Research Article

A role of Ferrum Phos 6X in anemia in adolescent girls of age group 10-15 years of Maruti Mahavidyalaya, Piludara, Dist. Mehsana of Gujarat

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Abstract

Aim: To study the efficacy of Ferrum phosphoricum 6x in the management of Iron deficiency anemia. **Methodology:** A sample of 30 cases from the patients who visited Maruti Mahavidyalaya, Piludara, Dist. Mehsana of Gujarat and MHMC & H, Basna, Dist. Mehsana were selected randomly as per the inclusion criteria. The prescription was made based on the symptom similarity. The cases were conducting by previous and after Hb% value and low MCV and MCH value there was conducted 30 girls was iron deficiency anemic were administered in biochemic medicine ferrum phosphoricum 6X 2 diskettes Tds for 4 month. The cases were followed for a period of four month. The study was subjected to statistical analysis and results were made from the observations. **Results:** Out of 30 patients maximum incidence was observed in the age group 13 years [n=13,44%] and 14 years [n=13,43%] as compare to 15 year [n=4,13%]. majority of girls belongs to 13-15 years of age group . In the study found that anemia is more common in adolescent girls age group [10-15 years].It was also observed that girls are more prevalent iron deficiency anemia. Out of 55 girls there 30 girls having low Hb% with decreased MCV and MCH value and after prescribing homoeopathic medicine ferrum phosphoricum there was increase in value of Hb%. On the basis of comparison of before treatment and after treatment Hb% value. It shows that homoeopathic medicine ferrum phosphoricum was found to be effective in Iron deficiency anemia in adolescent age group.

***Keywords*:** Iron deficiency anemia, Ferrum phosphoricum, hemoglobin

Introduction

As per WHO, Anemia is a condition in which the number of red blood cells or the haemoglobin concentration within them is lower than normal (WHO, 2001). The NFHS-5 data show the anemia is much higher among adolescent girls. it has gone up from 54% in 2015-2016 to 59% in 2019-2021 (IIPS, 2021). The NFHS-5 data suggests that anemia is widely prevalent among all age groups in the state of Gujarat, and is particularly high among the most vulnerable group. In adolescent girls of 15–19 years the prevalence of anemia is about 72.3% in rural areas of Gujarat state(IIPS, 2021).

Even though supplementation of diet with iron and folic acid (IFA) has been a part of Government of India programming for over three decades, NFHS data shows that the levels of IFA intake remain low and anemia remains common condition in Indian population. The most common causes of anemia include nutritional deficiencies, particularly iron deficiency (WHO, 2021). Iron deficiency is most prevalent among preschool children and women. Among women, iron supplementation improves physical and cognitive performance, work productivity and well-being.[17] There are many reasons of iron deficiency and IDA in adolescents girls. These may be deficient intake or absorption of iron, increased demand during adolescence, heavy blood loss during menstruation, parasitic infestation etc. more than half of the world's undernourished population lives in India (Kumari et al., 2017). Hence deficiency of iron can affect mental and physical growth which leads to decreased in learning capacity and daily work (Craig et al., 2010). Between 60-70% of Indian adolescent girls are anemic (Hb< 12 g/dl). Adolescence - a period of growth and development -

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is a good time to intervene, yet Indian public health programs either neglected or lack strategies to tackle iron-deficiency anemia in adolescent girls.

Homoeopathy views diseases in "holistic way "and evolved therapeutic plan for its treatment. Ferrum Phosphoricum is a specific homoeopathic medicine for anemia, which increases the haemoglobin levels and also breaks the tendency of low serum ferritin levels in blood. To address this strategic gap, I had selected this research project to assess the role of Ferrum Phos 6X in cases of anemia of adolescent girls and contribute in improvement in quality of life. The objectives of present study was followings:

- To study the prevalence of iron deficiency anemia in adolescent girls of age group 10-15 years of Maruti Mahavidyalaya, Piludara, Dist. Mehsana of Gujarat
- To study clinical presentation of Iron deficiency anemia in adolescent girls of age group 10-15 years of Maruti Mahavidyalaya, Piludara, Dist. Mehsana of Gujarat.
- To study the efficacy of Ferrum phos 6X in the management of iron deficiency anemia.

Materials and methods

Study Setting: Maruti Mahavidyalaya, Piludara, Dist. Mehsana of Gujarat and MHMC & H, Basna, Dist. Mehsana.

Study duration: -Total duration required for study is: 6 months

Method of Data Collection: Screening of general health check up.**;** Assessment for Hb level in suspected cases; 30 diagnosed anemia cases.

Study Design: Case series Prospective study

Sample Size: 30 diagnosed anemia cases.

Sampling Method: Simple random Sampling.

Selection of Sample: Samples was selected by survey screening for anemia from Maruti Mahavidyalaya, Piludara, Dist. Mehsana of Gujarat. Informed Consent/ Parental Assent were obtained from the parents or legal Guardians before initiation of actual trial. Samples were screened with the help of complains & clinical findings. Suspected cases was assessed for Anemia with the help of CBC, patients with Hb 8.1-11.9 gm% & blood picture shows hypochromic microcytic morphology with decrease in MCV & MCH. Approx 30 cases were selected for the study by Simple Random Sampling Techniques.

Inclusion Criteria

- Diagnosed cases of anemia as per case definition.
- Adolescent girls in the age group 10 to 15 years who were bonafied students of Maruti Mahavidyalaya, Piludara, were taken.
- Patients from all socio-economic status were included.

Exclusion criteria

- Girls with Hb less than 8 gm%
- Girls with other co morbidities.

Intervention: Homoeopathic medicine Ferrum phos 6X 2 diskettes tds.

Selection of tool: Samples fulfilling diagnostic criteria for anemia as per case definition.

Methodology: Samples were selected by survey screening for anemia cases from any adolescent girl in the age group 10 to 15 years of IDA reporting to Maruti mahavidyalaya, piludara having Hb 8.1 to 11.9%. Parental consent was obtained in order to include the participants in the study . Lab investigations were done in cases of iron deficiency anaemia as per CBC report [Pre test Hb%]. Screening as per exclusion and inclusion criteria were done. Intervention –homoeopathic medicine Ferrumphos 6x two diskettes three times a day was given. Pre-test and Post-test assessment of Hb% were done in each individual cases.

Outcome Assessment: Outcome of Homoeopathic intervention was assessed with the help of follow up criteria & lab investigation report (CBC).

Statistical Analysis

Statistical analysis done in 30 patients with descriptive statistics using previous and after mean, median, mode, standard deviation values. The difference between statistical value in previous and after Hb% value calculated as:

Before value - After value

Mean –	10.75	-	12.62
Median	10.85	-	12.7
Mode	11.5	-	13.2

Data was analysed by using paired t-test of significance

t = 15.5563; df = 28; standard error of difference = 0.118

P value and statistical significance: The two-tailed P value is less than 0.0001

This difference is considered to be extremely statistically significant.

Results and discussion

Inference

This study provides evidence to say that, there is increase Hb% value in CBC report after given homoeopathic medicine ferrumphosphoricum. There is effective in iron deficiency anemia in adolescents girls.

Table 1: Statistical analysis of pre and post treatment Hb%

Sr. No	Name of patient	Age	Previous HB%	After HB%
1	IDA-1	13	10.20%	12.70%
2	IDA-2	13	9.90%	12.10%
3	IDA-3	13	11.00%	13.40%
4	IDA-4	13	11.10%	13.20%
5	IDA-5	13	11.30%	13.20%
6	IDA-6	13	11.50%	12.90%
7	IDA-7	13	11.70%	12.60%
8	IDA-8	13	9.30%	12.10%
9	IDA-9	13	10.10%	12.90%
10	IDA-10	13	10.30%	12.50%
11	IDA-11	13	11.00%	12.80%
12	IDA-12	13	11.60%	13.20%
13	IDA-13	13	11.20%	13.10%
14	IDA-14	14	11.40%	12.50%
15	IDA-15	14	11.50%	12.80%
16	IDA-16	14	10.30%	12.50%
17	IDA-17	14	10.50%	12.70%
18	IDA-18	14	11.20%	13.80%
19	IDA-19	14	8.80%	9.50%
20	IDA-20	14	11.50%	12.80%
21	IDA-21	14	10.10%	12.30%
22	IDA-22	14	10.70%	12.40%
23	IDA-23	14	11.40%	12.60%
24	IDA-24	14	10.90%	14.20%
25	IDA-25	14	11.50%	14.01%
26	IDA-26	14	9.30%	11.10%
27	IDA-27	15	11.90%	13.20%
28	IDA-28	15	10.30%	11.10%
29	IDA-29	15	10.60%	12.40%
30	IDA-30	15	10.80%	12.10%

Table 2: Distribution of cases according to age

Age Distribution	Number of Girls
13 YEAR	13
14 YEAR	13
15 YEAR	4

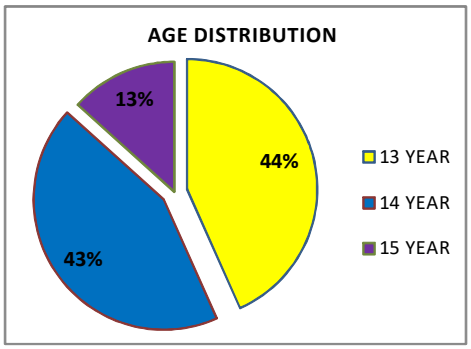

Figure 1: Distribution of cases according to Age

The study was conducted in 31 girls were identified Hb% between <11.9- 8gm%.where there one girl had Hb% below 8gm% were not included in the study and their parents were informed to take treatment for their child from physician of their choice.

Out of 55 girls patient consent and parental assent of (55 girls was obtained for undergoing detailed investigation of CBC report.

Table 3: Comparison of previous and after HB% value

Number of Girls	Previous HB%	After Hb%	Number of girls	Previous Hb%	After Hb%
IDA-1	10.20%	12.70%	IDA-16	10.30%	12.50%
IDA-2	9.90%	12.10%	IDA-17	10.50%	12.70%
IDA-3	11%	13.40%	IDA-18	11.20%	13.80%
IDA-4	11.10%	13.20%	IDA-19	8.80%	9.50%
IDA-5	11.30%	13.20%	IDA-20	11.50%	12.80%
IDA-6	11.50%	12.90%	IDA-21	10.10%	12.30%
IDA-7	11.70%	12.60%	IDA-22	10.70%	12.40%
IDA-8	9.30%	12.10%	IDA-23	11.40%	12.60%
IDA-9	10.10%	12.90%	IDA-24	10.90%	14.20%
IDA-10	10.30%	12.50%	IDA-25	11.50%	14.01%
IDA-11	11.00%	12.80%	IDA-26	9.30%	11.10%
IDA-12	11.60%	13.20%	IDA-27	11.90%	13.20%
IDA-13	11.20%	13.10%	IDA-28	10.30%	11.10%
IDA-14	11.40%	12.50%	IDA-29	10.60%	12.40%
IDA-15	11.50%	12.80%	IDA-30	10.80%	12.10%

Out of 55 girls there 31 girls was anemic and 30 girl had low Hb% with decreased MCV and MCH value that considered to be with iron deficiency anemia.

AGE: Out of 55 girls, the numbers of girls in the age group of 13 years were 13(44%), 14year were 13 (43%), and 15years were 4 (13%). In my study it was found out that the age group 13-15 years was more prone to get iron deficiency anemia

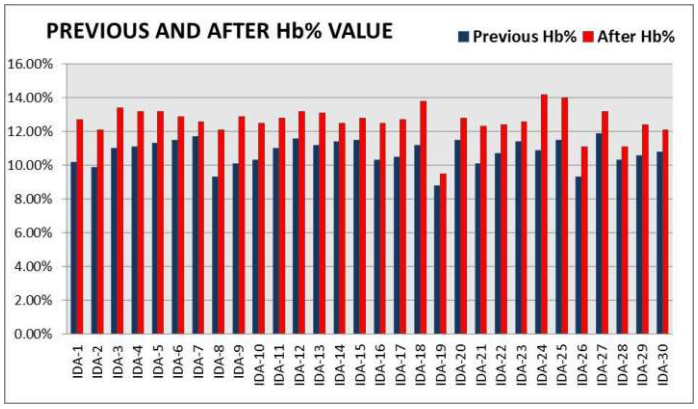

Figure 2: Comparison of previous and after Hb% value of girls

Table 4: Variations between previous and after HB%

Number of girls	Variation Hb%	Number of girls	Variation Hb%
IDA-1	2.50%	IDA-16	2.20%
IDA-2	2.20%	IDA-17	2.20%
IDA-3	2.40%	IDA-18	2.60%
IDA-4	2.10%	IDA-19	0.70%
IDA-5	1.90%	IDA-20	1.30%
IDA-6	1.40%	IDA-21	2.20%
IDA-7	0.90%	IDA-22	1.70%
IDA-8	2.80%	IDA-23	1.20%
IDA-9	2.80%	IDA-24	3.30%
IDA-10	2.20%	IDA-25	2.60%
IDA-11	1.80%	IDA-26	1.80%
IDA-12	1.60%	IDA-27	1.30%
IDA-13	1.90%	IDA-28	0.80%
IDA-14	1.10%	IDA-29	0.80%
IDA-15	1.30%	IDA-30	1.30%

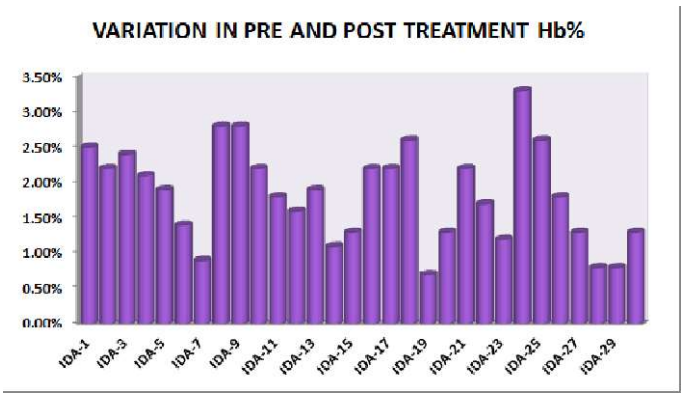

Figure 3: Variations between previous and after Hb%

Table 5: Distribution of participants according to variations in HB%

Variation Hb%[pre test –post test]	Number of girls
>3%	1
2.0%-3.0%	12
1.0-2.0%	14
<1%	3

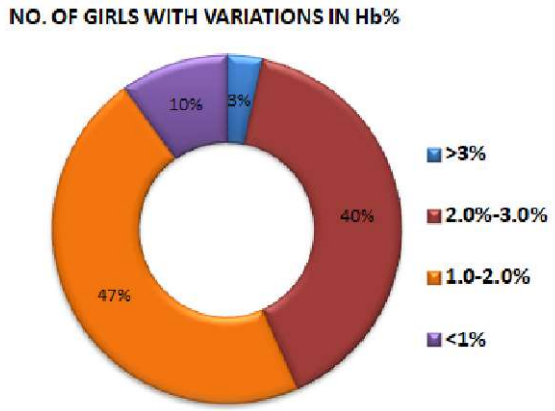

Figure 4: Distribution of participants according to variations in Hb%

Improvement status: Among the 30 cases under study, 27 (90%) patients showed marked improvement; 2(6.66%) had moderate improvement and 1 (3.33%) had mild improvement with Homoeopathic medicine ferrum phosphoricum 6x. Most of the cases in my study showed marked and moderate improvement which concludes that Homoeopathic treatment can assure better results in Iron deficiency anemia.

Conclusion

A study was taken up on the subject allocated "A Role of Ferrum Phosphoricum 6X in anemia in adolescent girls of age group 10-15 years of Maruti Mahavidyalaya, Piludara,Dist. Mehsana of Gujarat. It is the evident that the prevalence of iron deficiency anemia in adolescents girls of age group [10-15 years] of the rural areas of Gujarat, as well as Mehsana district. It is the evident that the study of clinical CBC report as per 30 girls having mild and moderate iron deficiency anemia with low Hb%[8-11.9%] with decreased MCV and MCH value. After the homoeopathic intervention of Ferrum phos 6X , the results indicates that there was an increase in haemoglobin levels in cases of iron deficiency girls. Therefore it can be concluded that the homoeopathic medicine Ferrum phosphoricum have beneficial effect in improving Hb level in iron deficiency anemic girls.

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Ethical consent

Informed consent was obtained from each subject's guardian.

Conflict of Interest

Not available

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