

# Multifunctional role of green blood therapy to cure for many diseases

## Abstract

Juice of wheat (*Triticum aestivum* L., Poaceae) grass is termed as green blood. Wheatgrass is a variety of grass that is used like a herbal medicine for its therapeutic and nutritional properties. The aim of this study is to concise the health benefits of green blood therapy. As wheatgrass juice (WGJ) bears a close resemblance to the "hemoglobin" in our blood, the juice is called as "green blood" and the therapy using it is called as "green blood therapy". The WGJ is a complete food and contains carbohydrates, proteins, all essential minerals, and vitamins. Wheatgrass therapy is recommended for patients suffering from chronic diseases such as asthma, atherosclerosis, Parkinson's disease, joint pains, TB, constipation, hypertension, diabetes, bronchitis, insomnia, eczema, sterility, hemorrhage, obesity, and flatulence. It is also useful in the treatment of cancer. The WGJ is immediately absorbed into the bloodstream and gives energy. On an empty stomach, it is assimilated into blood in about 20 min. The energy lasts throughout the day. It is practically a fountain of youth and found to have numerous health benefits. This review is concluded that the WGJ has higher degree of curative index and this can be last alternative therapy when the all therapy will fail.

### Key words:

Green blood, hypertension, multifunctional role, wheat juice

## Introduction

Wheatgrass juice (WGJ) is the juice extracted from wheatgrass. The WGJ has been used for thousands of years all around the world for its healing properties. The juice from wheatgrass is high in chlorophyll, active enzymes, vitamins, and other important nutrients.<sup>[1]</sup>

Wheatgrass is a humble weed that is a powerhouse of nutrients and vitamins for the human body. Moreover, wheatgrass has 60% chlorophyll also known as wheatgrass chlorophyll which is the basis of plant life. Conditions such as osteomyelitis (infection and inflammation of the bones), postoperative infections, infections of the brain, and other organs associated with formation of pus and bleeding from the gums have all been treated successfully with chlorophyll alone or in combination with other treatment modalities.<sup>[2]</sup>

Both chlorophyll and hemoglobin share a similar atom structure to create their respective molecules. Human blood and hemoglobin consist of iron, while in chlorophyll the metallic atom is magnesium. Magnesium found in the proton of chlorophyll is essential and beneficial for about 30 enzymes of our body.<sup>[3]</sup>

Water-based (i.e. wheatgrass juice) and alcohol-based extracts of wheatgrass showed antioxidant levels in phenolic and flavonoid compounds.<sup>[4]</sup> The WGJ may prevent myelotoxicity when applied with chemotherapy.<sup>[5]</sup> The WGJ is an effective iron chelator, and it is used in reducing serum ferritin, myelodysplastic syndrome, and other diseases.<sup>[6]</sup>

The wheatgrass sprout extract was tested for its ability to induce fetal hemoglobin (HbF) production using advanced

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DNA technology. There was a rapid three- to five-fold increase which was significantly greater than any of the pharmaceutical inducers available. Wheatgrass found to be successful in the treatment of ailments including psoriasis, eczema, soft tissue problems, shingles, inflammatory problems, and burns.<sup>[7]</sup>

The effect of the fermented wheat germ extract (Avemar) in patients with severe rheumatoid arthritis was investigated and showed significant improvements.<sup>[8]</sup>

The patients with thalassemia consuming WGJ on a daily basis used in blood transfusion.<sup>[9]</sup> The WGJ is considered as a complete food.<sup>[10]</sup>

Astounding success has been experienced in the treatments of many diseases with the use of this juice for the rejuvenation process and the reversal of disease. The WGJ helps the body with nutrition for healing, and it also assists in the detoxification process by eliminating toxins which cause disease from the body.

The reason why wheat juice is preferred over other herb juices containing chlorophyll for the following:

- (i) Wheat-grass contains a special property that enables to paralyse toxic elements of the body or to eliminate them from the body
- (ii) Although Alfalfa (Wheatgrass) also contains abundant amount of chlorophyll, it is difficult to grow it in the home as its roots spread deeper in the ground. Besides, after sowing seeds, Alfalfa takes longer time before its grass is ready for consumption. Its taste is also comparatively pungent
- (iii) The taste of barley grass is bitter. Not only children, but even the elders find it unpalatable to take it for a long time
- (iv) Paddy grass is generally very dry. Very little juice can be extracted from it
- (v) Palak (spinach) leaves juice contains minerals in abundance, but very little gastric juice. Some people develop diarrhea after consuming it and therefore cannot take in a larger quantity. Besides that, as it contains oxalates, people suffering from gall-bladder stone trouble should avoid it
- (vi) The other green-leaf vegetable such as dill leaves and fenugreek leaves also contain medicinal properties, but their taste is generally unpalatable. Secondly they are not easily available round the year. Taking all these factors into consideration, we can certainly state that the WGJ is safe with no side adverse effects, and is palatable and full of benevolent properties.

## Objective

This study was designed to stress the importance and effectiveness on easily available as well cost-effective with

higher degree of curative index of green blood therapy to the emerging science of pharmacognosy.

## Method of Preparation of Wheatgrass Juice

The WGJ can be prepared by grinding wheatgrass manually then de-ionized water was added. This should be consumed within 20 min. Intake of WGJ should be gradually increased from 10 ml to 100 ml per day.

## Nutritional Value of Wheatgrass Juice

A hundred gram wheatgrass powder (Obtained from 1 kg of fresh wheatgrass) can supply nourishment equal to that obtained from 23 kg of selected vegetables.

## Source

Although the major Indian sources of wheat are *Triticum aestivum*, *Triticum durum*, or *Triticum turgidum durum*. These species of wheat of commercial importance that is widely cultivated today. The *Triticum aestivum* of wheat is commonly used for green blood therapy. There are several other varieties of wheatgrass in the following plant genera: *Agropyron spicatum* (bluebunch wheat-grass), *Agropyron cristatum* (Crested wheatgrass), *Agropyron trachycaulum* (slender wheatgrass), *Elytrigia*, *Eremopyrum*, *Pascopyrum*, and *Pseudoroegneria*.

Wheatgrass is obtained by allowing the sprouted organic wheat grains to grow up to a height of about 6 in. till the green leaf begins to form stem. In Indian climates, it is grown for 7 days for it to achieve this stage. It is then harvested at this 'jointing' stage when maximum beneficial nutrients are stored in its tender green blades of grass. Wheatgrass has the capacity to absorb 92 of the 108 minerals from the soil.

## Constituents of Wheatgrass Juice

Wheatgrass is a naturally rich source of vitamins, minerals, amino acids, enzymes, chlorophyll and dietary fiber. Wheatgrass is said to contain more than 90 different nutritious substances and 19 amino acids including 9 essential amino acids (EAA). The pH (hydrogen molecules) value of both human blood and wheatgrass is about 7.2 (alkaline) and is therefore quickly absorbed in blood and is highly beneficial. Wheatgrass powder is high in dietary fiber and thus helps maintain the blood sugar level, the cholesterol level, prevents constipation and cancer.

The wheatgrass juice especially contains the following substances which are vital for the health and are prophylactic to any type of disease.

### **Life saving substances**

#### **Vitamin A**

It enhances the skin lustre and provides glow to the outer skin and makes it disease free. It helps to cure the black spots and blemishes below the eyes and improves the eyesight. It is also helpful in checking the eyes, nose, and throat disorders. It nourishes hair and is helpful in fighting the problems of pollution.

#### **Vitamin B**

It aids digestion. It is helpful in the treatment of digestive disorders, mental, depression, insomnia, premature aging, and anorexia.

#### **Vitamin C**

It is a vital substance for healthy gums and teeth and maintenance of bones. It is essential for health and vitality and healing of sores and wounds. It is also a natural source for antibiotic elements.

#### **Vitamin E**

It dilates the capillaries and enables free flow of the blood. It is helpful for the women during pregnancy, it prevents abortion and it is a helpful substance in the treatment of sexual impotency, diabetes, cancer, heart disorders, dysmenorrhea, etc.

### **Proteins and amino acids**

Proteins are essential for muscular strength and physical elegance. Plasmas, hormones, and antibodies are obtained through proteins. Amino acids aid digestion, blood formation and provide potency to the heart.

### **Enzymes**

Enzymes are the digestive elements. The substances in the WGJ are helpful for dyspepsia. These are helpful for digestion, building a healthy body and counteract the premature aging.

### **Minerals**

- Iron: Iron is an essential element for life. Iron deficiency creates shortage of hemoglobin in blood. It is helpful in pregnancy, for excessive sweating, pale complexion, laziness and lethargy, and insomnia
- Calcium: Calcium is the prime instigator of vital activity. It strengthens the bones, it provides alkaline for the children and vitality for old. It is helpful in treatment of the diseases like hemorrhage, distension of body, slow movements, coldness, varicose veins, etc.
- Potassium: Helpful for the radiance and lustre of youth, hypertension, dementia, palpitation, tiredness, suicidal instincts, depression, etc.
- Zinc: Helpful in the prostate gland disorders and nourishes hair
- Sodium: Sodium regulates the extracellular fluid volume. It also regulates the acid-base equilibrium and maintains proper water balance in the body.

### **Nutrients and other substances**

These provide nutrition to the tendons. These are the elements which are resistant to the disorders related to jaundice, menstruation, hydrocele, dysentery, mental debility, tooth problems, evacuation of bowels, and the cold-related problems.

### **Chlorophyll**

The WGJ is considered the elixir of life by the dieticians the world over, because the elements found in it are rare in the other substances. The WGJ is a source of the alkaline elements, prophylactic, and curative elements. It also supplements proteins, carbohydrates, and fat. The lacteal substances found in it are considered to be an effective element and the only remedy for curing cancer.<sup>[11]</sup>

### **Diseases and their Treatment with Wheatgrass Juice**

#### **Cancer**

The WGJ is an integral part of the macrobiotic diet under the complementary and alternative medicine (CAM) approach of anticancer therapy, due to its high antioxidant content. The WGJ is a highly placed source of chlorophyll, laetrile, and antioxidant enzyme superoxide dismutase. Wheatgrass intake enhances hemoglobin synthesis as chlorophyll bears a structural analogy to hemoglobin. This is indicated that the oxygen supply to all body cells including cancer cells which are highly vulnerable to high oxygen concentration due to the deleterious effects caused by the generation of reactive oxygen species.

Wheatgrass implicated as an anticancer agent is the plant hormone abscisic acid (ABA). This hormone is 40 times more potent 4 h after cutting the wheatgrass plant. ABA can neutralize the effect of the hormone chorionic gonadotropin and a compound similar to this hormone has been found to be produced by the cancer cells. The WGJ appears beneficial include antioxidant activity preventing oxidative damage to deoxyribonucleic acid (DNA) and lipid peroxidation, stimulation of gap junction communication, effects on cell transformation and differentiation, inhibition of cell proliferation and oncogene expression, effects on immune function and inhibition of endogenous formation of carcinogens.<sup>[12]</sup>

#### **Diseases related to blood and the blood circulation system**

Included among this category are anemia, high blood pressure, atherosclerosis, internal hemorrhage, clotting, and the like. Regular intake of the WGJ works wonders especially in the cases of anemia for which no other therapy has such quick cure. Having 200 ml juice twice a day is recommended. It is also useful for thalassemic patients. In a pilot study conducted by the Postgraduate Institute of Medical Education and Research, Chandigarh, in 2003 has

proven that the WGJ reduces transfusion requirement in patients with thalassemia. There was a decrease in amount of transfusion as well as the increase in interval between transfusions.<sup>[13]</sup>

### **Obesity and ulcerative colitis**

The pilot study was conducted for the efficacy of WGJ in the treatment of ulcerative colitis. No serious side effects were found. The WGJ has a therapeutic role and offers a genuine therapeutic advantage in patients with active left colon ulcerative colitis.<sup>[14]</sup>

### **Digestive diseases**

Wheatgrass therapy is most effective in the case of digestive disorders, i.e. it shows its quick effect. Constipation, indigestion, flatulena, nausea, vomiting, acidity, ulcers in the stomach and intestines, smelling on the intestines, and worms are some of the prominent diseases and disorders which wheatgrass can cure without much ado. However, the patients suffering from constipation are advised to chew wheatgrass well at first and then swallow the residual lump also afterward. If cabbage juice is added to the WGJ it yields quicker and better results in the complaint of ulceration in the stomach and intestines.

### **Anti-asthmatic and anti-allergic agent**

The rich vitamin and antioxidant content is used for the anti-allergic actions of WGJ. In a study conducted to investigate the relationships between the intake of the antioxidant (pro)-vitamins C, E and  $\beta$ -carotene, and the presence of respiratory symptoms and lung function, it was found that vitamin C intake was not associated with most respiratory symptoms (cough, wheeze, shortness of breath), but was inversely related with cough. Patients with a high intake of vitamin C had a higher forced expiratory volume in 1 s (FEV1) and higher forced vital capacity (FVC) than those with a low vitamin C intake.<sup>[15]</sup>

### **Teeth and gum-related diseases**

Wheatgrass is an effective remedy for all the complaints of teeth and gums. However, the cure would be better if wheatgrass is chewed and its juice is massaged on the gums.

### **Diseases of joints**

Included in this category are swelling on the joints, pain in the joints, osteoarthritis, bone rotting, etc. In the treatment of joints the wheatgrass therapy has to be employed patiently for long time. However, this much is assured that this therapy gives positive results.<sup>[8]</sup>

### **Skin diseases**

Wheatgrass extract (Dr. Wheatgrass Skin Recovery Cream), a topical anti-inflammatory immunomodulator, substance P inhibitor, topical hemostatic agent, and stimulant of fibroblastic activity with a wide range of healing properties, has been attracting attention.<sup>[16]</sup>

### **Kidney-related ailments**

The WGJ gives better results for stone, inflammation of the urinary bladder, and inflammation of the kidneys.

### **Disease connected with the reproductive organs**

Sexual debility and dysmenorrhea are the two disease/disorders which this therapy can cure with comparative ease. Taking the wheat juice orally and applying the parts of the soft portion of the wheatgrass on the private parts help greatly cure the disease.

### **Ear diseases**

It is used in relieving ear pain and curing the problem of septic discharge from the ear. The WGJ has shown very good results. In addition to taking the wheatgrass orally, some juice should be dropped in the ears to cure ear diseases.

### **Detoxifying agent**

The vitality of liver is of high concern for the overall well-being of an individual as it is the major organ implicated in detoxification. In addition to the stimulating and regenerative properties of chlorophyll, other constituents of WGJ like choline and its high mineral content are responsible for the therapeutic benefits.

In a study conducted to observe the effect of choline on liver, it was seen that choline prevents the deposition of fats in the experimental animals' liver when they were administered a diet rich in cholesterol. Choline promotes the removal of the esters of both cholesterol and glycerol, with the effect on the glyceride fraction preceding that on the cholesterol esters. The lipotropic action of choline is attributed to its *in vivo* conversion to an active compound which is retained within the hepatic cells and enhances oxidation of fatty acids and formation of tissue lecithins. The latter effect augments lipoprotein synthesis which acts as a transport form of fatty acids in plasma and thus helps in removal of lipids from a fatty liver. It has been demonstrated experimentally that the dietary indoles like indole-3-carbinole and ascorbigen increase the activity of phase I and phase II xenobiotic metabolic enzyme in the liver and intestinal mucosa.<sup>[17]</sup>

### **General cure**

WGJ's administration has been found to offer good remedy for general weakness, insomnia, headache, fever, etc. The WGJ therapy is an effective remedy even for those many other diseases which have not been included in the list given above and therefore it should be given a fair treat in the treatment of all those diseases.

### **Pharmacokinetics**

The proteins, lipids, and carbohydrates in wheatgrass are digested, absorbed, and metabolized by normal physiological process.

### Contraindications

Wheatgrass is contraindicated in those who are hypersensitive to any component of a wheatgrass containing supplement.

### Adverse reactions

The WGJ is safe and the incidence of side effects is very low. It may cause nausea and headache if excessive quantities are taken. Throat swelling may occur in hyper sensitive to individuals.

### Precautions Before Starting the Therapy

1. One should take only juice for 2 days before starting the therapy. As a result all toxic elements would be eliminated from the body
2. Take raw vegetables and sprouts for 1 or 2 days. Then start the therapy
3. Pregnant women and nursing mothers should avoid wheatgrass-containing supplements
4. Wheatgrass supplements may contain high amounts of vitamin K. Those on warfarin should exercise caution in the use of wheatgrass supplements.

### Conclusion

This review was concluded that the WGJ has higher degree of curative index and can be recommended to treat many diseases such as asthma, atherosclerosis, Parkinson's disease, joint pains, TB, constipation, hypertension, diabetes, bronchitis, insomnia, eczema, sterility, hemorrhage, obesity, flatulence, and cancer.

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