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Research Article

Comparative study of Ferrum Met and China in the management of Iron Deficiency anaemia in the reproductive age women

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ABSTRACT
Among women of reproductive age group iron deficiency anaemia is an important public health problem. In reproductive age women, China and Ferrum metallicum are important remedies for treatment of Iron deficiency anaemia as per Kent, J.T. Repertory of the Homoeopathic Materia Medica. Present research study was designed with the objective of comparing the role of China and Ferum Metallicum in the treatment of anaemia in reproductive age women. The study was done in a Homoeopathic Medical College and Hospitals at Bhopal among 30 women of reproductive age (year 18 to 45 years) who were diagnosed to have anaemia. Selected participants were randomly divided in two treatment groups. First group was prescribed China and second group was given Ferrum metallicum for duration of three months. Distribution of age and other demographic characteristics was comparable between the two study groups. Baseline haemoglobin level was comparable between the two study groups. At the end of first month overall haemoglobin level revealed statistically significant improvement (by 0.31 gm / dL) as compared to the corresponding baseline value. The overall haemoglobin level revealed linear improvement in second and third months to yield total increment by 0.87 gm / dL at the end of three months. On comparison of mean haemoglobin level change in two treatment groups it was revealed that more in Ferrum metallicum group had higher increase in mean haemoglobin level (0.93 gm /dL) as compared to the China group (0.80 gm / dL). These findings suggest that the Homoeopathic remedies of China and Ferrum Metallicum have a potential role in improving the haemoglobin levels among anaemic women of reproductive age group. Ferrum Metalicum was found to be relatively better than that of China after 3 months of therapy.
Keywords: Iron deficiency anaemia, haemoglobin level, women of reproductive age group, Ferrum metallicum, China

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INTRODUCTION
Anaemia is a condition in which the number of red blood cells or their oxygen-carrying capacity is insufficient to meet physiologic needs, which vary by age, sex, altitude, smoking, and pregnancy status. Iron deficiency is the most common cause of anaemia globally, although other conditions, such as folate, vitamin B12 and vitamin A deficiencies, chronic inflammation, parasitic infections, and inherited disorders can all cause anaemia. Anaemia is caused by lower than normal levels of iron is reffered to as Iron deficiency anaemia refers. Iron deficiency anaemia results from deficient erythropoiesis which is the process of production of healthy red blood cells in the bone marrow. It is characterized by the production of small (microcytic) RBCs. Microscopic examination reveals, pale or light colored red blood cells due to the absence of heme, (coloring pigment in RBCs) which is the iron-bearing protein and the major component of haemoglobin. Anaemia resulting from a deficiency of iron is also called microcytic anaemia. Iron deficiency anemia is most prevalent and severe in women of reproductive age. Effective control of Iron deficiency anemia in reproductive age women

not only yields improved fitness and work capacity but also vital benefits such as a) better iron stores for later pregnancies b) decreased maternal mortality and obstetrical complications c) decreased prevalence low birth weight and perinatal mortality their infants [1,2].

Homoeopathy being a holistic system of medicine treats the individual as a whole considering both psychological and pathophysiological causes. Anaemia may be either a reduction in the quantity or the quality of the blood, or even both. It is an underlying factor in many acute and chronic diseases, and its elimination is absolutely necessary before a complete restoration of health can be expected. Therefore, it is needed to study the scope of Homoeopathy in the treatment of iron deficiency anaemia. One can treat iron deficiency anemia homoeopathically by giving constitutional remedy. The appropriate remedy can be selected based on patient characteristics using Repertorial approach for iron deficiency anaemia [3-8]. As per Kent, J. T. Repertory of the homoeopathic materia medica China and Ferrum metallicum are important remedies for treatmen of anaemisa in reproductive age woman [9].

Ferrum Metallicum which belongs to the Mineral Kingdom, is highly recommended remedy for iron deficiency anaemia in young persons subject to irregular distributions of blood e.g. females of reproductive age group. Ferrum metallicum is the great homoeopathic remedy for anaemia from almost any causes. However careful reportorization is necessary as it is not the remedy for the anaemia resulting from loss of fluids. This remedy is best suited for young weakly persons, who are anemic with pseudoplethora, who flush easily, have cold extremities, oversensitive to slight noises and whose complaints become worse after any active effort. There is weakness from mere speaking or walking. Red parts become white, bloodless and puffy. There will be breathing difficulty due to surging of blood to chest and anemic murmur can be heard.

i) Aggravations: At night specially while sitting still.

ii) Amelioration: Walking about slowly.

Cinchona officinalis also named China which belongs to the Vegetable Kingdom is also used for blood vessel disorders including hemorrhoids, varicose veins, and leg cramps. This remedy has debility from exhausting discharges and loss of vital fluids. The individuals will have sallow complexion of face especially after hemorrhage, loss of vital fluids or sexual excesses. There will be heaviness of head with loss of sight, aversion to exercise, sensitive to touch, ringing sensation in ears, intolerance to fruits. Great congestion in the chest and violent palpitation of the heart. Trembling with numb sensation.

i) Aggravations: From slightest, touch, drought of air, every other day, loss of vital fluid, at night, after eating and bending over.

ii) Ameliorations: Bending double, hard pressure, open air, warmth [10].

MATERIAL AND METHODS

The current study was done to compare the role of two homoeopathic remedies i.e. China and Ferrum Metallicum in the management of Iron deficiency anaemia among reproductive age women. The study was conducted on patients attending outpatient departments (OPD) and in patient departments (IPD) of R.K.D.F. Homoeopathic Medical College and Hospitals and Research Centre, Bhopal. A total of 30 cases that fulfilled the inclusion and exclusion criteris among the women of reproductive age (year 18 to 45 years) who were diagnosed to have anaemia were recruited for the study. The selected sample was randomly divided in two groups to give medicine. One group of 15 cases was given China and another group of 15 cases was given Ferrum Met for three months. Hemoglobin level in grams per deciliter (gm / dL) was estimated for al the cases in the laboratory of R.K.D.F. Homoeopathic Medical College and Hospitals and Research Centre, Bhopal at the end of one, two and three months were be recorded to see the effect of treatment. Chi square ($\chi 2$) test for comparison of prevalence of anaemia between the study groups after study. Paired t test was used to study the rise in of hemoglobin level before and after treatment(at $p < 0.05$).

RESULTS AND DISCUSSION

Majority of the cases belonged to age group 30 to 39 years and the age distribution of China and Ferrum met group was comparable. Though all the cases had completed their primary education but majority did not complete their matriculation. Majority of the cases were married living with average four to five family members. The average income of thei families was Rs. 8300/ and there was no statistically significant difference between two study groups. The anthropometric measurements (Height, weight and BMI) of the study groups were comparable. The menstrual history, family planning and personal habits did not vary much between the study groups. Most common co morbid condition was anorexia (30.0%) followed by Menorrhagia (26.67%). Other important morbidities included angular stomatitis, brittle nails and haemorrhoids.

The overall mean level of hemoglobin level was 10.63 at baseline. Before treatment (baseline) there was no statistically significant difference between the mean hemoglobin level of China and Ferrum Met group (10.68 and 10.57 gm / dL respectively). The overall mean hemoglobin level revealed statistically significant improvement at the end of first month of treatment (Increased by 0.31). The improvement continued thereafter of second and third month respectively and thus the overall mean hemoglobin level increased by 0.87 gm / dL at the end of three months of treatment (Table 1). The results of Homoeopathic remedies of China and Ferrum met are at par with the popular homoeopathic and oral allopathic remedies.

Table 1: Distribution of hemoglobin level in mg / dL according to duration of treatment

Duration of treatment	China		Ferrum met		Total	
	Mean	SD	Mean	SD	Mean	SD
Before treatment	10.68	0.56	10.57	0.55	10.63	0.55
1 Month	10.96	0.57	10.92	0.59	10.94	0.57
2 Months	11.21	0.58	11.22*	0.59	11.22	0.57
3 Months	11.48	0.60	11.51*	0.57	11.49	0.58

*Paired t test p-value (two-tailed) < 0.05 for all follow up visits as compared to baseline

The difference in the mean baseline hemoglobin level between China and Ferrum Met group was statistically not significant (p value > 0.05). At the end of three months mean hemoglobin level was higher in Ferrum met group as compared to China group. The mean hemoglobin level increased by 0.80 gm / dL in China group and 0.93 gm / dL in Ferrum met group. Comparison between China and Ferrum Met group revealed that reduction in the percentage of anemic cases was same at the end of one month. However at the end of second and third month the percentage which are cured suggested that the Homoeopathic remedies has certainly increased of anemic cases was lower in Ferrum Met group as compared to China group. The percentage of cases that remained anemic (hemoglobin level < 12 gm / dL) after three months of treatment was higher in China group as compared to Ferrum met group.

The baseline (before treatment) hemoglobin level of cases which remained anemic was significantly lower than the cases which are cured. Significantly lower values of baseline (before treatment) hemoglobin level among of cases which remained anemic than the cases hemoglobin levels in all the cases but the cases with lower base line hemoglobin level may take

longer to reach the recommended cut off of 12 gm / dL (Figure 1).

From the analysis of above results it can be concluded that homoeopathic remedies of

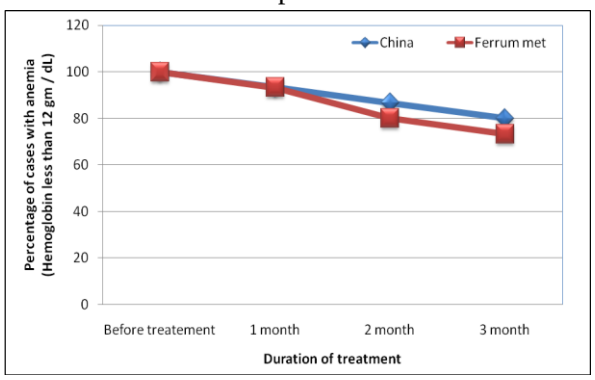

Figure 1: Percentage of cases with anaemia (hemoglobin level < 12 gm / dL) according to duration of treatment

Ferrum Metallicum and Cinchona officinalis both are significantly effective in the treatment of iron deficiency anaemia in reproductive age women. Effectiveness of of Ferrum Metalicum is better than that of China after 2 month of therapy. The study indicated positive role of homoeopathic remedies in the treatment of iron deficiency anaemia in reproductive age women.

Long duration treatment of with Ferrum Metallicum can yield higher haemoglobin levels in the reproductive age women with anaemia.

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