytic anemia [89].

Table 2: Biological source and family of tribe and traditional herbal plants

Biological source Family	Local name	Parts used	Preparations
Abrus precatorius Fabaceae	Gunja	Roots and leaves	Leaves decoction, flowers internally and aqueous extract of roots in treatment of blood cancer
Acacia nilotica Fabaceae	Bambri, babul	Stem and root barks	Stem and root barks decoction and patients are advised to gargle with this decoction
Adhatoda vasica Acanthaceae	Arusa	Roots, leaves, flowers, and stem	Juice/extract given internally, plant is burnt, and the patients are advised to inhale the fume
Aeglemarmelos Rutaceae	Bael	Bark and flower	The roots, leaves, bark, and flowers decoction
Alangium salviifolium Alangiaceae	Ankol	Roots, bark, and fruits	Bark decoction or boil the fresh bark in base oil to prepare special oil is considered beneficial for the cancerous wound, fruits for lung cancer
Albizia lebbeck Fabaceae	Sirsa	Flower and bark	Flowers in form of aqueous extract applied externally and bark in the form of powder given internally
Anthocephalus cadamba	Kadam	Fruits and leaves	Consuming kadam fruits during growing season, dried leaves powders internally
Rubiaceae *Artocarpus heterophyllus*	Kathal	seed, bark, and roots	Few pinches of root powder are given internally and the roots decoction
Moraceae *Astercantha ongifolia* Acanthaceae	Mokhla	Root	Aqueous extract
Balanitesaegyptiaca Balanitaceae	Hingot	Bark and fruits	Dried bark powder, fruits pulps for blood cancer
Bambusa sp Poaceae	Bans	Leaves, bark, and seed	Leaf juice and bark decoction internally, seeds with Shahad (Honey)
Bauhinia variegate Fabaceae	Son Patta	Flower and leaves	Flower given with cow milk, leaves decoction
Buchananialanzan Anacardiaceae	Char	Seed, bark, and root	Roots are used in form of dry powder, inform of decoction, bark powder with cow milk and honey
Buteamonermospa Fabaceae	Parsa	Leaves and fruits	Leaf juices and fruit powder
Calotropis gigantea Asclepiadaceae	Fudhar	Root and latex	Root decoction for lung cancer and roots are dipped in its latex, burnt and patients are advice to inhale it
Cannabis sativa Cannabaceae	Bhang	Leaves	The leaves are crushed and with the help of cow milk an aqueous paste is prepared. This paste is applied externally on the wound
Cassia fistula Fabaceae	Dhanbaher	Leaves and	Leaf juice in treatment of cancerous wound, the fruit pulp is boiled in water to prepare concentrate decoction given internally
Citrus medica Rutaceae	Bijaura	Fruit, seed, bark, and root	Dried fruits powder, root in the form of paste, bark in the form of decoction
Coriandrum sativum Apiaceae	Dhania	Seed and whole herbs	Boil the seed powder in water to prepare concentrate decoction. The patients are advised to gargle with this decoction, whole herb juice advised to take it internally
Curcuma sp. Zingiberaceae	Haldi	Rhizome	Both internally as well as externally in treatment of cancer
Datura species Solanaceae	Dhatra	Leaf and flower	Dhatura leaf juice, opium and sonth (dried ginger) and in form of paste applied this combination on cancerous wound
Diospyroselanoxylon Ebenaceae	Tendu	Fruits and bark	Bark paste with cow milk
Embelia ribes Euphorbiaceae	Baibirang	Leaves, Roots, and fruits	Leaves are used externally in form of decoction and paste
Emblica officinalis Euphorbiaceae	Aonla, amala	Leaf, roots, and bark	Leaf juices, root boil in mustard oil for cancerous wound
Euphorbia neriifolia Euphorbiaceae	Thura	Latex and leaves	Fresh latex and leave extract
Ficusbenghalensis	Bargad	Bark, root, and fresh latex	Barks of Bar, Maharukh (Ailanthus Moraceae, excelsa), and Neem (*Azadirachta indica*) and prepare the combination, fresh latex internally
Ficusglomerata	Doomar	Leaves, bark, and roots	Leaves juice bark juice, dried root Moraceae. powder given internally
Ficus religiosa Moraceae	Pipal	Leaves and fruit	Leaf extract
Gloriosa superb Colchicaceae	Kalihari	Bulb, leaves and seeds	Freshly collected bulbs are crushed and added in mustard seed oil. The combination is boiled and when all watery contents evaporate the boiling is stopped, and special oil is used after filtration. The special oil is considered beneficial for the cancerous wound; The leaves are given internally in form of juice
Gmelinaarborea Lamiaceae	Khamha	Leaves and fruits	Leaves juice, dried fruits powder
Hibiscus rosasinensis Malvaceae	Jason	Flowers	Dried flower powder

(Cond...)

Table 2: ***(Continued...)***

Biological source Family	Local name	Parts used	Preparations
Mangifera indica Anacardiaceae	Ama	Leaves and inner bark	The leaves of Arusa (*Adhatoda vasica*), Kukurmutta (Blumealacera), and Chirchita (*Achyranthes aspera*) are mixed in equal proportion. The Ama leaves are taken in double amount of this combination and mixed thoroughly. The combination is burnt and the patients are advised to inhale the fumes for lung cancer
Melia azedarach *Meliaceae*	Bakain	Root, bark, and fruits	Dried root powder is given internally, inner bark and extract the juice given internally
Moringaoleifera Moringaceae	Munga	Bark, flowers	Bark decoction, dried flowers powder
Mucunapruriens Fabaceae	Kevatch	Root, seed, and whole herbs	Patients having mouth cancer to always put the freshly collected Kevatch root inside the mouth, seed powder useful in treatment of cancer pain
Neriumodorum Apocynaceae	Kaner	Root and flowers	Roots decoction is prepared. The patients are advised to wash the wound with the help of this decoction
Nyctanthes arbor tristisn Oleaceae	Harshringar	Leaves and bark	Dried bark powder given internally leaves decoction
Ocimum sanctum Lamiaceae	Tulsi	Seed and leaves	Decoction of seed and leaves internally
Asteraceae	Bringraj	Leaves root	Fluid extract, 1/2 to 1 drachm
Apiaceae	Mandukaparni	Root, leaves, seeds	Fluid extract, herb: Dose, 1 drachm. Fluid extract, root: Dose, 1/4 to 1 drachm
Ebenaceae	Lusui	Nightmares, the bark; sores, leaves	Nightmares, bark used in bedroom, sores, fresh leaves are crushed
Euphorbiaceae	Pencil tree	Leaves	Leaves crushed firmly between hands
Alliaceae	Wild garlic	Bulb leaves	Juice, 10-30 drops. Syrup, 1 drachm. Tincture, 1/2 to 1 drachm
Mentha (Mint)	Forskoline	Root	Crushed root extract
Catharanthus roseus (Linn.)	Nithyakalyani	Leaves	Extracts of entire dried plant

VINCRISTINE

Vincristine belongs to the family of *C. roseus* contained 70 alkaloids, many of which are biologically active. While initial studies for its use in diabetes mellitus were disappointing, the discovery that it caused myeloid suppression led to its study in mice with leukemia, whose lifespan was prolonged by the use of a Vinca preparation. This fraction was further treated with aluminum oxide, chromatography, trichloromethane, benz-dichloromethane, and separation by pH to yield vincristine [90] and is formally known as leurocristine, sometimes abbreviated "VCR," is a Vinca alkaloid from the *C. roseus*, formerly Vinca rosea and hence its name. Treatment of the ground plant with a Skelly-B defatting agent and an acid benzene extract led to a fraction termed "fraction A." It is a mitotic inhibitor and is used in cancer chemotherapy. Vincristine is created by the coupling of indole alkaloids vindoline and catharanthine in the Vinca plant [85].

Phytochemicals and medicinal Uses Vincristine.

Vincristine is delivered via intravenous infusion for use in various types of regime. Its main uses are in non-Hodgkin's lymphoma as part of the chemotherapy regime. It is also used to induce remission in all with dexamethasone and L-asparaginase. Vincristine is occasionally used as an immunosuppressant, for example, in treating thrombotic thrombocytopenic purpura or chronic idiopathic thrombocytopenic purpura [91].

It is used in combination with prednisone to treat childhood leukemia. It is also used for treating non-small cell lung cancer, bladder cancer, head cancer, neck cancer, and cervical cancer, idiopathic thrombocytopenia purpura and autoimmune hemolytic anemia it slows or stops the growth of cancer cells in our body. A traditional plant as a biological source used for the different types of cancer treatment shown in Table 2.

CONCLUSION

Since pre-historic times, traditional plants are considered as an authentic source of drugs. However, man tends to disregard the importance of herbal medication. In recent times, much concentration has been directed towards plant extracts as well as biologically active compounds isolated from popular species.

Different extracts from traditional medicinal plants have been tested to identify the source of the beneficial effects. Some natural products have been approved as new anticancer and anti-biological drugs, but there is still an urgent need to identify novel substances that are active towards pathogens with high resistance. Multiple drug resistance has developed due to indiscriminate use of commercial anticancer and antimicrobial drugs that are commonly used in the treatment of contagious disease, making it a global budding problem.

There is a pressing need to develop new antimicrobial drugs for the cure of contagious disease from medicinal plants, which may be less toxic to humans and perhaps with a visible mechanism of action. It can be concluded that 9 traditional plants from 7 different families have anticancer and biological activity to get involved at all stages of cancer treatment. In adding together to their antioxidant and antibacterial action, the embarrassment of cancer development by using natural plant compounds relies on a number of drug and folk medicine. Moreover, the extensive studies of this class of various traditional natural plant compounds will provide clues about their possible pharmaceutical exploration in the field of oncology. The presence of the identified isolation makes them pharmacologically active. Their antioxidant activity may be responsible for their usefulness in the management and treatment of various types of cancer and various diseases. We are at in present studying other possible mechanisms of action of these traditional plants. Efforts to identify the constituent compounds responsible for this anticancer activity and antioxidant activity are also in progress.

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