

# Effect on Supplementation of Oriens<sup>®</sup> Wheatgrass Capsules in the Haemoglobin Profile

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**Abstract:** As per the WHO guideline, Haemoglobin level in health male below 13g/dL is abnormal and for female below 12g/dL is abnormal. This type of condition refers to Anaemia. It develops mainly because of lack of proper food habits. Wheatgrass is a rich source of vitamins, minerals and antioxidant. It is a natural source of iron. Chlorophyll and haemoglobin both are structurally very similar. Chlorophyll in wheat grass is more useful in various clinical conditions involving haemoglobin deficiency and other chronic disorders ultimately considered as green blood. This study aims to estimate the effect on supplementation of Oriens<sup>®</sup> Wheatgrass Capsules in the haemoglobin profile. 15 subjects were selected for analysing the effect. For one month, the subjects took the Oriens<sup>®</sup> Wheatgrass and then the results were analyzed. Oriens<sup>®</sup> Wheatgrass shows better significant effect on the haemoglobin level.

**Keyword:** Haemoglobin, Oriens<sup>®</sup> Wheatgrass, Chlorophyll, Anaemia

## 1. Introduction

Anaemia is a life-threatening condition characterized by decreased or low concentration of Haemoglobin (Hb) in blood below the established reference range. There is also a decreased ability of the Red Blood Corpuscles (RBC) to carry oxygen to all the parts of the body where the body experience Hypoxia. Hypoxia contributes to the pale skin, fatigue, weakness, irritability, shortness of breath, headache and decreased cognitive performances. World Health Organization (WHO) in the year 2008 estimated that 24.8% of population were affected by anaemia globally, which includes 42% of Pregnant women, 30% of Non-pregnant women and 28% of children.

Age is associated with the category of Anaemia, with older women being somewhat more likely to be moderately or severely anaemic than younger women. The rate of moderate-to-severe Anaemia (moderate and severe Anaemia combined) among women of age 35- 49 is almost three times as high as among girls of age 15-19 (Kariyeva *et al* 2001).

Wheat Grass is a biennial grass belonging to genera, Triticum and species, Aestivum. Wheat Grass is the richest source of Chlorophyll, Bioactive constituent. Wheat Grass is often referred as “Green Blood” due to the presence of Chlorophyll. Around 18.5 mg of Chlorophyll is found in 100 g of Wheat Grass (Pines international, 2004). The structure of Chlorophyll and haemoglobin are similar therefore Wheat Grass is utilized in the treatment of anemia (Jain *et.al*, 2014). Wheat grass possesses anti-oxidant activity, anti-arthritis activity, anti-hypertensive activity, detoxifying activity, anti-carcinogenic activity and enhances skin health (Chauhan, 2014).

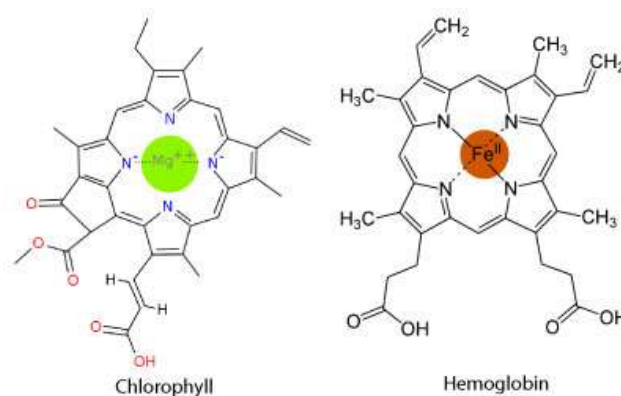


Figure 1: Structure of Chlorophyll and Haemoglobin

The main objective of the study is to find out the effect of Oriens<sup>®</sup> Wheat Grass capsules on haemoglobin level by selecting the subjects with age group of 17-19 years girls.

## 2. Methodology

### A) Selection of Samples and Sample Size

Samples for the study “Effect on Supplementation of Oriens<sup>®</sup> Wheatgrass Capsules in the Haemoglobin profile” were selected from Queen Mary’s College, Chennai, Tamilnadu. A sample of 15 students belonging to age group of 17 to 19 years was chosen depending on the selection criteria and their willingness to participate in the study. The samples were selected after an initial blood test for haemoglobin levels. All these 15 subjects had the Haemoglobin level between the ranges of 7.5 to 9 g/dL.

### B) Estimation of Haemoglobin levels

Haemoglobin levels of the adolescent girls were estimated using “Cyanmet method”. The cyanmet hemoglobin method works on the principle of conversion of hemoglobin to cyanmet hemoglobin by the addition of potassium cyanide and ferricyanide and was measured at 540 nm in a photoelectric calorimeter against a standard solution.

### 3. Results and Discussion

Oriens<sup>®</sup> Wheatgrass contains wheatgrass powder, processed under Good Manufacturing Practice. Oriens<sup>®</sup> Wheatgrass is beneficial to boost the haemoglobin and increase the red blood cell count. For analysis of haemoglobin level among adolescent girls, One Oriens<sup>®</sup> Wheatgrass capsule was given twice daily before food for 1 month to the subjects.

Haemoglobin levels of the adolescent girls were assessed before and after Oriens<sup>®</sup> Wheat Grass capsule supplementation and were statistically analyzed. Mean, Standard deviation and 't' Values of haemoglobin levels of pre-intervention and post intervention with Oriens<sup>®</sup> Wheat Grass capsules among adolescent girls were given in the Table - 1.

**Table 1:** Effect on Supplementation of Oriens<sup>®</sup> Wheatgrass Capsules in the Haemoglobin Profile

Pre-intervention value	8.23 ± 0.42 mg/dl
Post intervention value	9.76 ± 0.36 mg/dl
Difference	1.53 ± 0.06 mg/dl
't' Value	5.53**

\*\*Significant at 1% level

From the above table it was evident that the Post intervention value is greater than Pre-intervention value with a difference of 1.53 ± 0.06 mg/dl. This difference shows to be statistically significant at 1% level.

### 4. Conclusion

The Oriens<sup>®</sup> Wheatgrass contains many vitamins, minerals, and also it is a rich source of chlorophyll. We found from the result that Oriens<sup>®</sup> Wheatgrass shows significant effect on the improvement of haemoglobin level in one month of supplementation. It shows better significant effect on the haemoglobin level in those subjects, whose haemoglobin level were below normal limits. Therefore Oriens<sup>®</sup> Wheatgrass is helpful to increase the haemoglobin level in the blood.

### 5. Acknowledgement

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