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Anaemia : impact assessment of dietary intervention on iron status of college going girls

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ABSTRACT

Anaemia is a recognized public health problem throughout the world. It is an indicator of both poor health and poor nutrition. The present study aimed to assess the nutritional status and prevalence of anaemia among college going girls (18-22 yrs) along with impact of dietary intervention. Background and nutritional information was collected through interview schedule, 24 hour dietary recall and haemoglobin assessment. For dietary intervention, niger seed ladoos were prepared and supplemented for four weeks. Results were significant ($p < 0.05$) in the haemoglobin levels. Mean haemoglobin level of subjects before supplementation was 8.42 ± 0.37 g/dl, which increased to 11.16 ± 0.37 g/dl after completion of supplementation. The study confirmed that supplementation can rapidly improve iron status, hence continued interventions are necessary to maintain the improved status.

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Key words : Anaemia, Intervention, Haemoglobin, Nutritional status

INTRODUCTION

Iron deficiency is the most common nutritional disorder in the developing world and the most common cause in young children and women of reproductive age (ACC/SCN, 1991). Nutritional anaemia is a recognized public health problem throughout the world. In the present scenario, the widespread prevalence of anaemia in young girls in India is gaining increasing recognition. With 40 per cent prevalence of anaemia in the world on an average for the general population, the prevalence in the developing countries tends to be three to four times higher than in the developed countries (Gillespie, 1998). Iron deficiency is ranked at the top of three global "hidden hungers" (Iron, Iodine and Vit A: sub clinical deficiency without visible signs of deficiency) with about one fifth of the world's population is suffering from iron deficiency anaemia (Chen *et al.*, 2005). Iron deficiency in its most severe form results in anaemia-IDA and since haemoglobin concentration is relatively easy to determine, the prevalence of anaemia has often been used as proxy of Iron Deficiency Anaemia (IDA) (WHO, 2004). Anemia is an indicator of both poor health and poor nutrition (De Betonist *et al.*, 2008).

Interventions for anemic adolescent girls should raise their iron stores and sustain their haemoglobin at normal levels. This will not only improve their physical and mental capacity, but also subsequently help in reducing the incidence of low birth weight of infants and maternal mortality rates. Other micronutrients of concern in adolescent growth and development are calcium, iodine, vitamin A, zinc and folic acid. The present study was undertaken to determine the prevalence of anaemia among young girls aged 18 to 22 yrs from a college hostel and an attempt has also been made to overcome the nutritional anaemia through dietary intervention strategy.

MATERIALS AND METHODS

The study was undertaken between April 2010 and May 2010, in Udaipur, Rajasthan and a college girls hostel was selected. The study was designed to include volunteer adolescent girls aged 18-22 years. A group of 60 girls were randomly selected for this study and out of that, 10 girls were further selected for subsequent intervention on the basis of haemoglobin level (moderately anaemic, 7-9.9 mg/dl), willingness and not consuming any iron supplements.