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A clinical study on the homoeopathic management of iron deficiency anaemia in women of reproductive age group

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Abstract

Background: Iron deficiency anemia (IDA) is considered to be among the most important contributing factors to the global burden of disease. Iron deficiency in adult women has consequences for cognition, emotions, quality of life, and behavior. The iron supplements which the other schools of medicine offer for treating iron deficiency anemia have numerous side effects. Homoeopathy has a great role to play in correcting IDA.

Objectives

1. To study the presentation & etiology of Iron Deficiency Anemia in women of reproductive age group
2. Efficacy of Homoeopathic management in Iron Deficiency Anaemia in women of reproductive age group.

Methods: 30 cases were selected for the study based on random sampling. Diagnosis & prognosis were made on basis of symptoms along with Hemoglobin concentration & Serum ferritin. A scoring chart based on improvement criteria was formulated to assess the efficacy of the treatment. Paired 't' test was used to determine the variation of scores before and after treatment and to evaluate if they are statistically significant.

Results: According to the study, 83.33% (25 cases) show improvement & 16.67% cases (5 cases) shows no improvement. This was statistically interpreted and a marked reduction was seen in the post test scores when compared to pretest scores. The calculated 't' value is greater than table 't' value.

Conclusion: Homoeopathic medicines are effective in management of Iron Deficiency Anemia in women of reproductive age group.

Keywords: Iron deficiency anemia, women of reproductive age group, homoeopathy

Introduction

Anaemia is a global public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development^[14]. In India, it is classified as major public health problem as it is estimated that 52% of non-pregnant women of reproductive age group are anaemic. This may be due to blood loss, inadequate intake, and increased requirements. The highest incidence of Iron deficiency anaemia is in women during their reproductive years of life. In India, for example, up to 88% of pregnant and 74% of non-pregnant women are affected^[20].

In a study on the Prevalence of anaemia amongst women in the reproductive age group in a rural area in South India, women in the age group of 31-35 constituted 25.9% while those in the age group of 26-30 constituted 21.4%. Significant association between parity index and prevalence of anaemia as found in the present study calls for measures to limit the number of births by improving the family planning services in rural areas^[19]. The studies conducted to date indicate a relation between iron status and neuropsychological outcomes in women of reproductive age, but more well-designed studies are needed^[17].

Despite increased national and international awareness and recent governmental intervention programmes, the prevalence of anaemia among Indian women has remained higher than 45% since 1990, and anaemia trends remain strongly correlated with iron deficiency. A 2007 Indian Government "12 by 12 initiative", aimed at ensuring that all Indian adolescents have 12 g/dL haemoglobin by 2012, listed the main causes of anaemia in India as low dietary intake, poor availability of iron, chronic blood loss due to hookworm infestation, and malaria^[18].

The reason for nutritional disturbances is caused by variety of nutritional factors and underlying illness but the fundamental cause being the miasm. Homoeopathy has a role to play in correcting anaemia by increasing the capacity of assimilation. Homoeopathy helps to build up the susceptibility of an individual to fight against the disease agent. Improvement in resistance leads to better health status. Health is not mere diappearances of symptoms & signs, but improvement at all levels i.e., mental, physical & intellectual level [16]. So, it is my sincere attempt to unveil the enormous scope of Homoeopathy in management of Iron deficiency anaemia in women of reproductive age group.

Aim and Objectives

To make a clinical study on the Homoeopathic management of Iron Deficiency Anaemia in women of reproductive age group by assessing the clinical picture and hematological investigations before and after treatment.

1. To study the presentation & etiology of Iron Deficiency Anaemia in women of reproductive age group
2. Efficacy of Homoeopathic management in Iron Deficiency Anaemia in women of reproductive age group.

Materials and Methods

Sources of data

In patients and out patients in Sarada Krishna Homoeopathic Medical College & Hospital and Rural Centers.

Method of collection of data

- **Sample Size:** Minimum 30 cases
- **Sampling Technique:** Random Sampling
- Patients was selected on basis of inclusion and exclusion criteria.
- Recording of data was done in standard case taking performa followed in Sarada Krishna Homoeopathic Medical College, in which the complete symptomatology of the patient and investigation reports was recorded.
- Clinical diagnosis was made on basis of symptoms along with Hemoglobin concentration & Serum ferritin.
- All the subjects were advised to take foods rich in iron.
- Medicine was selected on basis of the totality of symptoms, with the use of Repertory and finally correlating with Materia Medica.
- Follow up was done for a minimum period of 4-8 months. Initial follow up was done once in 15 days and later as per the requirement of the patient.
- In cases with significant improvement, when some of the symptoms & signs show lag in recovery, same potency was repeated in water dose. When improvement came to a standstill medicine was changed to the next potency according to Kent's octaves.
- In situations where the patients are afflicted by acute diseases in the course of treatment, medicines covering the acute was given. Only those medicines found to be fitting for the patient's chronic totality were studied.
- Prognosis was assessed with the clinical picture and with the aid of various hematologic investigations like Hemoglobin concentration & Serum ferritin.
- Paired 't' test is used to determine the variation of

scores before and after treatment and to evaluate if they are statistically significant.

Inclusion Criteria

- **Age group:** 14-49 years
- **Sex:** Female
- Cases categorized as Iron deficiency anaemia on basis of clinical features and blood investigations like Hemoglobin level & Serum ferritin.

Exclusion criteria

- Pregnancy; Lactating women
- Medical history of current hematological disorders other than Iron deficiency anaemia
- Medical history of thyroid dysfunction; chronic renal disease; malabsorption syndrome, haemochromatosis, haemosiderosis, hypochlorhydria, achlorhydria, gastrectomy, gastrojejunostomy.
- Medical history of hepatitis B, hepatitis C, and/or exposure to HIV
- Serious, uncontrolled chronic disease
- Cases with severe anaemia requiring blood transfusion.

Assessment of effectiveness: It was based on the following criteria:

- a) **Clinical assessment:** Disappearance of symptoms, improvement of symptoms, improvement of general health.
- b) **A scoring chart** based on improvement criteria was formulated to access the efficacy of the treatment. All the cases were followed for a minimum period of 4 - 8 months. During the period of the treatment, the post treatment intensity scores were compared with the pretreatment intensity scores. Intensity scores were statistically evaluated.

Interpretation of data: The data were interpreted according to age, occupation, food habits, dwelling, economic status, educational status, common symptoms of iron deficiency anaemia, remedies used, changes in Haemoglobin level, changes in Serum ferritin level, aetiology of Iron deficiency anaemia and the results are presented in tables and figures. Paired 't' test was used to determine the variation of scores before and after treatment and to evaluate if they are statistically significant.

Table No: 1 Scales for outcome assessment

Parameters	Grade	Score
1. Dyspnoea on exertion.	Severe	3
2. Fatigue.	Moderate	2
3. Palpitation.	Mild	1
4. Hair falling (<i>ludwig</i> scale)	Absent/no symptoms	0
5. Pallor		
6. Hemoglobin concentration in blood	<8.0 g/dl	3
	8.0-10.9/dl	2
	11-11.9/dl	1
	More than 12 g/dl	0
7. serum ferritin	<2 ng/dl	3
	2-5 ng/dl	2
	5-10 ng/dl	1
	>10 ng/dl	0

Statistical analysis

Table 2: Statistical Analysis

S. N.	Pre-test scores	Post test scores
1	18	3
2	14	2
3	15	11
4	14	11
5	8	0
6	17	12
7	16	9
8	17	5
9	14	9
10	9	1
11	19	9
12	17	5
13	16	9
14	11	11
15	7	7
16	5	1
17	13	13
18	11	6
19	15	2
20	13	13
21	13	5
22	12	6
23	15	5
24	9	4
25	14	8
26	6	6
27	8	2
28	13	3
29	7	1
30	16	11

Table 2: t-Test: Paired Two Sample for Means

t-Test: Paired Two Sample for Means		
	Pre test scores	Post test scores
Mean	12.73	6.33
Variance	14.68	15.74
Observations	30	30
Pearson Correlation	0.43	
Hypothesized Mean Difference	0	
Df	29	
t Stat	8.46	
t Critical one-tail	1.69	
t Critical two-tail	2.045	

Finding

On comparing the score before and after treatment the means were 12.73 and 6.33 and the variance were 14.68 and 15.74 respectively. The data showed a positive correlation of 0.43 and the statistical value obtained on ‘t’ test is 8.46 which is higher than Table value (1%) 1.69 and (5%) 2.045. Thus the null hypothesis is rejected and hypothesis that homoeopathy is effective in management of iron deficiency anaemia is accepted.

Discussion

Age incidence: According to this study, Iron Deficiency Anaemia is more prevalent in age groups of 31-40 (12 cases) 40%, followed by age group 21-30 (11 cases) 36.67%, 41-50 (6 cases) 20% & 11-20 (1 cases) 3.33%. So Iron Deficiency Anaemia is more prevalent in age groups 21-50. It coincides with the study conducted by S Patel in which there were two peaks of iron deficiency anemia i.e. 21-30 years and 31-40 years affecting 46% and 36%

patients respectively. Majority of the patients with iron deficiency anemia were aged between 20-60 years (82.2%) [15].

Common presentations of Iron Deficiency Anaemia

According to this study, the most common symptom is fatigue in 96.67% cases. This coincides with the studies by Frank firkin Iron Deficiency Anaemia can occur at all ages, but is especially common in women of childbearing age, in whom it is an important cause of chronic fatigue [12]. Next comes palpitation 90% (27 cases), dyspnea on exertion, hair falling, faintness 73.33% (22 cases), malaise 66.67% (20 cases), headache 43.33% (13 cases), lack of concentration 40% (12 cases), angular stomatitis, irritability 36.67% (11 cases), pica 26.67% (8 cases), atropic glossitis 20% (6 cases), koilonychia and plummer vilson syndrome 3.33% (1 case each). Fatigue is the most common symptom in patient having Iron Deficiency Anaemia.

Remedies Used:

Medicines prescribed in this study were selected on the basis of the totality of symptoms which were then analyzed by repertorization and then selected with reference to Materia Medica. Phosphorous & Pulsatilla were indicated in the maximum number of cases 20% (6 cases each), then Natrum muriaticum 13.33% (4cases), Sulphur 10% (3 cases), Nux vomica, Sepia, 6.67% (2 cases each) each and Argentum nitricum, Belladonna, Lycopodium, Sabina, Silicea, Arsenicum album, Ferrum metallicum 3.33% (1 case each).

Changes in Hemoglobin level:

According to this study Haemoglobin was increased in 83.33% cases (25 cases) & decreased/no change in 16.67% cases (5 cases). The mean value of Haemoglobin before treatment was 7.55 which was raised to a mean of 10.93 after treatment. This confirms the efficacy of Homoeopathic medicines in raising Haemoglobin level.

Changes in Serum ferritin level:

In this study, in 53.33% (16 cases) Serum ferritin is increased to normal level, in 30% (9 cases) Serum ferritin is increased but not to normal level & in 16.67% (5 cases) Serum ferritin is not improved. The mean value of Serum ferritin was raised from 3.48 to 17.33. This shows that Homoeopathic medicines can produce marked change in Serum ferritin level.

Aetiology of Iron Deficiency Anaemia:

In a retrospective review of 378 In Patients with Iron Deficiency Anaemia by Beveridge *et al.* (1965), 19% were found to be due to poor diet [19]. In this study inadequate dietary intake was found to be the major cause for Iron Deficiency Anaemia which coincides with the findings by Beveridge. It accounts as a cause for almost 60% of the cases. This may be due to the poor economic status, or lack of knowledge regarding the proper diet. The remaining 40% of cases were due to increased blood loss by menstruation.

Result

According to the study, 83.33% (25 cases) shows improvement & 16.67% cases (5 cases) shows no improvement. This was statistically interpreted and a marked reduction was seen in the post test scores when compared to pretest scores. The calculated ‘t’ value is greater than tabled ‘t’ value. This shows that Homoeopathic medicines are effective in management of Iron Deficiency Anaemia in women of reproductive age group.

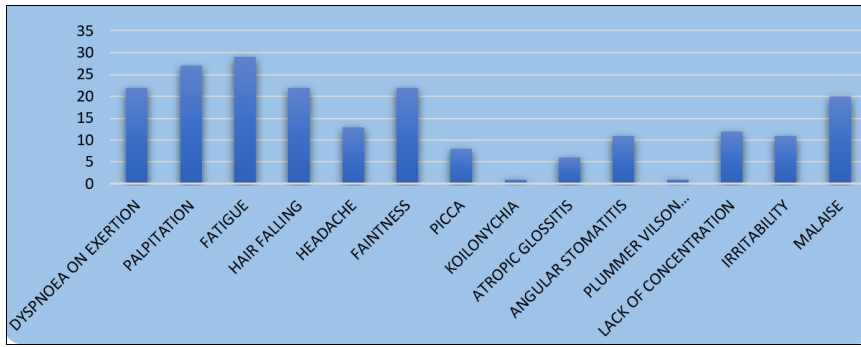


Fig 1: distribution of patients according to common symptoms of iron deficiency anaemia

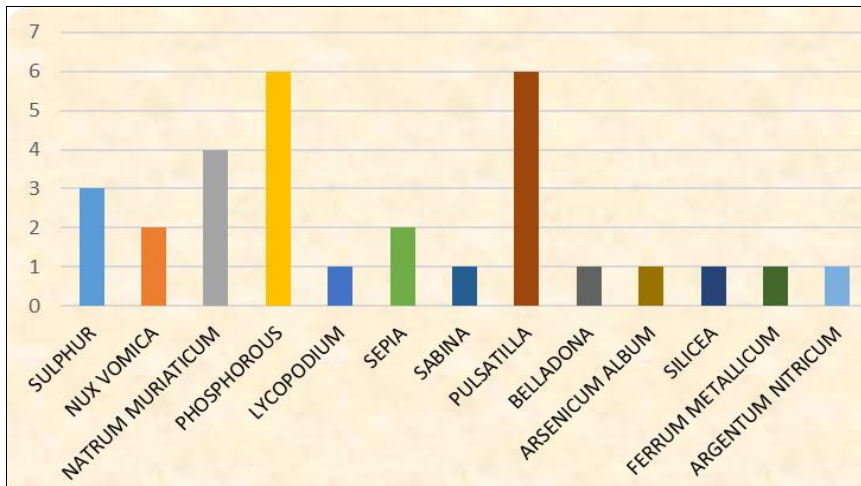


Fig 2: Distribution of remedies prescribed to patients

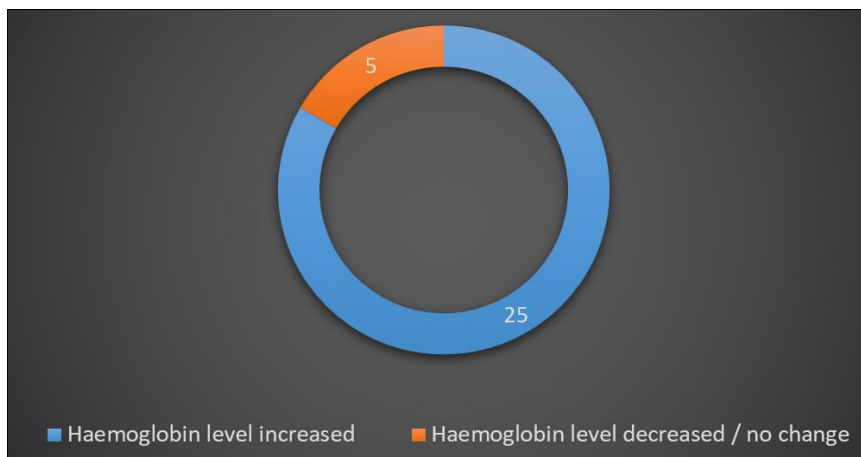


Fig 3: distribution according to changes in haemoglobin level

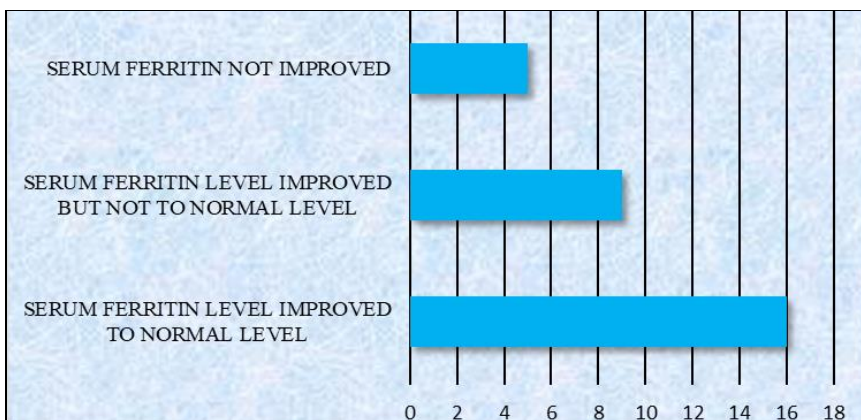


Fig 4: distribution according to serum ferritin level

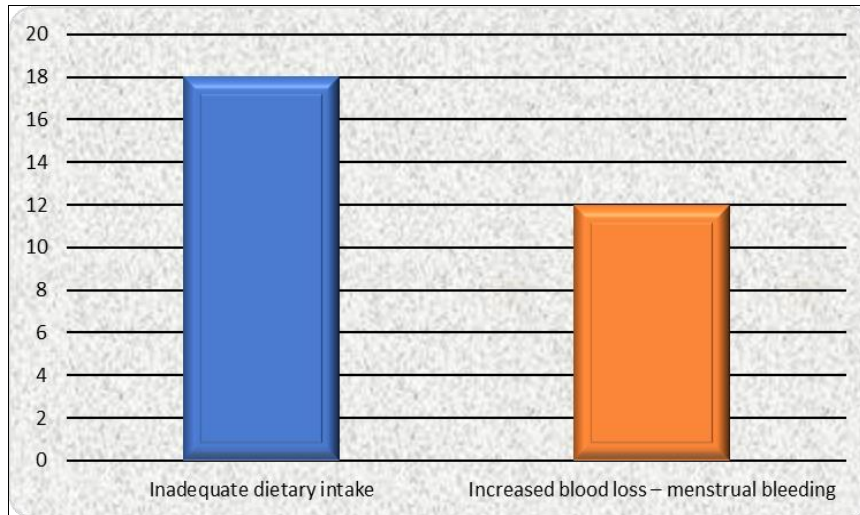


Fig 5: distribution of patients according to aetiology of iron deficiency anaemia

Conclusion

- Iron deficiency anaemia is more prevalent in age groups 31- 40.
- Those who follow non-vegetarian diet show more improvement in Haemoglobin and Serum ferritin level.
- Those who are having poor economic status are more affected.
- The common presentation of Iron Deficiency Anaemia was fatigue. Other symptoms were palpitation, dyspnea on exertion, hair falling, faintness, malaise, headache, lack of concentration, angular stomatitis, irritability, pica, atropic glossitis, koilonychia and plummer vinson syndrome.
- Inadequate dietary intake is the main aetiology of Iron Deficiency Anaemia.
- The application of Homoeopathic Medicines on the basis of symptom totality can improve Haemoglobin and Serum ferritin levels.
- The most frequently indicated remedy in this study were Phosphorous and Pulsatilla.
- Statistical analysis shown marked improvement in post test scores when compared to pre test scores. The calculated 't' value is greater than table 't' value. This shows that Homoeopathic medicines are effective in management of Iron Deficiency Anaemia in women of reproductive age group.

Conflict of Interest

Not available

Financial Support

Not available

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