



To Evaluate the Compositional Value of Dvit Sure and Its Effects on Cancer Patients

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ABSTRACT

The term Nutraceuticals finds its origin in the combination of two different words “nutrition” and “pharmaceuticals”. This identifies that the nutraceuticals are organically formed by traditional foods, but are consumed in the form of pills, capsules, or liquids. Dvit Sure is a nutraceutical that has been proven to be a dietary supplement beneficial for cancer suffering patients. It is a multivitamin supplement that is used to win the battle against cancer in known cancer patients.

Food has been demonstrated in recent epidemiological research to be a very potent means of preserving a state of well-being and preventing disease. Nutrition is linked to many degenerative, autoimmune, and neoplastic disorders, and the nutrient–organism interaction may determine the balance between health and sickness. Food–host interactions can influence an individual’s vulnerability to disease and its potential therapeutic response since nutrients and dietary components influence epigenetic processes and modify medication response. The use of nutraceutical supplements in cancer patients is a contentious topic that has yet to be resolved. Patients consume nutraceuticals during cancer treatment to reduce drug toxicity and improve long-term outcomes. By triggering cell growth arrest, differentiation, and a change in the redox state of cells, several nutraceuticals may inhibit the cytotoxic effect of chemotherapy.

Cancer is one of the most dreadful diseases in today’s world. In early times it was considered an incurable disease, but with the help of several scientific advancements, we have invented some great treatments to cure cancer. One such invention is Dvit Sure – A nutraceutical that is made to save people suffering from cancer. The treatments for curing cancer like- chemotherapy, radiotherapy, etc are quite effective in curing cancer but with certain dangerous side effects, some nutritional support can make this treatment widely easier for a patient. With this thought, the research and development team of Dvit nutraceuticals came up with an anticancer nutraceutical – Dvit Sure

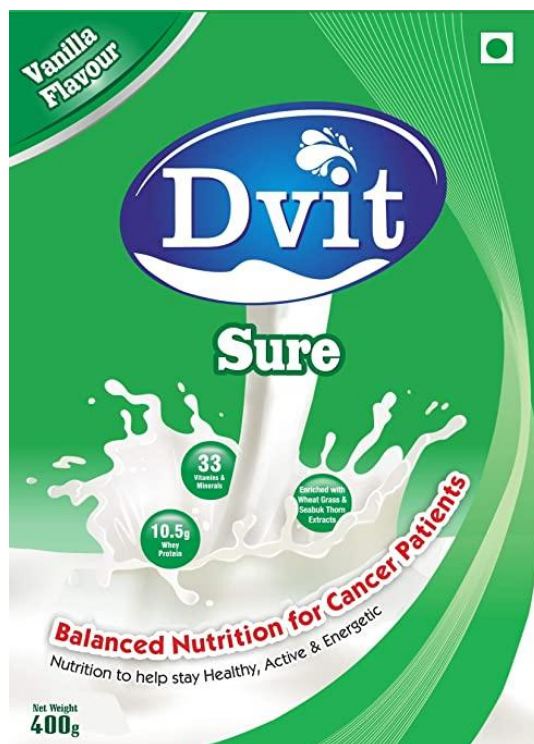


Figure 1: Dvit Sure [1]

Aim

To evaluate the compositional value of Dvit Sure and its effects on cancer patients

Method

This study was done to find the beneficial effects of ingredients in dvit sure on cancer patients based on the analysis of the studies already done on the ingredients.

Results

Every constituent of dvit sure has some anticancer and nutritional properties.

Conclusions

Dvit sure can be consumed safely because of its nutritional and anticancer properties

Keywords : Anticancer nutritional supplement, oncocare, nutraceuticals, dvit sure

Introduction

The term Nutraceuticals is derived from the combining of two words: "nutrition" and "pharmaceuticals." [3] This denotes that nutraceuticals are derived naturally from conventional foods and are taken as pills, capsules, or liquids [4]. These are the dietary supplements that should be added to a regular diet to boost nutritional intake, improve metabolism, and enhance the benefits that come with a regular diet.

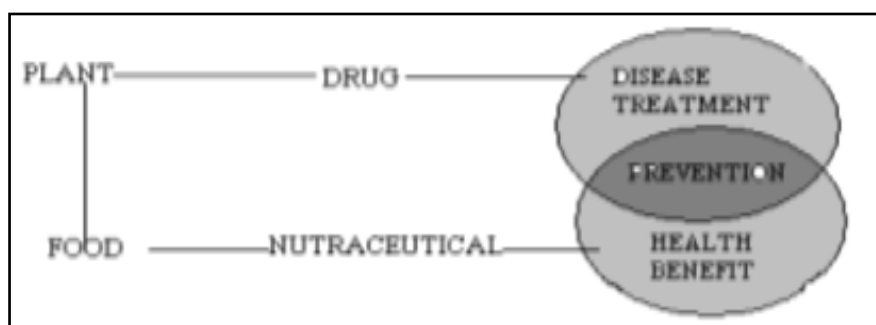


Figure 2: Nutraceuticals inhabit a grey area between [2]

There are two types of nutraceuticals:

- Potential Nutraceuticals
- Established Nutraceuticals

A potential nutraceutical is a term that refers to nutraceuticals that have the potential to prove the benefits of dietary supplements. The established nutraceuticals, on the other hand, are those that are beneficial in dietary supplements.

Dvit Sure, meanwhile, is a nutraceutical that is a useful dietary supplement for cancer patients. Dvit Sure comes in powder, syrup, and tablet form. It is a multivitamin supplement that boosts consumers' nutrient intake.

Dvit Sure

Dvit Sure is a nutraceutical product made by Divit Nutraceuticals Pvt Ltd well known to treat cancer patients. Dvit Sure is composed of various cancer-treating ingredients which are well known for their effective treatment for diseases like cancer. The composition and nutritional value of Dvit sure are designed in such a way to obtain the best outcome in the case of treating cancer patients. Dvit Sure is composed of different natural ingredients with no side effects and hence it is the best nutraceutical that can treat cancer patients without any side effects and also increases the nutrition intake of the patients. The composition of Dvit Sure includes milestone cancer-treating natural substances like Seabuckthorn, wheatgrass, calcium D pantothenate, taurine, carnitine, and many more.

Seabuck Thorn as a anticancer agent

Phytopharmaceuticals, notably phenolic substances like proanthocyanidins, curcumin, and resveratrol, have been discovered to have considerable cancer chemoprevention advantages. Higher dietary intakes of phenolic substances, particularly procyanidins and flavonoids, have been linked to a reduced risk of cancer [4]. Sea buckthorn has a variety of biological and pharmacological effects, including anticancer activity. Even though the chemical mechanisms underlying them are unknown, these substances have been found in a variety of organs and their products, including juice and oil

[5]. Sea buckthorn's anticancer effect is due to antioxidant substances, particularly phenolic compounds like flavonoids like kaempferol, quercetin, and isorhamnetin, which protect cells from oxidative damage that can cause genetic mutation and cancer.

Several *in vitro* investigations have shown that sea buckthorn has anti-cancer properties. Zhang et al. (2005) looked at how flavonoids from sea buckthorn seed generated changes in the expression of apoptosis-related genes in the human breast cancer cell line Bcap-37 [6]. Their bioinformatics research discovered that flavonoid administration affected the expression of 32 genes related to apoptosis in Bcap-37 cells, including CTNNB1, IGFBP4, GADD34, and caspase 3.

Wang et al. (2014) observed that sea buckthorn procyanidins extracted from the seeds inhibited fatty acid synthase (FAS), a crucial enzyme for *de novo* long-chain fatty acid production detected in high amounts in cancer cells. At doses ranging from 0 to 0.14 g/ml, this inhibition was dose-dependent. FAS activity was reduced by 50% at a dose of 0.087 g/ml [7]. Furthermore, treatment with sea buckthorn procyanidins at doses ranging from 10 to 60 g/ml inhibited cell proliferation. Furthermore, the tested procyanidins were found to cause dose-dependent cell death. These procyanidins may promote MDA-MB-231 cell death by decreasing intracellular FAS activity, according to the authors.

Olsson et al. (2004) evaluated the effects of 10 different fruit and berry extracts on the proliferation of HT29 semi-colon cancer cells and MCF-7 breast cancer cells, including sea buckthorn berries [8]. At its two highest administered concentrations, sea buckthorn showed the greatest inhibitory effect on the proliferation of HT29 and MCF-7 cells (0.25 and 0.5%). According to the investigators, carotenoids and vitamin C concentrations were linked to cancer cell growth inhibition. Furthermore, they claim that carotenoids, vitamin C, and anthocyanins have a synergistic effect [9]. Furthermore, McDougall et al. (2008) found that sea buckthorn berry extract had minor antiproliferative effects *in vitro* against cervical and semi-colon cancer cells [10].

Quercetin-induced apoptosis in cancer cells, such as HT-29 human colon cancer cells, HL-60, and K562 human leukemia cells, and baicalin-induced apoptosis in prostate cancer cells, are all examples of *H. rhamnoides L.*'s primary ingredients [11]. Sea buckthorn juice kills both S180 and P388 cancer cells as well as inhibiting the growth of human gastric carcinoma (SGC7901) and lymphatic leukemia (L1200). The genotoxic effect of cisplatin on somatic and germ cells of mice was reduced by SBT juice [12]. SBT fruit can reduce carcinogen-induced stomach and skin carcinogenesis, which could be due to activation of phase II and antioxidant enzymes, as well as DNA-binding activity of IRF-1, a known anticancer transcription factor that causes growth inhibition and apoptosis induction [13].

This Seabuck thorne is a major component of Dvit Sure, which enhanced the compositional value of this anticancer nutraceutical product. The R&D team of Divit nutraceutical has covered every possible aspect to verify the anticancer nature of SeabuckThorne, this includes all the steps from extraction to final trials in the most effective way [14]. Studied all the side effects and found that it is completely safe to consume in a prescribed quantity. After all this research and analysis, this SeabuckThorne becomes one of the most important constituents of Dvit Sure [15].

Wheatgrass as an anticancer agent

Many diseases, including cancer in humans, are thought to be implicated in the production of oxidative stress or may exacerbate their symptoms [16]. The generation of peroxides by free radicals can induce toxicity and damage to various cell components, including proteins, DNA, and lipids. Platinum-containing drugs, such as Cisplatin and Carboplatin, can produce reactive oxygen species during their activity on cancerous cells, resulting in increased levels of oxidative stress during chemotherapy, which slows down cancerous cell replication [17].

Chemotherapeutic drugs, on the other hand, can only kill rapidly dividing cells. As a result, it obstructs the drug's antineoplastic activity. Oxidative stress also causes necrosis, ATP depletion, and cell death that is not controlled, allowing the cells to simply fall apart, potentially leading to tumor growth [18]. Wheatgrass (*Triticum aestivum*) is strong in antioxidants and has few side effects, therefore it can be utilized as an antioxidant phyto-medicine to combat oxidative stress caused by chemotherapy medications, as well as boost the drug's anticancer efficacy [19].

Wheatgrass has been found to have a high level of chlorophyll, an antioxidant that can help prevent cancer. Wheatgrass contains anticancer properties such as selenium and lactrile, which can reduce cancer risk [20]. Wheatgrass extracts, both aqueous and ethanol, were discovered to suppress the proliferation of leukemia cells in a time-dependent way. In the cell lines treated with wheatgrass extracts, a rise in CAT, SOD, and ADA activities was also calculated. With the germination period of wheatgrass, the concentration of vitamin C and E, beta carotene, ferulic acid, and vanilic acid increases [21].

Wheatgrass contains chlorophyll, which inhibits carcinogen metabolic activity. Wheatgrass also protects against oxidative DNA damage. 24 According to a study using MCF-7 breast cancer cell lines and several wheatgrass extracts, the crude ethanolic extract has the highest free radical scavenging activity and cell-killing ability [22]. Wheatgrass includes the antioxidant enzyme superoxide dismutase (SOD), which converts harmful free radical reactive oxygen species (ROS) into harmless hydrogen peroxides.

Cisplatin and carboplatin both increase oxidative stress levels, which can influence the chemotherapeutic drug's antineoplastic efficacy by delaying cancer cell development, preventing regulated apoptosis, and allowing the tumor to regenerate [23]. Wheatgrass contains both enzymatic and non-enzymatic antioxidants, as well as having almost no side effects, so it can be used as a supplement to cancer patients during chemotherapy to reduce oxidative stress caused by Platinum-containing chemotherapeutic drugs, as well as to increase the drug's antineoplastic activity and demonstrate better results.

Due to these antioxidant effects, wheatgrass powder is prescribed to cancer patients while going through chemotherapy [24]. Wheatgrass holds a large and primary part of Dvit Sure. The research and development team of Divit nutraceuticals have gone through numerous experiments and studies to verify the antioxidant property of wheatgrass and its use during chemotherapy [25]. We have also gone through various trial results which include the use of wheatgrass as a supplement in cancer treatment and its effects on the human body. After all this, wheatgrass became one of the major constituents of the composition of Dvit Sure.

Other constituents of Dvit Sure

Other constituents of Dvit Sure includes-

- ❖ Protein
- ❖ Fructooligo Saccharides
- ❖ Potassium
- ❖ Chloride
- ❖ Sodium
- ❖ Calcium
- ❖ Phosphorus
- ❖ Choline Chloride
- ❖ Vitamin C (Ascorbic Acid)
- ❖ Magnesium
- ❖ Taurine
- ❖ L-Carnitine
- ❖ Vitamin E Acetate
- ❖ Niacinamide
- ❖ Zinc
- ❖ Calcium D Pantothenate
- ❖ Manganese
- ❖ Pyridoxine Hydrochloride
- ❖ Riboflavin
- ❖ Thiamine Hydrochloride
- ❖ Copper
- ❖ Beta Carotene
- ❖ Folic Acid
- ❖ Vitamin A Acetate
- ❖ Iodine
- ❖ Molybdenum

Result and conclusion

Every constituent of Dvit Sure has some anticancer and nutritional value. These formulations have been made after vast undergoing vast research and experimentations with different natural substances to obtain the ideal cancer-treating nutraceutical that is Dvit Sure. It does not have any side effects in any circumstances and this is why it is completely safe to consume. The nutritional and anticancer property is the epitome of this product. Dvit Sure is widely prescribed by doctors for patients undergoing chemotherapy and Dvit Sure can also be consumed generally due to its high nutritional values and bearing no side effects.

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Ethical approval—Not required

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