

SHORT COMMUNICATION

# EFFECT OF AQUEOUS EXTRACT OF *BRASSICA OLERACEAE* VAR *ITALICA* (BROCCOLI) INFLORESCENCE IN PHENYLHYDRAZINE INDUCED ANEMIC RATS

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**The study was designed to evaluate the antianemic activity of aqueous extract of *Brassica oleraceae* var *italica* (Broccoli) inflorescence in phenylhydrazine induced anemia in Sprague Dawley rats. Phenylhydrazine treatment significantly decreased haemoglobin, RBC and MCH compared to normal group indicating the development of anemia. Standard group which received ferrous sulphate prevented all the changes caused by phenylhydrazine. Both the test groups showed significant improvement in RBC, haemoglobin and MCH. Phenylhydrazine treatment significantly increased WBC because of immune response and test groups normalized WBC. The present study concluded that aqueous extract of *Brassica oleraceae* var *italica* inflorescence has antianemic potential.**

**Key words:** Anemia, *Brassica oleraceae*, Haemoglobin, RBC, Phenylhydrazine, Broccoli.

## INTRODUCTION

Anemia is indicated as the decrease in the number of erythrocytes or the oxygen carrying capacity of blood which does not meet the physiological demand. Anemia is caused due to various factors such as inadequate absorption or intake of iron, reduced intake of vitamin B<sub>12</sub> or folic acid, destruction of red bone marrow, hereditary conditions etc. (Koffuor *et al* 2012). Around 1.62 billion people are affected by anemia in the world which calibrates to 24.8% of the total population. Anemia is mostly prevalent in under developed and developing countries where malnutrition is a major problem. The present day therapy is based on herbal formulations rather than synthetic preparation for their low cost and easy availability.

Plants are well known for their metabolites responsible for their biological effects since ancient times (Deb *et al* 2013; Rashid *et al* 2014; Sadanand and Palanivelu, 2015). *Brassica*

*oleraceae* var *italica* (Broccoli), belongs to family *Brassicaceae*, known as 'crown jewel of nutrition', is a rich source of minerals such as potassium, phosphorus, calcium, iron, zinc, selenium and sodium, vitamins, especially vitamin A, C, K and folic acid (Madhu and Kochhar, 2014). The edible parts of broccoli are sprouts and florets commonly called as inflorescence (**Figure 1**).



**Fig. 1.** Broccoli plant with inflorescence