



Effect on Supplementation of Oriens® O'Moringa among Adolescent Girls Suffering from Moderate Grade Iron Deficiency Anaemia

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ABSTRACT

Anemia is one of the most common causes of malnutrition and it has a great public health significance affecting children, adolescents and women of reproductive age worldwide. Iron deficiency anemia (IDA) is highly prevalent among the reproductive age group of Indian women mainly from lower socio economic status. Nearly 80% of the women with anemia suffer from Iron deficiency anemia (IDA). Moringa is a multipurpose tree used in food preparation and for health. Almost all parts of Moringa serve as good source of nutrition. Its leaves, seeds, bark, roots, sap and flowers are widely used in traditional medicine and leaf extract exhibits high antioxidant activity. This study aims to assess the effect of Oriens® O'Moringa capsule supplementation in moderate grade anaemia among adolescent girls. Initial analysis of haemoglobin was done and the subjects were tested after the supplementation. Oriens® O'Moringa found effective in treating the iron deficiency anaemia.

Keywords: Moringa, Anaemia, Haemoglobin, Girls

INTRODUCTION

Effects caused by malnutrition can be particularly associated with the micronutrients insufficiency, are zinc and iron deficiency. Both micronutrients play important role in development of the foetus (Sulistyoningsih, H 2011). Multiple risks might happen whenever people suffer from malnutrition. Iron deficiency anaemia is one of the most widespread preventable nutritional problems in the world, despite the continuous implementation of global programs for its control.

Moringa oleifera leaves have long been used to

overcome the problem of malnutrition among children, pregnant women, and breastfeeding (Idohou *et al* 2011). In addition, with micronutrients substances, Moringa oleifera can be used an alternative supplement for pregnant women to prevent maternal anemia and LBW.

Moringa oleifera is a natural powerhouse of Salicylic acid, Ferulic acid, Lutein, Zeaxanthin, Calcium, Magnesium, Iron, Vitamin A, B, C, D, E, K, Palmitic acid, Oleic acid, Linolenic acid and many other phytochemicals (Mahmood, et.al 2010).

UNICEF in the year 2011 reported that around 64 million adolescent girls are anaemic which accounts for 56% of global population of adolescent girls. The above report is an alarming statement which focuses on the prevalence of Anaemia among adolescent girls. Moringa oleifera with its enormous health benefits is used for the treatment of anaemia.

The aim of our study is to find the effect of Oriens® O'Moringa capsule supplementation in moderate grade anaemia among adolescent girls. And also to assess the haemoglobin level of adolescent girls and compare the pre-intervention value and post intervention value and statistically analysis at 1% significance level.

METHODOLOGY

Selection of Samples and Sample Size

Based on the selection criteria and willingness to participate in the present study, samples were selected from Queen Mary's College, Chennai, Tamil Nadu. Adolescent girls with age group of 17 to 19 years were selected. An initial diagnosis of anaemia was

done by checking the haemoglobin level in the blood. Samples were categorized depending on the grade of anaemia. Purposive sampling technique was used to select the sample size of 15 subjects belonging to adolescent category.

For the selected subjects, the interventions conducted for one month. The intervention group received one capsule Oriens[®] O'Moringa in the morning and evening before food. After thirty days the haemoglobin levels were analysed again and recorded.

Estimation of Haemoglobin levels

Haemoglobin levels of 15 selected subjects were estimated using "Cyanmet method". The cyanmet hemoglobin method works on the principle of conversion of hemoglobin to cyanmethemoglobin by the addition of potassium cyanide and ferricyanide and was measured at 540 nm in a photoelectric calorimeter against a standard solution.

RESULTS AND DISCUSSION

Anaemia is the most common health problem among the women. Anaemia results in weakness and decreases the productivity of an individual. Anaemia was higher among young women, women belonging to low socioeconomic status, women with higher parity and short pregnancy intervals (Noronha *et al* 2008). When the prevalence of low Hb values is more than 5% in the population, it is regarded as a public health problem. On the basis of Hb concentrations, the WHO established the following criteria for assessing the public health significance of anaemia: if its prevalence in the general population is 5–19.9% – low; 20–39.9% – moderate; and $\geq 40\%$ – severe. Due to the varying distribution of social and biological risk factors for anaemia and the fact that it can lead to medical, social and economic consequences, epidemiological studies of anaemia are becoming increasingly important (Beutler and Waalen, 2006)

Oriens[®] O'Moringa is a combination of Moringa oleifera leaf extract and Moringa oleifera seed extract. For analysis of moderate grade anaemia among adolescent girls, One Oriens[®] O'Moringa capsule was given twice daily before food for 1 month to the subjects. A study conducted by Iskandar *et al* (2015) showed that Moringa oleifera leaves extract has significant effect in raising the blood haemoglobin level in pregnant women

Haemoglobin level of 15 subjects after the supplementation of Oriens[®] O'Moringa for 1 month were analysed using the Cyanmet method. The post intervention values and the pre-intervention values were statistically analyzed. Mean, Standard deviation and the 't' Values of haemoglobin levels of pre-intervention and post intervention with O'Moringa capsules among adolescent girls were given in the table - 1.

Table - 1: Effect of Oriens[®] O'Moringa Capsules among Adolescent Girls suffering from Moderate Iron Deficiency Anaemia

Parameters	Results
Pre-intervention value	8.02 ± 0.49 mg/dl
Post intervention value	9.25 ± 0.60 mg/dl
Difference	1.23 ± 0.11 mg/dl
't' Value	9.33**

**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 1.23 ± 0.11 mg/dl. This difference shown to be statistically significant at 1% level.

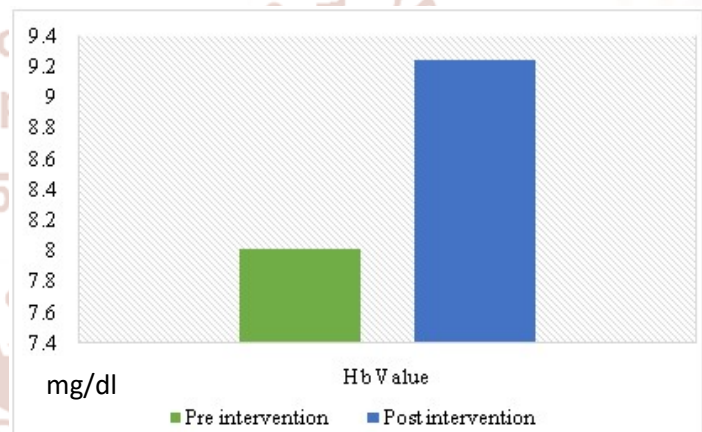


Figure - 1: Effect of Oriens[®] O'Moringa Capsules among Adolescent Girls suffering from Moderate Iron Deficiency Anaemia

CONCLUSION

Anaemia remains a very common health problem among the women of reproductive age group and leads to high morbidity and mortality rates among females. Most of the women have poor knowledge regarding anaemia, its cause, prevention and management. We found from the results of our present study that Oriens[®] O'Moringa Capsule supplementation for 1 month was found effective in treating moderate grade Iron deficiency Anaemia

among Adolescent girls. Oriens® O'moringa, combination of leaf and seed extract has significant effect to increase the haemoglobin level.

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