



Efficacy of Indian Gooseberry Juice on Hemoglobin among Adolescent Girls with Iron Deficiency Anaemia in Selected Schools in Ratlam

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Introduction

Iron deficiency anaemia is the most common nutritional problem in the world today, affecting both developed and developing societies. Adolescent girls are especially vulnerable to iron deficiency anaemia due to their increased need for dietary iron for haemoglobin and myoglobin synthesis during this rapid period of growth, when blood volume and muscle mass expand. Adolescent girls require extra iron depending on their developmental stage.

Anaemia is defined as a low red cell count and a haemoglobin or haematocrit level that is lower than normal. In India, the prevalence of anaemia is reported to be 50% in urban areas and 60% in rural areas. By providing an iron-rich diet and increasing iron absorption through the inclusion of ascorbic acid in the diet, the solution for combating anaemia is both inexpensive and effective.

Indian Gooseberry juice boosts the immune system and has been shown to be an effective treatment for anaemia, particularly in children and adolescents where other blood-forming remedies have failed. As a result, the researcher was eager to conduct a preliminary study to determine the efficacy of Indian Gooseberry juice in treating anaemia, which could lead to less difficulty and a higher success rate. 13 intervention programmes aimed at increasing haemoglobin levels in adolescent girls through prophylaxis, dietary changes, and helminth control.

Increasing rural girls' educational attainment would also ensure safe motherhood.

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A lack of iron Adolescent anaemia is the most common micronutrient deficiency. Iron deficiency and anaemia are linked to impaired cognitive functioning, lower academic achievement, and, in general, lower physical work capacity. Because of the increased iron requirement for growth, adolescents are at risk of developing iron deficiency anaemia. Infectious diseases such as malaria, schistosomiasis, and hookworm affect both girls and boys, contributing to anaemia by interfering with iron absorption or increasing iron loss. During her community postings, the investigator noticed that the majority of the adolescent girls were anaemic and malnourished. The researcher believed that changing current dietary habits in a vulnerable group of young people would result in dietary changes that would ultimately improve iron status. As a result, the investigator decided to conduct a study to evaluate the effectiveness of Indian Gooseberry juice with elemental iron on anaemia in adolescent girls. The investigator chose Indian Gooseberry to provide vitamin C (ascorbic acid) because it is locally available and less expensive than other sources, and it has a vitamin C value (600 in 100gm of Indian Gooseberry) and ferrous sulphate with 20mg of elemental iron for iron supplementation.

During the literature review, the investigator came across numerous studies on synthetic ascorbic acid and iron absorption. Only a few studies have been conducted on natural ascorbic acid iron absorption. This allowed the researcher to investigate the effect of Indian Gooseberry juice on iron absorption.

Methodology

Pre experimental -one group pre test&post test design was used to investigate the effectiveness of Indian Gooseberry juice with elemental iron on improving haemoglobin level among adolescent girls with anaemia at Ratlam.

The samples were chosen using a non-probability Convenience sampling technique, with a sample size of 100. To assess the symptoms of anaemia, a structured self-administered questionnaire was used, as was an observation check list, and haemoglobin was estimated using the cell count method. The instrument used to collect the data comprised of three sections, Demographic variable, Clinical examination check list and SHALI'S METHOD WITH HEMOGLOBINOMETER. The quantitative approach was used for this study's methodology. Pre experimental design - one group Pre test and Post test The adolescent girls studying in Ratlam were chosen for this study. The sample size was set at 100. The sample was collected using convenience sampling. The demographic variables were collected using a structured questionnaire, the symptoms of anaemia were assessed using an observation checklist, and the haemoglobin level was estimated using the SHALI'S METHOD WITH HEMOGLOBINOMETER.

Results

Most of the adolescent girls were 14 years old, most of them were Hindus, their family income ranged between Rs. 10000 and Rs. 35000, and many of them came from nuclear families. The majority of the girls' mothers and fathers were uneducated, and they all ate non-vegetarian diets.

Before Indian Gooseberry juice intervention, the majority of them 60% girls had moderate anaemia, 40% girls had mild anaemia, and severe anaemia was not found among adolescent girls.

Following an Indian Gooseberry juice and elemental iron intervention, 38% adolescent girls were converted from moderate to mild anaemia.

Indian Gooseberry juice supplemented with elemental iron was very effective in increasing haemoglobin levels. When comparing pre-test and post-test symptoms of anaemia in adolescent girls, the Indian Gooseberry juice with elemental iron intervention was found to be very effective in reducing the symptoms.

The pre mean value was 19.11, which increased to 11.46 after Indian Gooseberry juice with elemental iron intervention, with a mean deviation of 1.84. The 't' value was 17.9 is higher than the table value 0.001, there is a significant difference in the haemoglobin level after Indian Gooseberry juice intervention.

Low cost Indian Gooseberry intervention is easily available in the community and it is easy to prepare by the community people.

Conclusion

A nurse will play an important role in disease prevention and health promotion among adolescents. Although nurses frequently focus on health promotion and protection, early detection and prompt treatment, and care of adolescents with chronic conditions, education is the primary focus.

The study results demonstrated that Indian Gooseberry juice with elemental iron intervention increased haemoglobin levels and reduced anaemia symptoms in adolescent girls with iron deficiency anaemia. The haemoglobin levels of the subjects who received Indian Gooseberry juice with elemental iron improved significantly.

There was a link between post-test haemoglobin level and mother's educational status, junk food preference, habit of drinking tea or coffee with food, personal hygiene maintenance, habit of hand washing after using the toilet, and history of parasitic infection treatment.

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