



ANEMIA ERADICATION PROGRAMME WITH THE USE OF AYURVEDIC AND HOMEOPATHY MEDICINE IN THE STUDENTS OF ST.THERESA'S COLLEGE FOR WOMEN, ELURU, A.P.

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ABSTRACT

Anaemia can be defined as a condition in which there is a low level of haemoglobin due to either few numbers of red blood cells and/or little haemoglobin in each cell. Anaemia is one of the most important global health problems, and more than two billion people worldwide are estimated to have anaemia, with majority coming from the developing countries. Iron-deficiency anaemia is the most common type of nutritional anaemia which results from long term negative iron balance and is responsible for approximately 50% of all anaemia. It is a severe stage of iron shortage in which haemoglobin (or haematocrit) falls below the normal range. It is more widespread and severe in young children and women of reproductive age but it can be found in people of any age-group. Deficiency of iron usually develops slowly and is not clinically evident until anaemia becomes severe. So, Eradication of anaemia is the need of the hour in every institute. The anaemic students were treated with homeo and ayurvedic medicine and again tested for Hb count to address the present problem. In the present study, there is an improvement of Hb content in the subjects after treatment with Ayurvedic and homeo medication. And also there is slight improvement in the general morbidity of subjects like joint pains, back ache and stomach pain. It can be mentioned that the students got the awareness of taking proper treatment.

KEYWORDS: Haemoglobin, iron, Aurvedic, Homeo.

INTRODUCTION

Anaemia can be defined as a condition in which there is a low level of haemoglobin due to either few numbers of red blood cells and/or little haemoglobin in each cell.^[1] Anaemia is one of the most important global health problems, and more than two billion people worldwide are estimated to have anaemia, with majority coming from the developing countries.^[5,6] Its adverse health consequences affect people of all age-groups and can result from non-nutritional and nutritional factors.^[2] It is categorized as one of the 10 most serious health problems by the World Health Organization.^[3] Iron-deficiency anaemia is the most common type of nutritional anaemia which results from longterm negative iron balance and is responsible for approximately 50% of all anaemia.^[7,8] It is a severe stage of iron shortage in which haemoglobin (or haematocrit) falls below the normal range. It is more widespread and severe in young children and women of reproductive age but it can be found in people of any age-group. Deficiency of iron

usually develops slowly and is not clinically evident until anaemia becomes severe.

Iron deficiency anemia arises when the balance of iron intake, iron stores, and the body's loss of iron are insufficient to fully support production of erythrocytes. Iron deficiency anemia rarely causes death, but the impact on human health is significant.^[4] In the developed world, this disease is easily identified and treated, but frequently overlooked by physicians. Overall, the prevention and successful treatment for iron deficiency anemia remains woefully insufficient worldwide, especially among underprivileged women and children.

Each milliliter of packed RBCs (~2.5 mL of whole blood) contains ~1.0 mg of iron. Each day, 1.0 mg of iron is absorbed from the diet and 20 mg of iron from senescent erythrocytes are available to support erythropoiesis. Once iron stores are depleted, dietary and

recycled erythrocyte iron are not usually sufficient to compensate for acute blood loss.

Anaemia is the most common nutritional deficiency disorder in the world. About one third population of the world is anaemic. Out of the entire world prevalence of anaemia in the South Asian countries is highest. According to World Health Organization (WHO), out of the South Asian countries prevalence of anaemia is highest in India. Moreover, prevalence of anaemia is high in all the states of India. The prevalence of anaemia is alarmingly high in India due to (I) low dietary intake of iron (less than 20 mg/day) and folic acid intake (less than 70 mg/day); (II) poor bioavailability of iron (3-4% only) in phytate and fibre-rich Indian diet; and (III) chronic blood loss due to infection such as malaria and hookworm infestations. Anaemia has major detrimental effects on the health of community. This effects the socio-economic development of the nation. The consequences of anaemia for women and neonates include increased risk of low birth weight or prematurity, prenatal and neonatal mortality, inadequate iron stores for the new-born, increased risk of maternal morbidity and mortality, and lowered physical activity, mental concentration, and productivity.

So, Eradication of anaemia is the need of the hour in every institute. In this study, the anaemic students were treated with homeo and ayurvedic medicine and again tested for Hb count to address the present problem.

METHODOLOGY

Study Subjects

The anaemic students of Ch.S.D.St. Theresa's College were selected as study subjects to perform the Anemia eradication programme. They are both hostel students and day students. They were screened by the conduction of Haemoglobin test through Haemoglobinometer in Mega Health camp organized by the Department of Zoology.

General morbidity like BMI, Diet, Physical activity, and symptoms of anaemia was collected by questionnaire method.

Treatment under Eradication programme

Treatment was done by the Homeo and Ayurvedic medicine basing on the prescription of given by Homeo and Ayurvedic doctors of Eluru Government Hospital. They already have given the motivational talk on anaemia and dosage of medicine to all the students. The treatment was continued for one month by the study subjects.

Then, they were assessed for Hb test after treatment of one month. The results were tabulated, analysed and compared with the results of before treatment.

MEDICATION/DOSAGE

Homeopathy Medicine- Ferrum Met 6X/ Lecithin 6 X.

Dosage: Place globules under tongue for 30 seconds.

Adults~3-5 globules 3 times a day.

- Helpful in treating anaemia, and helps the body absorb iron more efficiently
- Provides relief from a chronic headache, and related tenderness in the ears, jaw and skin
- Helps in improving blood circulation
- Helps in reducing paleness and face puffiness
- In women, it helps in regulating menses with less pain and bleeding

Ayurvedic Medicine: Punarnavadi Mandura

- It is also a rich source of natural iron that helps to restore hemoglobin levels.

Estimation of Haemoglobin

Aim

To determine the haemoglobin content of the blood sample using haemoglobinometer by acid haematin method.

Apparatus

Haemoglobinometer with a graduated dilution tube, micropipette, stirrer, N/10 HCl, distilled water, blood sample, surgical spirit, cotton, disposable needle.

Principle

The experiment is based on comparison of colours. On treatment with dilute HCl, haemoglobin will be broken down to Haem and globin. It exhibits a characteristic colour due to formation of acid haematin. This colour will be matched with the standard colour rods of haemoglobinometer.

Description of the apparatus

The apparatus contains three columns with a black frame and a white background. The two lateral columns are sealed tubes of standardized acid haematin colour which is taken as 100% haemoglobin. In the central column, graduated dilution tube is kept in which the sample colour is developed. The dilution tube has two separate graduations –one for grams percentage.^[2-22] and the other one is for percentage.^[10-190] The other part of the apparatus is a micropipette to suck the blood from the finger. The pipette is marked as 20µl at one end, above which it is connected with a sucking rubber tube.

Procedure

N/10 HCl is taken in a graduated dilution tube upto the lower mark "2" on the grams percentage marking. The finger is cleaned with spirit and pricked with a needle. The first drop of blood is allowed to flow freely and the blood is sucked into the micropipette upto the mark. Care should be taken so that no air bubble enters into the tip of the pipette. The blood collected into the pipette is transferred into the dilution tube which is already having HCl. The contents are mixed well by stirring using a stirrer. Then it is allowed to stand for 5 minutes. Then a brown coloured acid haematin is formed. Later it is diluted with distilled water. This process is continued

until the colour of the mixture matches with the standard colour in the lateral column. The dilution tube is removed from the apparatus and the reading is taken in bright light which gives the value of haemoglobin in % and in grams%.

The average haemoglobin in normal healthy man is 16gms.per 100ml and in woman, it is 14gms.per100ml.

RESULTS

Table 1: Hb of Study subjects before treatment.

S.No	Name of the Subject	Hb	%
1	K.Gayathri	8.8	58%
2	D.Rajalakshmi	8.2	52%
3	M.Kavya	8.0	50%
4	T.Yasaswini	9.0	60%
5	S.Manjulatha	8.0	50%
6	M.Jahnavi	7.2	42%
7	D.prasanna	9.5	65%
8	K.Divya	9.0	60%
9	P.Navya sri	9.5	65%
10	M.Manjula devi	8.0	50%
11	M.Nandini	7.4	45%
12	M.Bhavana	9.0	60%
13	V.Ravali	9.0	60%
14	Harini	9.2	62%
15	Bhavani	8.0	50%
16	Revathi	9.5	65%
17	Sravani	8.2	52%
18	Deepika	8.0	50%
19	Pravallika	9.2	62%
20	Mery	9.7	67%
21	Yamini	8.7	57%
22	Niharika	9.5	70%
23	Anusha	9.0	60%

- Table.1 shows the haemoglobin level and percentage of anemic students screened in the college from degree second year. The normal range in females is

12-13 mg/100 ml, the Hb content all the students is below the control value. Many of the students identified with 50% of Hb.

Table 2: Physical parameters of Anaemic students before treatment.

Subjects	General Health Condition	Height	Weight	BMI	Diet	Physical activity
1	Good	5'	45	19	Non Vegetarian	No
2	Good	4'5	38	18	"	Yes
3	Good	4'	40	18	"	Yes
4	Good	5'3	45	17	""	No
5	Good	5'0	40	18	"	Yes
6	Good	5'0	50	21	"	No
7	Good	5'3	55	22	Vegetarian	Yes
8	Good	5'0	40	19	Non Vegetarian	Yes
9	Good	5'2	45	18	"	No
10	Good	5'6	48	17	"	Yes
11	Good	5'4	43	17	"	Yes
12	Good	5'1	65	29	"	No
13	Good	5'3	40	17	"	No
14	Good	4'8	45	19	"	No
15	Good	5'1	50	21	"	Yes
16	Good	5'2	55	21	"	No
17	Good	5'1	54	22	"	No
18	Good	4'6	56	19	"	Yes
19	Good	5'2	49	19	"	Yes

20	Good	4'9	53	22	"	Yes
21	Good	5'0	57	24	"	No
22	Good	5'0	59	25	"	No
23	Good	5'1	58	23	"	No

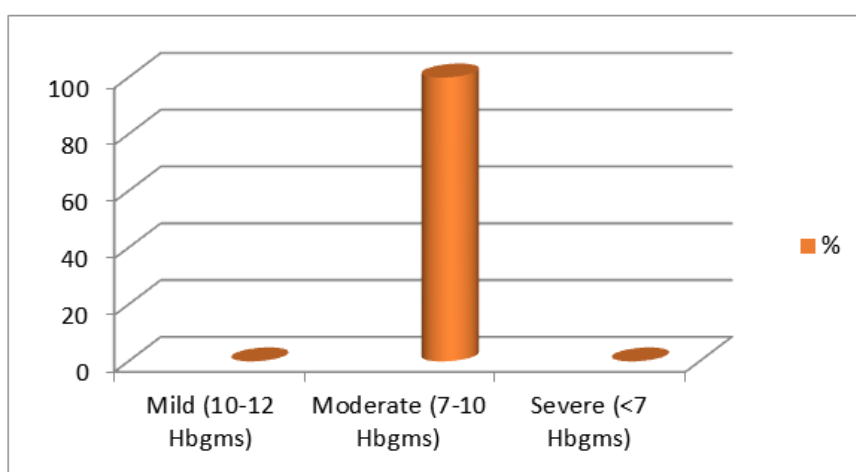
• Table.2 shows the height and weight with BMI value of the subjects, deity habits and physical activity of the study subjects. Majority of the subjects are within normal range, only 2 of them are overweight. 18.5 and

24.9 - 'healthy range' 25 and 29.9 – overweight, 30 and 39.9 – obesity, 40 or over- severe obesity.

All are non vegetarians. Few of them are without physical activity

Table 3: Level of Anaemia of study subjects before treatment.

	Mild (10-12 Hbgms)	Moderate (7-10 Hbgms)	Severe (<7 Hbgms)
No.	0	23	0
%	0	100	0

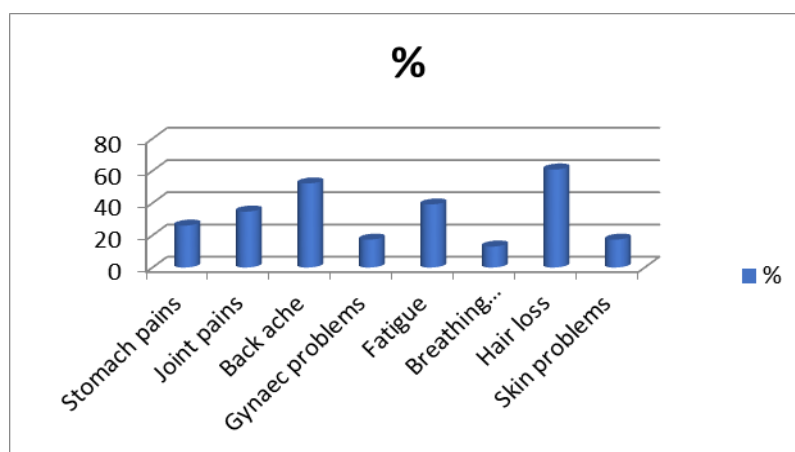


Graph 1: level of Anaemia before treatment.

• Table. 3 shows range of anaemic level basing on the Hb content. All the subjects are with moderate level of anaemia.

Table 4: General Morbidity of study subjects before treatment.

	Stomach pains	Joint pains	Back ache	Gynaec problems	Fatigue	Breathing problems	Hair loss	Skin problems
No.	6	8	12	4	9	3	14	4
%	26	34.7	52.17	17.3	39.13	13	60.8	17.3



Graph 2: General Morbidity before treatment.

- Table. 4 shows the general morbidity/symptoms of study subjects
- Majority of the subjects suffering from hair loss, back pain
- 39.13% are with fatigue, 34.7% are suffering with joint pains
- 26% are with stomach pain, 17.3% with gynaec and skin problems
- 13% are with breathing problem

Table 5: Hb of Study subjects after treatment.

S.No	Name of the Subject	Hb	%
1	K .Gayathri	8.0	50%
2	D.Rajalakshmi	6.5	45%
3	M.Kavya	8.0	50%
4	T.Yasaswini	9.0	60%
5	S.Manjulatha	10	70%
6	M.Jahnavi	11	75%
7	D.Prasanna	8.0	50%
8	K.Divya	12	80%
9	P.Navya sri	8.5	60%
10	M.Manjula devi	6.0	40%
11	M.Nandini	8.0	50%
12	M.Bhavana	9.0	60%
13	V.Ravali	9.0	60%
14	Harini	10	70%
15	Bhavani	8.0	50%
16	Revathi	10	70%
17	Sravani	8.0	50%
18	Deepika	9.0	60%
19	Pravalika	10	70%
20	Mery	8.0	50%
21	Yamini	6.0	40%
22	Niharika	9.0	60%
23	Anusha	9.0	60%

- Table.5 shows the haemoglobin level and percentage of anaemic students screened after treatment of one month.
- The normal range in females is 12-13 mg/100 ml, the Hb content all the students is below the control value. Two of the students with normal range of Hb.
- Many of the students identified with 60% -70% of Hb.

Table 6: Physical parameters of Anaemic students after treatment.

Subjects	General Health Condition	Height	Weight	BMI	Diet	Physical activity
1	Good	5'0	45	19	Non vegetarian	No
2	"	4'5	38	18	"	Yes
3	"	4'0	40	18	"	Yes
4	"	5'3	45	17	"	No
5	"	5'0	40	18	"	Yes
6	"	5'0	50	21	"	No
7	"	5'3	55	22	Vegetarian	Yes
8	"	5'0	40	19	Non vegetarian	Yes
9	"	5'2	45	18	"	No
10	"	5'6	48	17	"	Yes
11	"	5'4	43	17	"	Yes
12	"	5'1	65	29	"	No
13	"	5'3	40	17	"	No
14	"	4'8	45	19	"	No
15	"	5'1	50	21	"	Yes
16	"	5'2	55	21	"	No

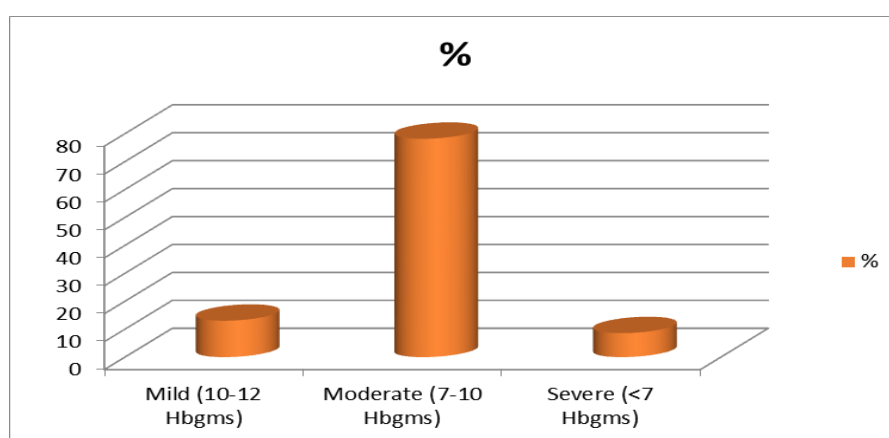
17	"	5'1	54	22	"	No
18	"	4'6	56	19	"	Yes
19	"	5'2	49	19	"	Yes
20	"	4'9	53	22	"	Yes
21	"	5'0	57	24	"	No
22	"	5'0	59	25	"	No
23	"	5'1	58	23	"	No

• Table.6 shows the height and weight with BMI value of the subjects, deity habits and physical activity of the study subjects after treatment with ayurvedic and homeo medication. Majority of the subjects are within

normal range, only 2 of them are overweight. 18.5 and 24.9 - 'healthy range', 25 and 29.9 – overweight, 30 and 39.9 – obesity, 40 or over- severe obesity. All are non vegetarians. Few of them are without physical activity.

Table 7: Range level of Anaemia of study subjects after treatment.

	Mild (10-12 Hbgms)	Moderate (7-10 Hbgms)	Severe (<7 Hbgms)
No.	3	18	2
%	13.04	78.2	8.6



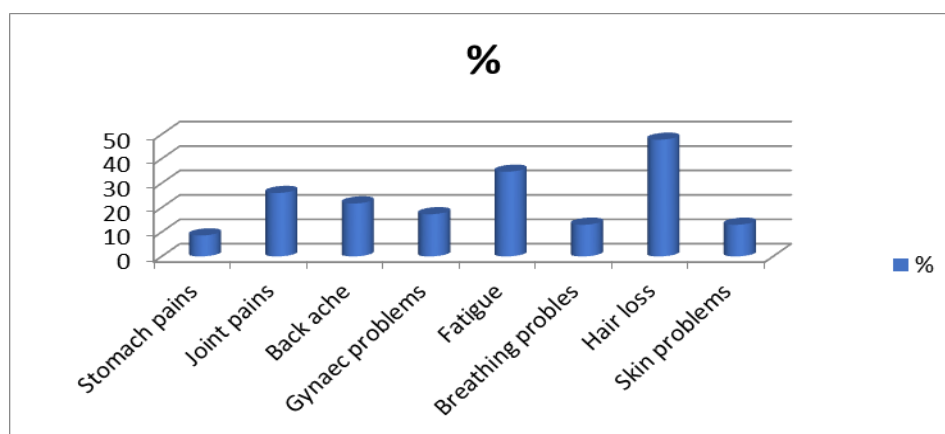
Graph 3: Level of Anaemia after treatment.

• Table. 3 shows range of anaemic level basing on the Hb content after medication. 13.04% are with mild level of anaemia, 78.2% subjects are with moderate level of

anaemia. 8.6% are with severe as they didn't take proper medication.

Table 8: General morbidity of study subjects after treatment.

	Stomach pains	Joint pains	Back ache	Gynaec problems	Fatigue	Breathing probles	Hair loss	Skin problems
No.	2	6	5	4	8	3	11	3
%	8.6	26	21.7	17.3	34.7	13	47.8	13



Graph 4: General morbidity after treatment.

- Table. 4 shows the general morbidity/symptoms of study subjects. Majority of the subjects suffering from hair loss. 21.5% are with back ache, 34.7% are with fatigue, 34.7% are suffering with joint pains. 8.6% are with stomach pain, 17.3% with gynaec and skin problems. 13% are with breathing problem.

DISCUSSION

Anaemia, especially iron-deficiency anaemia, is the most common nutritional deficiency worldwide. The detrimental effects of anaemia on work productivity of adults and physical development of children are of major concern (9). In the present study, there is an improvement of Hb content in the subjects after treatment with Ayurvedic and homeo medication. And also there is slight improvement in the general morbidity of subjects like joint pains, back ache and stomach pain. It can be mentioned that the students got the awareness of taking proper treatment.

CONCLUSION

The purpose of this study was to eradicate anaemia in the College students. As this problem is so severe in teenagers. The possible reason might be their food habit which provides insufficient amount of iron. Irregular intake of breakfast and iron supplement may be another reason behind this. Although the study subjects are degree students, it is unfortunate that majority of them are not conscious about anaemia. The treatment with ayurvedic and homeo is beneficial for the students as they are herbal medicines and there is no side effects. The medication was continued for a period of one month as per the dosage prescribed.

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