NATURAL RESOURCES FROM PLANTS IN THE TREATMENT OF CANCER: AN UPDATE

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ABSTRACT
Cancer has become the second leading cause of death worldwide. The incidences of cancer are rising at an alarming rate but it can be reduced and controlled by evidence-based strategies for cancer prevention, early detection, and management of patients with cancer. Historically, it is proven that plants and their metabolites have great potential in the treatment of various acute diseases as well as chronic disorders. The novel bioactive compounds from many plants are being studied as potential therapeutic agents because of their high activity and low toxicity. This review gives a comprehensive description of such medicinal plants which have been studied as potentially effective against cancer.

Keywords: Ethnopharmacology, Cancer treatment, Drugs, Plants, Antitumor activity, Medicinal plants.

INTRODUCTION
Cancer is an abnormal malignant growth of body tissue or cell which can occur on any part of the body. According to the World Health Organization (WHO), cancer is among leading cause of morbidity and mortality worldwide with approximately 14 million new cases and more than 8 million cancer-related deaths in 2012, and an expected rise of new cases by 70% within two decades [1]. A correct cancer diagnosis is essential for adequate and effective treatment because every cancer type requires a specific treatment regimen [2]. And thus, cancer treatment and prevention becomes a major focus area for scientists worldwide. The most common types of the treatment for cancers include surgery, chemotherapy, radiotherapy, and targeted therapy. Most cancer patients have to undergo some form of surgery whether to diagnose, treat or prevent cancer and it has been found to be of great help if cancer has not spread to other parts of body. The use of medicines or drugs as cancer treatment is chemotherapy. There are more than 100 chemotherapy drugs for cancer in use these days which vary in composition and mode of action. Radiotherapy is when high energy particles destroy cancer cells. It is the most common treatment for cancer. A more recent method is targeted therapy where substances attack specific cancer cells, minimizing damage to normal cells. The priority now is to have new therapeutic alternatives. One such approach is iron depletion strategy based on metal chelation in tumoral environment [3].

The use of herbs as medicines is believed to have its presence from the ancient times [4]. The first record on the medicinal use of plants was written in about 2600 BC from the Akkadian and Sumerians [5]. Egyptian medicinal text, "Ebers Papyrus" from 1500 BC had consisted of over 700 drugs. Around 1100 BC, the Chinese *Materia Medica* came with the data of approximately 600 medicinal plants [6]. Medical methodologies of treatment as mentioned in Ayurveda are recorded in Susruta and Charaka dating from about 1000 BC [7]. The Greeks also contributed substantially to the rational development of herbal drugs. In 1950s, modern medicine began more systematically examining natural agents as a source of useful anticancer substances [8].

It has always been argued that "the use of natural products has been the single most successful strategy in the discovery of novel drugs" [9]. Traditional medical science is completely dedicated toward plants or animal based products in treatment or prevention of disease as well as the well-being of people. Commonly used plants in the treatment of various diseases are *Zingiber officinale*, *Camellia sinensis*, *Curcuma longa*, *Aloe vera*, etc. [10]. Molecules derived from natural sources such as plants, marine organisms, and microorganisms have played and are still playing a dominant role in the discovery of leads for the development of drugs for most human diseases.

According to the WHO (2008), about three quarters of the world's population currently uses herbs or other forms of traditional medicines to treat illness. Even in the USA, the use of plants and phytotherapies has increased dramatically [11]. It has been also reported [12] that more than 50% of all modern drugs have been derived from natural sources. The drugs which have the ability to induce apoptosis in various cancer cells have been found to be of great help if cancer has not spread to other parts of body. The use of medicines or drugs as cancer treatment is chemotherapy. There are more than 100 chemotherapy drugs in use these days which vary in composition and mode of action. Radiotherapy is when high energy particles destroy cancer cells. It is the most common treatment for cancer. A more recent method is targeted therapy where substances attack specific cancer cells, minimizing damage to normal cells. The priority now is to have new therapeutic alternatives. One such approach is iron depletion strategy based on metal chelation in tumoral environment [3].

The methodology for this review article has been an exhaustive literature survey of published work in research journals available in PubMed, Medline, Science Direct, and other such online libraries. The effort is to include all possible published work without going for time frame. The search was done with following keywords — drug therapy, alternative therapy for cancer, ethnopharmacology, plants in cancer treatment, natural sources for cancer treatment, complementary medicine, etc. All review, research articles and case reports were studied and included. A total of 1034 articles were identified, of which 496 were excluded at initial screening. Remaining papers were studied, and around 253 most relevant papers and studies are included, indexed, and described in this review. Table 1 elaborates on all such studied plants along with their common name, family, antitumor activity and other medicinal properties.

DISCUSSION
Cancer, like any other fatal disease, is a cause of concern to the medical community worldwide. It causes serious implications on the patient, and there are generally severe side effects also of the treatment which the patient suffers consequently. The use of natural substances obtained from the plants is the need of the hour. They may have potential to prevent and cure cancer with least side effects.

There are a number of plants which have given promising results against a particular condition. For example, several workers have seen...
| Plant name              | Family         | Native place            | Anticancer activity                                                                 | Other medicinal properties                      |
|------------------------|----------------|-------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------|
| *Aegle marmelos* (L.)  | Rutaceae       | India                   | Activity against lymphomas, breast cancer [13], ascites melanomas, and leukemia [14] induction of apoptosis [15] |
| *Allium sativum* L. (garlic) | Amaryllidaceae | Central Asia            | Used against breast cancer, prostate cancer [16], leukemia [17] intestinal cancer [18], stomach cancer [19] |
| *Aloe barbadensis* (aloë) | Xanthorrhoeaceae | Yemen, Sudan and Somalia | Inhibits growth and spread of liver cancer, stomach cancer and various sarcomas [20], chemoprevention [21] |
| *Alpinia galanga* (Thai galangal) | Zingiberaceae | South Asia and Indonesia | Activity against lung cancer, breast cancer, stomach cancer, prostate cancer [23], colon cancer, leukemia and multiple myeloma [24,25] |
| *Amaranthus rohituka* (pithraj tree) | Meliaceae | Asia (U.P. East)        | Inhibits growth of pancreatic, breast and cervical cancers [26]                        |
| *Amorphophallus konjac* (elephant yam) | Araceae        | Subtropical to Tropical Eastern Asia | Activity against lung cancer [27]                                                   |
| *Andrographis paniculata* (Maha tita) | Acanthaceae    | Southern and Southeastern Asia | Activity against cancers of breast, kidney, colon, prostate, ovary, stomach, nasopharynx malignant melanoma and leukemia [28-30] |
| *Annona squamosa* (pawpaw) | Annonaceae     | United States, South to Northern Florida and Eastern Texas | Activity against human breast cancer, human colon adenocarcinoma human kidney carcinoma, tumors [41] renal cell carcinoma [42] |
| *Arachis hypogaea* (groundnut) | Fabaceae       | South America           | Have general anticancer activity [34]                                                |
| *Aralia spinosa* (chokeberry) | Rosaceae       | Eastern North America   | Activity studied against Colorectal cancer [36], colon cancer [37]                    |
| *Artemisia annua* (sweet wormwood) | Asteraceae     | Temperate Asia          | Studied for Leukemia treatment [39]                                                 |
| *Asparagus officinalis* (garden asparagus) | Asparagaceae   | Europe, Northern Africa and Western Asia | Potential inhibitory activity of saponins on tumor growth and metastasis [40] |
| *Asparagus racemosus* (shatavari) | Asparagaceae   | Sri Lanka, India and the Himalayas | Activity against human breast cancer, human colon adenocarcinoma human kidney carcinoma, tumors [41] renal cell carcinoma [42] |
| *Astragalus gummifer* (milkvetch) | Fabaceae       | Temperate regions of the Northern Hemisphere | Prevents cancer before it begins [45]                                               |
| *Azadirachta indica* (neem) | Meliaceae      | India                   | Activity against cancers of breast, lung, stomach, prostate and skin [46,47], Antitumor activity [48] |
| *Bacopa monnieri* (brahmi) | Plantaginaceae | Southern India, Australia, Europe, Africa, Asia, and America | Anticancer activity [49], Ascites Carcinoma [50]                                    |
| *Berberis vulgaris* (European barberry) | Berberidaceae | Europe, Africa and Asia | Anticancer activity against prostate cancer, liver cancer and leukemia [54] antitumor [55-57] |
| *Bleekeria vitensis* (markgraf) | Apocynaceae    | Tropics and Subtropics Coastal Southern and Western Europe | Treatment of breast cancer [8]                                                       |
| *Brassica oleracea* (wild cabbage) | Brassicaceae   |                          | Reduces the risk of some cancers such as colorectal, breast [60], liver, lung, prostate, skin, stomach, and bladder cancers [61] |
| Plant name                      | Family       | Native place          | Anticancer activity                                                                 | Other medicinal properties                                                                 |
|---------------------------------|--------------|-----------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| *Bupleurum scorzonera folium* (Chai Hu) | Apiaceae     | East Asia             | Studied for Osteosarcoma [62]                                                        |                                                                                              |
| *Camellia sinensis* L. (tea tree)   | Theaceae       | East, South and South East Asia | Prevents colon, prostate and gastric cancers [63,64], blood vessel growth in tumors, skin cancer [22,65] |                                                                                              |
| *Camptotheca acuminata* (happy tree, cancer tree) | Nysseae | Southern China and Tibet | Used as drugs for cancer treatment [66]                                               |                                                                                              |
| *Carmona retusa* (Fulden tea tree) | Boraginaceae  | Eastern and South-Eastern Asia | Anticancer activity on HepG2 cell lines and significant activation of caspase-3 [67] |                                                                                              |
| *Catharanthus roseus* (Madagascar periwinkle) | Apocynaceae | India and Sri Lanka | Treatment of cancers such as leukemias, breast and lung cancers, lymphomas, Kaposi’s sarcoma and advanced testicular cancer [8,68,69] | Antidiabetic, antikker, antibacterial, antioxidant, antiinflammatory, antihelmintic, hypotensive property [70,71] |
| *Codonopsis pilosula* (poor man’s ginseng) | Campanulaceae | China and Korea | Immunological and hematopoietic effect for the patients undergoing chemotherapy or radiotherapy [72-74] |                                                                                              |
| *Coleus forskohlii* (coleus) | Lamiaceae   | South America | Forskolin a diterpene produced by the roots, raises intracellular cAMP levels and thus may act as an effective anticancer agent [75] |                                                                                              |
| *Combretum caffrum* (bushwillow tree) | Combretaceae | South Africa | Active against lung, colon and leukemia cancers [76] | Having anticancer properties [77]                                                                 |
| *Crocos sativas* (saffron crocus) | Iridaceae   | Italy and Iran       | Having anticancer properties [77]                                                     |                                                                                              |
| *Curcuma longa* (turmeric) | Zingiberaceae | South Asia | Studied in colorectal cancer, gastrointestinal discomfort, colon cancer and polyps [78], chemotherapy [79], potential clinical utility in colorectal cancer therapeutics [80] | Anticoagulant, antiseptic, antiallergy, Rheumatoid arthritis [81], anti-inflammatory activities, antitussive, antiviral, diuretic, antioxidant activity [82], antiperheres [83] |
| *Daphne genkwa* (Yuán Huā) | Thymelaeaceae | China | The withanolide, dinoxin B exhibited significant toxic effect against multiple human cancer cell lines, most sensitive being breast cancer cell lines [84] |                                                                                              |
| *Datura inoxia* (Devil’s trumpet) | Solanaceae | China | The withanolide, dinoxin B exhibited significant toxic effect against multiple human cancer cell lines, most sensitive being breast cancer cell lines [84] |                                                                                              |
| *Dysoxylum binecariferum* (rose mahogany) | Meliaceae | India | Studied as treatment of tumors, including leukemias, lymphomas, and solid tumors [8,85] |                                                                                              |
| *Echinacea* (purple coneflower) | Asteraceae | North America | In treatment of breast tumors and leukemias [86], cures side effects of cancer [87] | Antioxidant, antitussive, immunomodulator, cytoprotective, analgesic, antimicrobial, antipyretic and gastroprotective [91] |
| *Emblica officinalis* (amla, Indian gooseberry) | Phyllanthaceae | India | Inhibits growth and spread of various cancers including that of the breast, uterus, pancreas, stomach, liver and ascites [88,89], antitumor [90] |                                                                                              |
| *Ginkgo biloba* (maidenhair tree, Kew tree) | Ginkgoaceae | China | Activity against carcinoma and cancers of ovary, colon, prostate and liver [92,93] |                                                                                              |
| *Gloriosa superba* (glory lily) | Colchicaceae | Africa and Asia | Anticancer activity [94] | Antileptic, oxytocic, stomachic, antimalarial, purgative, antihelmintic, cholagogue, alternative, febrifuge [95] |

(Contd..)
| Plant name                  | Family            | Native place                  | Anticancer activity                                                                 | Other medicinal properties                                                                 |
|-----------------------------|-------------------|-------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Glycine max (soybean)       | Fabaceae          | East Asia                     | Inhibition of cancer cell proliferation, causes cell differentiation and initiation of apoptosis [96], colon cancer [97] | Antioxidant, antiviral immunomodulatory, anti-inflammatory, cardioprotective [101]          |
| Glycyrrhiza glabra Linn. (mulethi) | Fabaceae          | Southern Europe and Asia      | Activity against cancers of breast, lung, stomach, colon [98], liver, kidney and leukemia [99,100] |                                                                                              |
| Gossypium hirsutum (upland cotton) | Malvaceae         | Mexico, West Indies, and America | Inducing apoptosis and arresting cancer cell division in G0/G1 phase [102], breast cancer [103] |                                                                                              |
| Gynostemma pentaphyllum (miracle grass, fairy herb) | Cucurbitaceae | China, Vietnam, Korea and Japan | Anticancer [104], anticancer activity on prostate cancer [105] | Antioxidant, or detoxifying agent, anti-inflammatory agent [106]                                                                                   |
| Hibiscus sabdariffa (rose mallow) | Malvaceae         | West Africa                   | Inductive effect on human leukemia cells [107] |                                                                                              |
| Hydrastis canadensis (goldenseal) | Ranunculaceae     | USA                           | Berberine, isoquinoline alkaloid extracted from Hydrastis canadensis displays a number of beneficial roles in the treatment of various types of cancers [108] | Antimicrobial [109]                                                                                                                                   |
| Kaempferia rotunda (bhumi champa) | Zingiberaceae     | China, India, Nepal           | Secondary metabolites as cytotoxic [110] |                                                                                              |
| Lagerstroemia speciosa (giant crape-myrtle) | Lythraceae        | Southern Asia                 | Serves as anticancer [69] | Anti-diabetic [112]                                                                                                                                  |
| Larrea divaricata (chaparral) | Zygophyllaceae    | America                       | Acts as antimutagenic and anticarcinogenic agent [113] |                                                                                              |
| Linum usitatissimum (flax)  | Linaceae          | India                         | Works against breast cancer, lung cancer, prostate cancer and colon cancer [114-116] | Antidiabetic antiviral, bactericidal, anti-inflammatory and antiatherosclerotic [117-119] |
| Lavandula angustifolia (common lavender) | Lamiaceae         | Western Mediterranean         | Used to prevent multiplication of cancer cells [120] |                                                                                              |
| Morinda citrifolia (Indian mulberry) | Rubiaceae         | Asia and Australasia          | Activity against lung cancer and sarcomas [121] |                                                                                              |
| Momordica charantia (bitter melon) | Cucurbitaceae     | Asia and Africa               | Antitumor and antimutagenic effects [122] |                                                                                              |
| Nigella sativa (kalonji)     | Ranunculaceae     | South and Southwest Asia      | Activity against various cancers such as cancers of the pancreas, colon, uterus, prostate, malignant ascites, malignant melanoma, malignant lymphoma, sarcomas, and leukemia [125-128] |                                                                                              |
| Ocimum sanctum (holy basil)  | Lamiaceae         | Indian Subcontinent           | Inhibits growth and spread of various cancers such as breast cancer, liver cancer, and sarcomas [129-131] |                                                                                              |
| Oldenlandia diffusa (snake-needle grass) | Rubiaceae         | China                         | Inhibits growth and spread of various cancers such as cancers of rectum, lung, ovary, stomach, uterus, colon, liver, brain, malignant melanoma, lymphosarcoma, malignant ascites, and leukemia [132,133] |                                                                                              |
| Olea europaea (olive tree)   | Oleaceae          | Africa and Southern Asia      | Prevents breast cancer and colorectal cancer [34] | Treatment of diabetes, hypertension, cardiovascular disease [135]                                                                          |
| Oryza sativa (Asian rice)    | Poaceae           | Asia                          | Activity against Bowel cancer [134] |                                                                                              |
| Oxycoccus acrocarpus (large cranberry) | Ericaceae         | United States                 | Reduces the number of breast cancer tumors, delay tumor development, and slow metastasis of cancer to lungs and lymph nodes [136-138] |                                                                                              |
| Plant name | Family | Native place | Anticancer activity | Other medicinal properties |
|------------|--------|--------------|---------------------|---------------------------|
| Panax ginseng (ginseng) | Araliaceae | North America and Eastern Asia | Inhibits growth and spread of various cancers such as cancers of breast, lung, ovary, colon, prostate, renal cell carcinoma, malignant lymphoma, malignant melanoma, and leukemia [139,140] | |
| Plantago ovata (desert Indian wheat) | Plantaginaceae | Asia | Anticancer activity [141] | Treat hypercholesterolemia, hyperglycemia [142] |
| Podophyllum peltatum (mayapple) | Berberidaceae | USA | Have been used to treat oral hairy leukoplasia, comb skin cancers, ovarian cancer, lung cancer and prostate cancer, prostate cancer | |
| Polygonum tinctorium (Chinese indigo) L. (self-heal) | Polygonaceae | Europe and Asia | Studied in prevention of leukemia [145] | |
| Prunella vulgaris | Lamiaceae | Europe, Asia and North America | Inhibit growth and spread of various cancers such as cancers of the breast, lung, cervix, oral cavity, esophagus, colon, thyroid, stomach, lymphoma, intracranial tumors and leukemia [146-148] | |
| Raphanus sativus (cultivated radish) | Brassicaceae | Southeast Asia | Antitumor activity and anti-cancer activity. 4-Methylsulfinyl-3-butenyl isothiocyanate (MTBITC) found in *Raphanus sativus* L., is a well-known anticancer agent [149] | Antimicrobial activities [150] |
| Rhus succedanea (Japanese wax tree) | Anacardiaceae | Asia | Anticancer activity [149] | |
| Rubia cordifolia (Indian madder) | Rubiaceae | Asia, Europe, and Africa | Growth and spread in cancers of breast, colon, ovary, cervix, malignant ascites, malignant melanoma, sarcoma, malignant lymphoma and leukemia [151,152] | |
| Rumex acetosa (sheep’s sorrel) | Polygonaceae | Eurasia and British Isles | Studied in treatment for breast cancer [153] | Diarrhea, scurvy, fever, and inflammation [154,155] |
| Ruscus aculeatus (butcher’s broom) | Liliaceae | Iran to USA | Tumor-shrinking and anti-estrogenic abilities [156] | |
| Sanguinaria canadensis (bloodroot) | Papaveraceae | Eastern North America | Studied in cervical cancer and tumor treatments [157] | |
| Saussurea lappa (costus) | Asteraceae | Asia, Europe, and North America | Activity against cancers of the colon, ovary, gastric central nervous system, and lung [158,159] | |
| Scutellaria barbata (skullcap) | Lamiaceae | Asia | Works against many cancers such as stomach, lung, prostate and intestine [160,161] | |
| Silybum marianum (milk thistle) | Asteraceae | Mediterranean country | Inhibits growth of certain types of cancer, including skin cancer, breast cancer, ovarian cancer, and prostate cancer [162-164] | |
| Solanum nigrum (nightshade) | Solanaceae | Americas, Australasia and Africa | Inhibits growth and spread of stomach cancer, malignant ascites, cervical cancer, sarcomas, and leukemia [165,166] | |
| Spinacia oleracea (spinach) | Amaranthaceae | Ancient Persia | Prevents cancer [167] | Antiviral, anti-inflammatory, and antifungal [169] |
| Sutherlandia frutescens (cancer bush) | Fabaceae | Southern Africa | Anticancer activity [168] | |
| Tabebuia species (trumpet trees) | Bignoniaceae | Central and South America | Having anti-cancerous properties [170] | |
| Tabebuia impetiginosa (roble) | Bignoniaceae | America | Works against breast, leukemia and prostate lines [8] | |
| Tanacetum parthenium (feverfew) | Asteraceae | Europe, North America and Australia | Against cancer such as leukemia, breast cancer, secondary lung cancer, and secondary bone cancer [171-173] | |
| Taxus brevifolia (pacific yew) | Taxaceae | Northwest of North America | Useful in breast and lung cancer [174] | |
### Table 1: (Continued...)

| Plant name                                | Family        | Native place                        | Anticancer activity                                                                 | Other medicinal properties                                                                 |
|-------------------------------------------|---------------|-------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Terminalia belerica (kindal tree)         | Combretaceae  | Southwest India                     | Active fractions have shown inhibition in proliferation of breast (MCF-7), cervical (HeLa) and brain [175] | Reported against diabetes, ulcer, microbial problems and hepatotoxicity                      |
| Trifolium pratense (red clover)           | Leguminaceae  | USA, Europe, Australia and Asia     | Used in the cure of prostate and endometrial cancer [176]                           | Prevention of breast cancer and colon cancer [177]                                          |
| Triticum aestivum (common wheat)          | Poaceae       | Europe and USA                      |                                                                                      |                                                                                              |
| Uncaria tormentosa (cat's claw)           | Rubiaceae     | South and Central America           | Have anticancer activity [178]                                                       | Treatment of dengue, gastritis, arthritis [179]                                             |
| Vaccinium angustifolium (lowbush blueberry) | Ericaceae    | Eastern Central Canada               | Anticancer activities [180]                                                          |                                                                                              |
| Vaccinium myrtillus (blue whorlberry)     | Ericaceae     | Europe, USA, Canada, Asia, Greenland|                                                                                      | Lowered risk for several diseases, such as those of heart, cancer, eye and cardiovascular system [38,181] |
| Viscum album (European mistletoe)         | Santalaceae   | Europe and Asia                     | Bioactive ingredients modulated extrinsic and intrinsic pathways in cancer cells [182] |                                                                                              |
| Vitex negundo (chastetree)                | Lamiaceae     | Africa and Asia                     | Antitumor and cytotoxic activity against cancer cell [183]                           |                                                                                              |
| Yucca glauca (soapweed)                   | Asparagaceae  | North America                       | Exhibits antitumor activity against B16 melanoma [177]                              |                                                                                              |
| Zingiber officinale (ginger)              | Zingiberaceae | North America                       | Inhibits growth and spread of various cancers including that of the ovary [184], cervix, rectum, liver, colon [185], urinary bladder, neuroblastoma, oral cavity, skin cancer, leukemia [186,187], and breast cancer [188] |                                                                                              |
| Ziziphus mauritiana (ber)                 | Rhamnaceae    | Indo-Malaysian region of South-East Asia | Inhibits growth of cancer cells [189]                                             |                                                                                              |

Effective results of Aegle marmelos, Alpinia galangal, Catharanthus roseus, Diospyros kaki, Nigella sativa, etc. against lymphomas. Similarly, studies have been done where leukemias have been significantly controlled by plants such as A. galangal, Andrographis paniculata, Artemisia annua, Berberis vulgaris, and C. roseus. Anticancer activity was also found in plants such as Allium sativum, A. galangal, Amoora rohituka, A. paniculata, and Annona triboa when studied against breast cancer. A. sativum, A. galangal, A. paniculata, Azadirachta indica, B. vulgaris, and Brassica oleracea have shown significantly promising results against prostate cancer whereas A. paniculata, Asparagus racemosus, C. sinensis, Combretum caffrum, Ginkgo biloba against colon cancer.

Some plants such as Astragalus gummifera, Carmona retusa, Crocus sativus, Daphne genkwa, Datura metel, and Gloriosa superba seem to be all-rounder as they inhibit any cancerous or malignant growth. It is a well-known fact treatment of cancer either through chemotherapy or radiotherapy also carries some side effects, but studies on Codonopsis pilosula and C. longa have shown that they help the patient to overcome those side effects. In a recent qualitative system review by Evans and coworkers [190], cancer patients’ experiences of using Viscum album (mistletoe) are reported, in which they have experienced demonstrable changes in their physical, emotional and psychological well-being as well as reduction in chemotherapy side effects after mistletoe treatment.

The shift toward natural healing is opening several doors to more patient-friendly treatment of cancer, and thus better options are generated to cure such a fatal disease. More research is required to isolate and purify active agents from these plants and thus bring out optimum potential of them.

**CONCLUSION**

There are many traditional systems of medicine around the globe, each with distinct style of treatment and cultural origins. Before the advent of modern medical treatments, people worldwide have utilized the natural resources to stay healthy and have claimed curing of various chronic and critical disorders [191-194]. This paper concentrated on highlighting the potential of vast plant resources as anticancer agents. Today, plant-derived active agents as well as chemically synthesized drugs are being studied, explored and undergoing clinical trial. Hence, the scientific study on the derivation of drugs through bioprospection and systematic conservation of the concerned medicinal plants are thus of great importance.

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