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EFFICACY OF, A HOMOEOPATHIC MEDICINE, VANADIUM IN THE CASES OF ANAEMIA

Prasoon Choudhary[1], Ritika Sharma*[2], Tushar Agarwal[3], Sanjana Balot[4], Mayank Jethiwal[5] and Arun Nishad[6]

[1]HOD, Department of Pediatrics, Dr. M.P.K. Homoeopathic Medical College Hospital and Research Centre (Constituent College of Homoeopathy University), Jaipur, Rajasthan, India.
[2,3]PG Scholar, Department of Pediatrics, Dr. M.P.K. Homoeopathic Medical College Hospital and Research Centre (Constituent College of Homoeopathy University), Jaipur, Rajasthan, India.
[4,6]PG Scholar, Department of Materia Medica, Dr. M.P.K. Homoeopathic Medical College Hospital and Research Centre (Constituent College of Homoeopathy University), Jaipur, Rajasthan, India.
[5]PG Scholar, Department of Pharmacy, Dr. M.P.K. Homoeopathic Medical College Hospital and Research Centre (Constituent College of Homoeopathy University), Jaipur, Rajasthan, India.

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***Corresponding Author**
Ritika Sharma
PG Scholar, Department of Pediatrics, Dr. M.P.K. Homoeopathic Medical College Hospital and Research Centre (Constituent College of Homoeopathy University), Jaipur, Rajasthan, India.

ABSTRACT

Anaemia is a worldwide problem with the highest prevalence in developing countries. According to WHO, Anaemia is estimated to affect half a billion women 15–49 years of age and 269 million children 6–59 months of age worldwide. In 2019, 30% (539 million) of non-pregnant women and 37% (32 million) of pregnant women aged 15–49 years were affected by anaemia. **Objective:** To evaluate the efficacy of Vanadium, a homoeopathic medicine, by analysing the improvement in the cases of Anaemia. **Method:** The study was conducted at Dr. MPK Homoeopathic Medical College, Hospital & Research Centre, station road, Jaipur. A total of 100 patients suffering from anaemia from both sexes and of different age groups were randomly selected for the study. As per the study, to test the efficacy, the medicine was given in 6 potency randomly for 50 patients & in 30 potency for the rest 50 patients irrespective of the patient's age & sex. The assessment was done at Pre and Post-treatment and statistical test used at significance level <1 gm%. **Results:** Total 100 patients were analysed after study, on the basis of observation, the no. of patients improved out of 50 patients to whom Vanadium was given in 6 potency was 12, i.e. 24% and the no. of patients improved out of 50 patients to whom

Vanadium was given in 30 potency was 8, i.e. 16%. **Conclusion:** As obtained from the study, Vanadium is more effective in 6 potency in comparison of 30 potency.

KEYWORDS: The assessment was done at Pre and Post-treatment and statistical test used at significance level <1 gm%.

INTRODUCTION

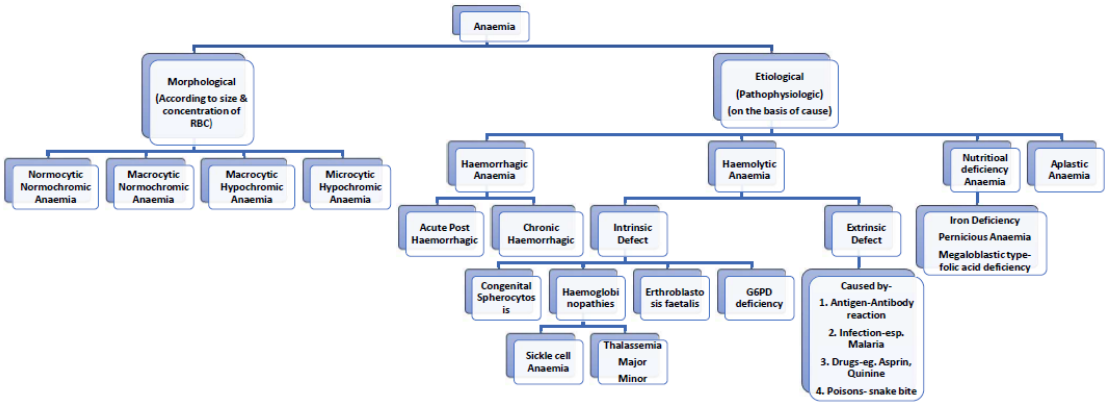
Anaemia is very common problem among children & females in most of developing countries like India. The word Anaemia comes from Greek words means without & blood. Anaemia may be defined as a state in which the blood haemoglobin level is below the normal range for the patient's age and sex.

Anaemia is a major problem in India many other developing countries. The incidence of anaemia is highest among women and young children, varying between 60 to 70%. Recent surveys indicate that in rural India anaemia is much more widespread than hitherto believed, even among men.[1][3]

As per the WHO's expert group, Anaemia should be considered to exit when the haemoglobin is below the following levels.[2]

	g/dl (Venous-blood)	MCHC (%)
Adult males	13	34
Adult Females-non pregnant	12	34
Adult Females-pregnant	11	34
Children, 6 months to 6 years	11	34
Children, 6 to 14 years	12	34

CLASSIFICATION OF ANAEMIA[1][2][3]



CAUSES OF ANAEMIA[2]

✧ *Decreased or ineffective marrow production*

1. Lack of Iron, B_{12} or folate
2. Hypoplasia
3. Invasion by malignant cells

✧ *Peripheral causes*

1. Blood loss
2. Haemolysis
3. Hypersplenism

CLINICAL FEATURES OF ANAEMIA[3][1]

Symptoms	**Signs**
1 Lassitude	1 Pallor of
2 Fatigue	- Skin
3 Breathlessness on exertion	- Mucous membranes
4 Palpitations	- Palms of hands
5 Throbbing	- Conjunctivae
6 Dizziness	2 Tachycardia
7 Tinnitus	3 Cardiac dilatation
8 Headache	4 Systolic flow murmurs
9 Dimness of vision	5 Oedema
10 Insomnia	
11 Paraesthesia in fingers and toes	
12 Angina	

Vanadium is a remedy in degenerative conditions of the liver and arteries; anorexia; tremors; vertigo; hysteria; emaciation; melancholia; gastrointestinal irritations and anaemia. Its action is that of an oxygen carrier and a catalyser, hence its use in wasting diseases.[4] It increases the amount of haemoglobin, also combines oxygen with toxins and destroys their virulence. Vanadium also increases and stimulates phagocytes.[5]

AIM

To ascertain the efficacy of Vanadium in cases of Anaemia.

OBJECTIVES

- To evaluate the outcome of Vanadium by analysing the improvement in Haemoglobin percentage.
- To ascertain the potency of Vanadium in which it is more effective.

HYPOTHESIS

- Null Hypothesis (H_0) – There is no significant difference between pre and post conditions of patients after dispensing vanadium in cases of Anaemia. It means Vanadium have no significant role in the management of Anaemia.
- Alternate Hypothesis (H_1) – There is significant difference between pre and post conditions of patients after dispensing vanadium in cases of Anaemia. It means Vanadium have significant role in the management of Anaemia.
- Alternate Hypothesis (H_2) – Either 6 or 30 potency of Vanadium is more effective in improving Hb % of Patients.

MATERIAL AND METHODOLOGY

Study Design: Experimental study, Single centred, Randomized clinical trial without controlled group, Single blind study.

Study Setting: The study was conducted at Dr. MPK Homoeopathic Medical College, Hospital & Research Centre, station road, Jaipur, Rajasthan.

Case Definition: Case selected as per DSMA (Diagnostic and Statistical Manual of Anaemia) 3/5 criteria and ICD-10-CODE D64.9

Study Duration: The study was conducted within 1 year.

Sampling Method and Sample Size: Probability method of Simple Random Sampling (SRS) was used for selection of sample. Approximately 100 cases of anaemia from both sexes & of different age groups were taken for the study, from OPD of Dr. MPK

Homoeopathic Medical College, Hospital & Research Centre, station road, Jaipur, Rajasthan.

Blinding: Single Blind Study, so patient does not know which potency is given to them.

Inclusion Criteria

- ☆ Patient of all age group and both sexes were taken for study.
- ☆ Patient selected from various socio-economic strata.
- ☆ As per the basis of first come first serve.
- ☆ Patients complying with regular follow up.

Exclusion Criteria

- ☆ Symptoms associated with any other disease condition.
- ☆ All medico-legal cases will be excluded.
- ☆ Complicated cases of Anaemia.
- ☆ Patients who were not cooperate during treatment.
- ☆ All the cases that did not fulfil the standard case definition.
- ☆ Patient without written consent.
- ☆ Immuno-compromised patient.

Intervention: Detailed clinical histories of all cases were taken, patients were subjected to thorough physical examination. The diagnosis of anaemia was based on clinical profile and the laboratory investigations, esp. Haemoglobin % estimation of the patient.

Informed consent document: Taken prior to beginning of study.

Assessment method: The level of percentage of haemoglobin was estimated at intervals of every 3 months and observes the efficacy i.e. change in haemoglobin % of the patient.

Ethical clearance: Institutional Ethical Committee was approved study protocol prior to beginning of study.

Record of Work: Preformed case taking proforma which was approved by the guide.

Source of Remedy: Hospital Dispensary.

Remedy application: Vanadium was given in 6 potency randomly to 50 patients and in 30 potency for the rest 50 patients irrespective of the patient's age & sex.

Medicine Dispense: Medicine had given in globules no. 60 through oral route.

Investigations: All necessary investigations were done at the institute.

Expected outcome: Improvement of symptoms of patients.

- ✧ Marked- When more than 75% improvement of symptoms in patients.
- ✧ Moderate- When more than 50% improvement of symptoms in patients.
- ✧ Mild- When more than 25% improvement of symptoms in patients.
- ✧ Status Quo- No improvement
- ✧ Drop Out- Patient leaves the case in between study.

Brief Procedure: 100 cases selected as per case definition by simple random sampling method from OPD of Dr. MPK Homoeopathic Medical College, Hospital & Research Centre, station road, Jaipur, Rajasthan. All the pros and cons of the study were explained to the patient and an informed consent document with the individual's signature was taken if one agree for the study. Detailed clinical histories of all cases were taken, all the necessary physical examination were done and medicine was prescribed in potency 6 randomly to 50 patients and in 30 potency to the rest 50 patients irrespective of the patient's age & sex.

OBSEVATIONS

The observations made here are based on the clinical study.

Table 1: Showing sex incidence of cases of anaemia.

S. No.	Sex	No. of patients	Percentage
1	Male	34	34%
2	Female	66	66%
	Total	100	100%

The above table reflects the percentage of patients suffering from anaemia, under study of 100 patients. Out of which 66% were female and 34% were males.

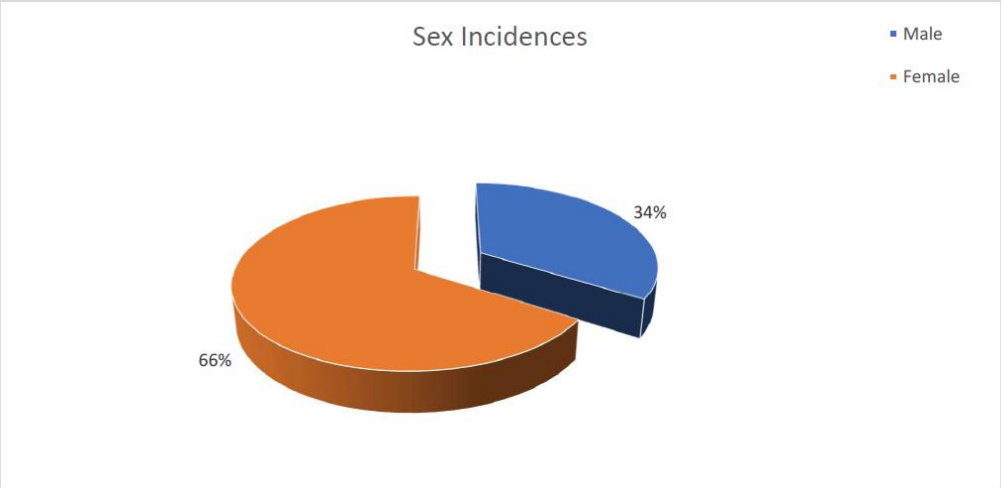


Figure-1.

Table 2: Showing Age and Sex incidence in 100 cases of anaemia.

S. No.	Age group in years	Male cases		Female	cases	Total no. of cases
		No.	%	No.	%	
1	1-10	11	11%	15	15%	26
2	11-20	5	5%	12	12%	17
3	21-30	7	7%	1	6	23
					16	
					%	
4	31-40	3	3%	8	8%	11
5	41-50	3	3%	6	6%	9
6	51-60	3		5		8
		3%		5%		
7	Above 60	2	2%	4	4%	6
	Total		34		66	100
			34		66	
			%		%	

The above table shows that maximum numbers of cases of anaemia i.e. 26% were observed in age group 1-10 years, out of which 15% were females & 11% males. 23% patients were observed in age group 21-30 years, out of which 16% were females & 7% were males, 17% cases were observed in age group 11-20 years, 11% cases lie in age group 31 to 40 years, out of which 12% were females & 7% were males, 9% cases lie in age group 41 to 50 years, out of which 6% were females & 3% were males. 8% cases observed in age group 51 to 60 years among them 5% were females & 3% were males & lowest 6% cases observed in patients above 60 years among them 4% were females & 2% were males.

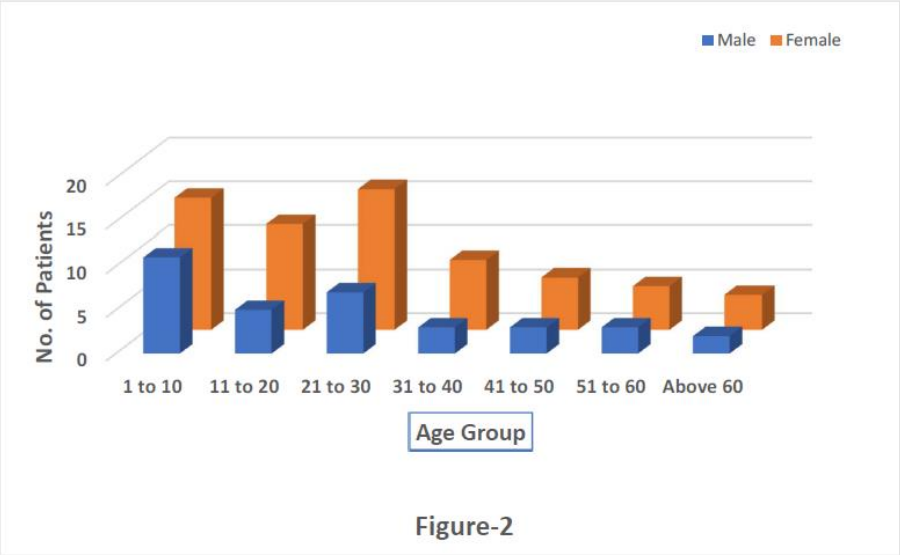


Figure-2

Table 3: Showing distribution of 100 cases according to religion.

S. No.	Religion	Number of Patients	Percentage
1	Muslim	56	56%
2	Hindu	35	35%
3	Sikh	8	8%
4	Christian	1	1%
	Total	**100**	**100%**

Among the 100 cases of anaemia maximum 56 cases (56%) were Muslims, 35 patients (35%) were Hindus, 8 patients (8%) were Sikhs & only 1 case (1%) was Christian.

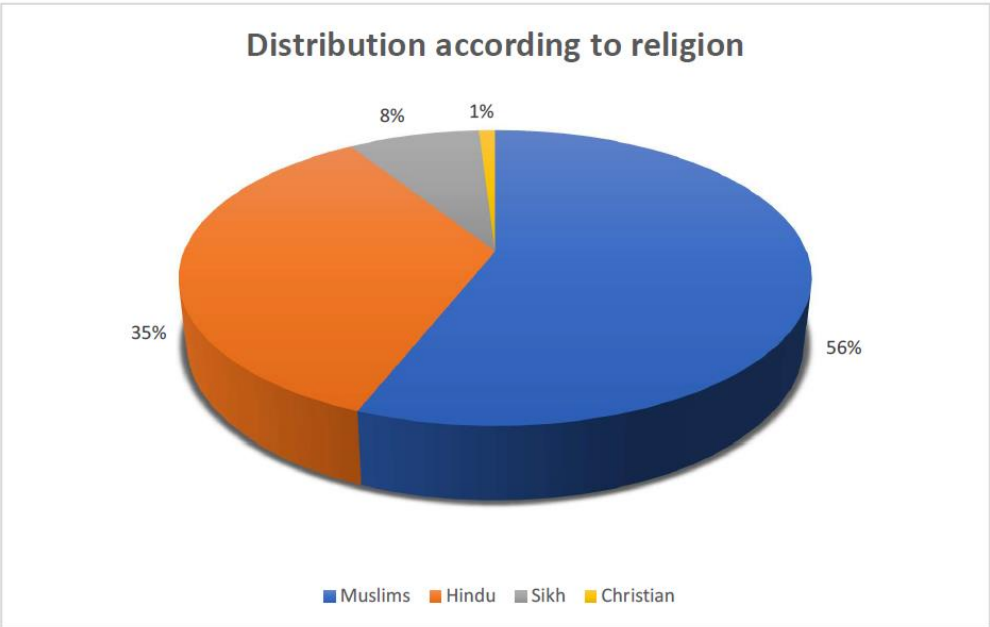


Figure-3.

Table 4: Showing the correlation between occupation & incidence of the disease in 100 cases.

S. No.	Occupation	Number of cases	Percentage
1	House-wife	32	32%
2	Student	29	29%
3	Labor	13	13%
4	Govt. Servant	11	11%
5	Private Service	8	8%
6	Business	7	7%
	Total	100	100%

Under the study group of 100 cases of anaemia the maximum incidences were observed in house-wives i.e. 32 cases (32%), 29 cases (29%) were students, 13 cases (13%) were labours, 11 cases (11%) were government servants, 8 cases (8%) were in private job & minimum incidence 7 cases (7%) were observed in businessmen.

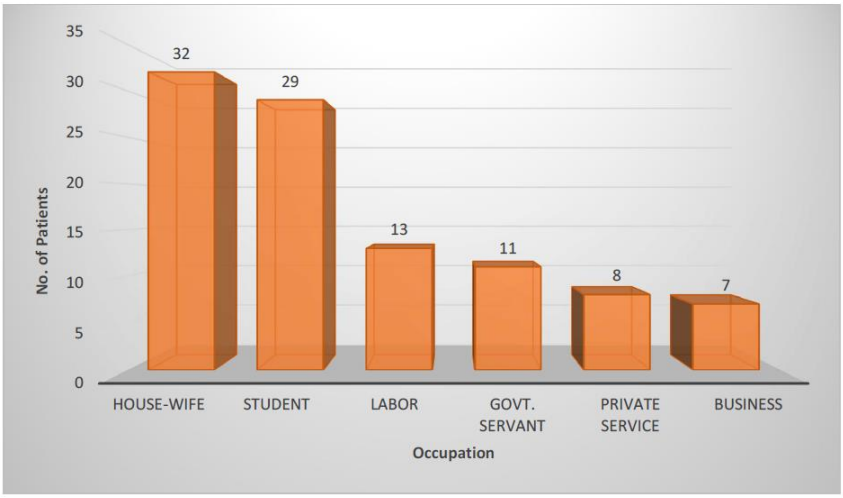


Figure-4.

Table 5: Showing incidence in socioeconomic groups in 100 cases.

S. No.	Socioeconomic Status	No. of Patients	Percentage
1	Lower	41	41%
2	Lower middle	32	32%
3	Middle	23	23%
4	Higher	4	4%
	Total	100	100%

The above table clarify that anaemia is most prevalent in lower socioeconomic group from 100 cases of the study 41 patients (41%) were belong to lower socioeconomic group (BPL), 32 patients (32%) were of lower middle group, 23 patients (23%) were of middle

socioeconomic group & lowest incidence (4%) were observed in higher socioeconomic groups.

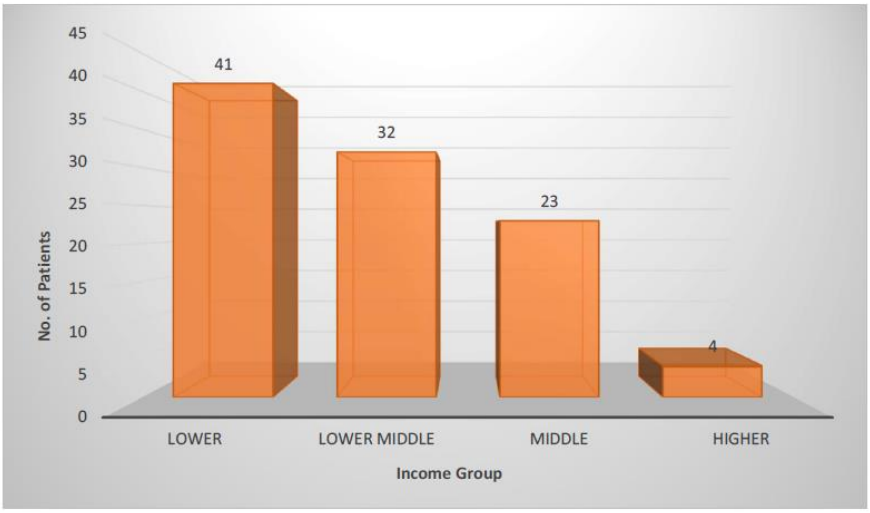


Figure-5.

Table 6: Showing frequency of presenting signs & symptoms in 100 cases.

S. No.	Presenting Signs and Symptoms	No. of cases	Percentage
1	Tiredness and Weakness	72	72%
2	Easy Fatigability/Lethargy-ness	66	66%
3	Sign of Pallor	56	56%
4	Anorexia	43	43%
5	Headache	31	31%
6	Breathlessness on exertion	28	28%
7	Palpitation	21	21%
8	Vertigo or attacks of faintness	19	19%
9	Menstrual disturbances	18	18%
10	Insomnia	5	5%

The above table shows that among 100 patients taken for study, 72 patients (72%) present symptoms of tiredness & weakness, 66% complained easy fatigability & lethargy-ness. The sign of pallor was shown by 56 cases (56%). Anorexia was complained by 43 patients (43%), 31 patients (31%) came with complaint of headache, 28 patients (28%) came with complaint of breathlessness on exertion, 21 cases (21%) present with palpitation, 19 patients (19%) complained vertigo or attack of faintness. Among female cases 18 patients (18%) were suffered from menstrual disturbances & only 5 patients (5%) complained the problem of insomnia.

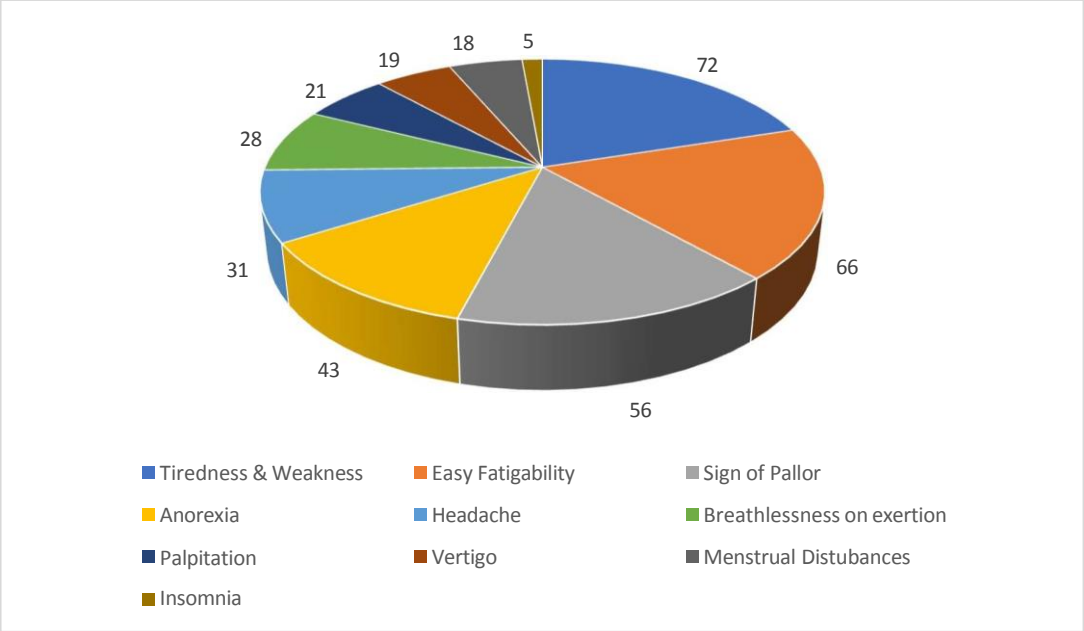


Figure-6.

Table 7: Showing Frequency of cases according to Hb% range.

S. No.	Number of Patients	Initial estimation of Hb% (in range)	Percentage
1	7	7.1-8.0 gm%	7%
2	21	8.1-9.0 gm%	21%
3	34	9.1-10.0 gm%	34%
4	22	10.1-11.0 gm%	22%
5	16	11.1-12 gm%	16%
	100	Total	100%

The above table shows that maximum number of cases i.e. 34% was observed in Hb% range from 9.1 to 10.0 gm%. The Hb% level of 22% patients was recorded between 10.1-11.0 gm%. Hb% level of 21% patients was recorded between 8.1-9.0 gm%. Hb% level between 11.1 to 12.0 gm% was shown by 16% cases & minimum number of cases i.e. 7% were recorded in range from 7.1 to 8.0 gm%.

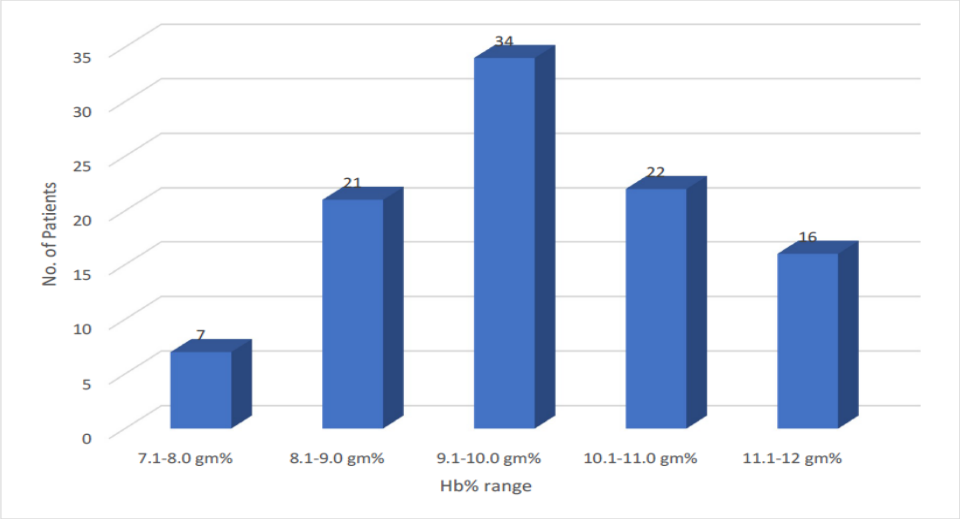


Figure-7.

Table 8: Showing distribution of cases according to potency used.

S. No.	Potency	Male		Female		Total
		Number	Percentage	Number	Percentage	
1.	6	13	13%	37	37%	50
2.	30	21	21%	29	29%	50
	Total	34	34%	66	66%	100

Above table reflects that Vanadium was prescribed in 6 potency to 50 patients, out of which 37 patients (37%) were females & 13 patients (13%) were males. Another 50 patients were prescribed vanadium in 30 potency, out of which 29 (29%) were females & 21 (21%) were males.

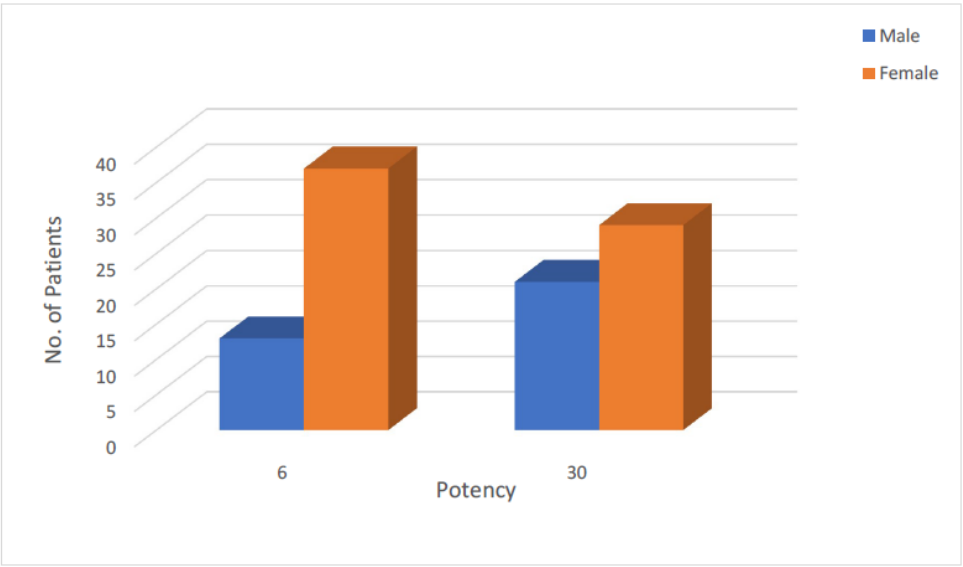


Figure-8.

RESULTS

Table 9: Showing result in 50 patients to whom Vanadium was given in 6 potency.

S. NO.	Result	No. of cases			Percentage
		Male	Female	Total	
1	Improvement	3	9	12	24%
2	Mild Improvement	4	10	14	28%
3	No Improvement	6	13	19	38%
4	Patients not turned up	0	5	5	10%
	Total	13	37	50	100%

The table reflects that among 50 patients 12 cases (24%) were improved, after taking vanadium 6, out of which 9 (18%) were females & 3 (6%) were males. 14 cases (28%) were shown mild improvement, out of which 10 (20%) were females & 4 (8%) were males. 13 (26%) females & 6 (12%) males, total 19 (38%) patients remain unaffected. 5 (10%) female patients left the treatment in mid.

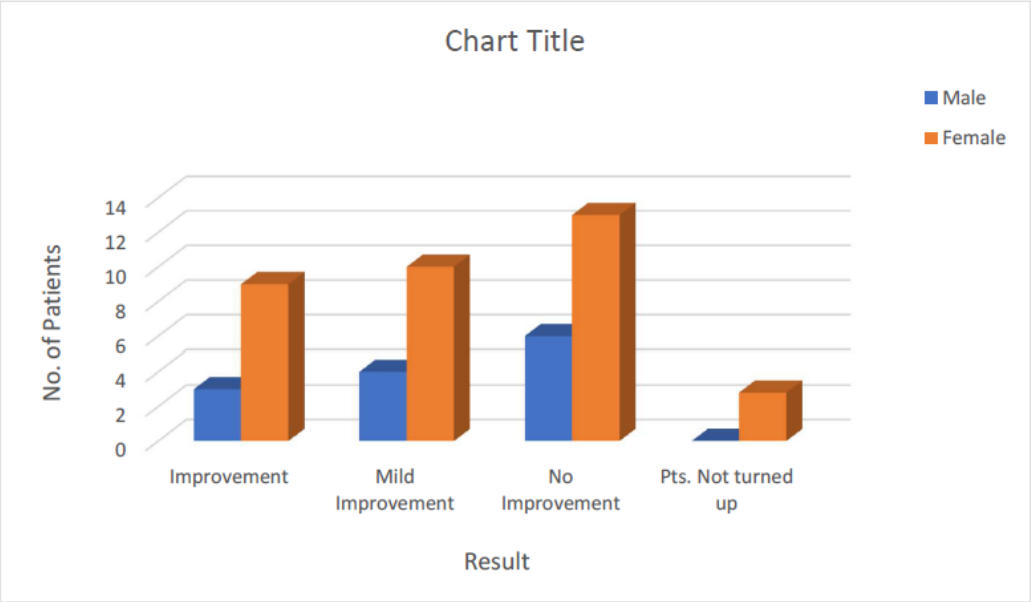
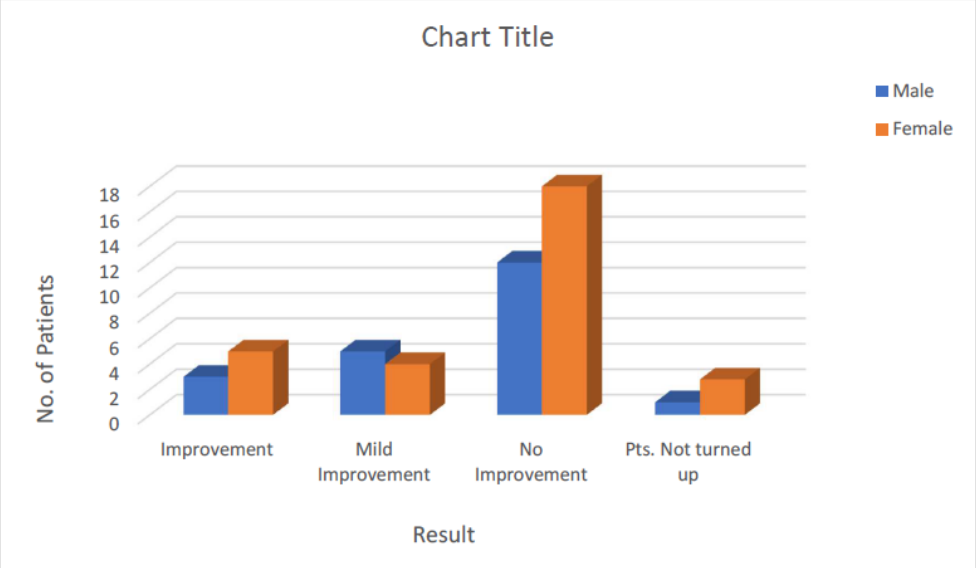


Figure-9.

Table 10: Showing result in 50 patients, who taken Vanadium in 30 potency.



The above table shows that among 50 patients to whom vanadium was prescribed in 30 potency, 8 cases (16%) shown improvement, out of which 5 (10%) were females & 3 (6%) were males. 9 (18%) pts., out of which 4 (8%) were females & 5 (10%) were males, shown mild improvement. 30 (60%) patients remained unaffected, out of which 18 (36%) were females, 12 (24%) were males. Out of 3 (6%) pts., who left the treatment, 2(4%) were females & 1 (2%) was male.

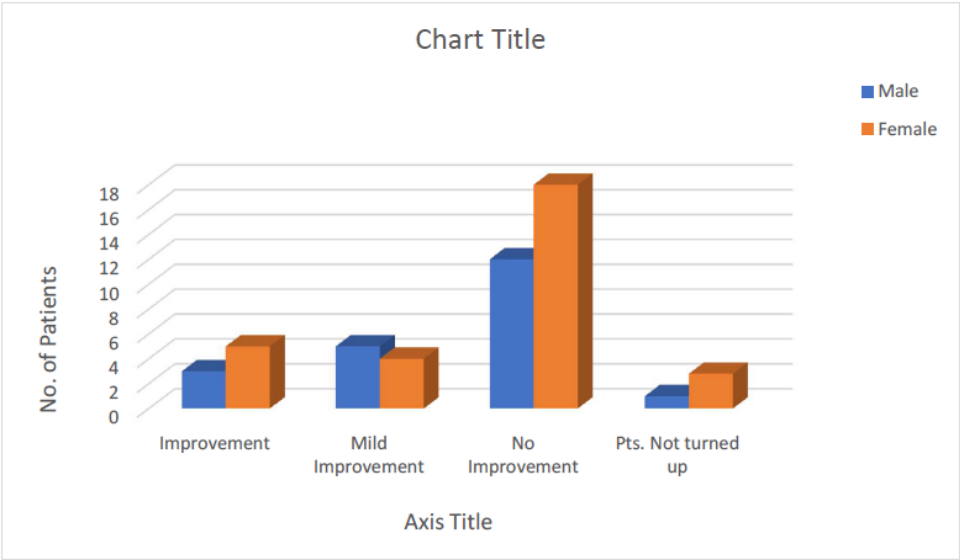


Figure-10.

Table 11: The table showing final result of the study of clinical verification in 100 cases.

S. No.	Result	No. of cases			Percentage
		Male	Females	Total	
1	Improvement	6	14	20	20%
2	Mild Improvement	9	14	23	23%
3	No Improvement	18	31	49	49%
4	Pts. Not turned up	1	7	8	8%
	Total	34	66	100	100%

The table shows that after application of vanadium in 100 cases of anaemia, 20 cases (20%) were improved, out of which 14 cases (14%) were females & 6 (6%) were males. While 23 cases (23%), out of which 14 (14%) were females & (9%) were males, shown mild improvement and 49 patients (49%) had no improvement in their state of anaemia, among them 31 (31%) were females & 18 (18%) were male patients.

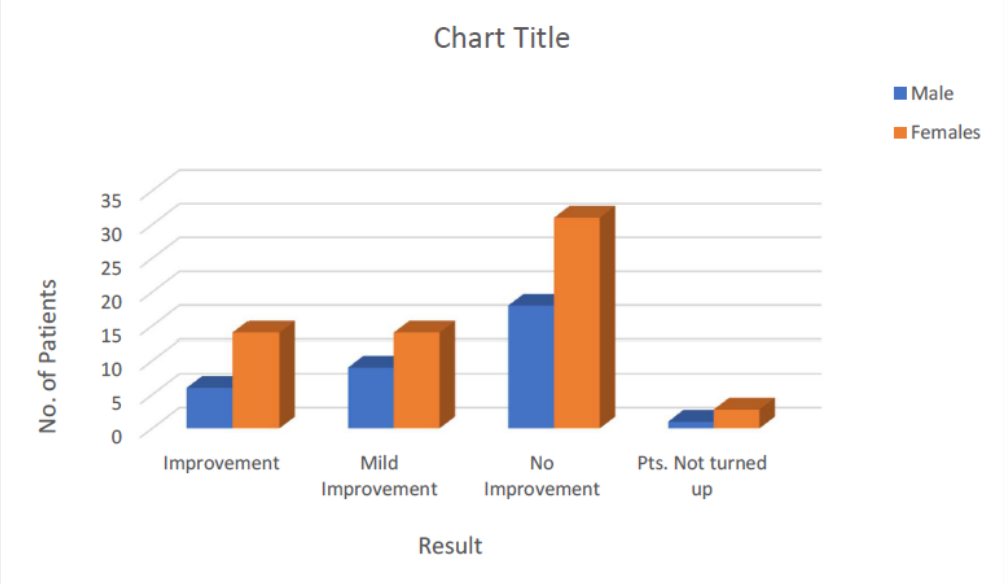


Figure-11.

Table 12: The table showing improvement in Hb% after taking vanadium for 6 months.

S. No.	Range of improvement in Hb% value	Result	No. of Patients		Total	Percentage
			Male	Female		
1	More than 2.1 gm%	Improved	1	5	6	6%
2	1.6 – 2.0 gm%	Improved	1	4	5	5%
3	1.1 – 1.5 gm%	Improved	4	5	9	9%
4	0.6 – 1.0 gm%	Mild Improvement	7	9	16	16%
5	0 – 0.5 gm%	Mild Improvement	2	5	7	7%
6	0 gm% (no change)	No Improvement	18	31	49	49%
7	Treatment left	Patients not turned up	1	7	8	8%
	Total		34	66	100	100%

The above table shows that out of 100 patients after taking vanadium for 6 months, in 6 (6%) patients Hb% value improved more than 2.1 gm%, in 5 (5%)
patients improvement were observed between 1.6 to 2.0 gm%, in 9 (9%)
patients improvement were observed between 1.1 to 1.5 gm%, in 16 (16%)
patients improvement was mild i.e. between 0.6 to 1.0 gm% and in 7 (7%) patients improvement was only up to 0.5 gm%. Out of 100 patients 49 (49%) patients had no improvement in their Hb% value & 8 (8%) patients were left treatment in between.

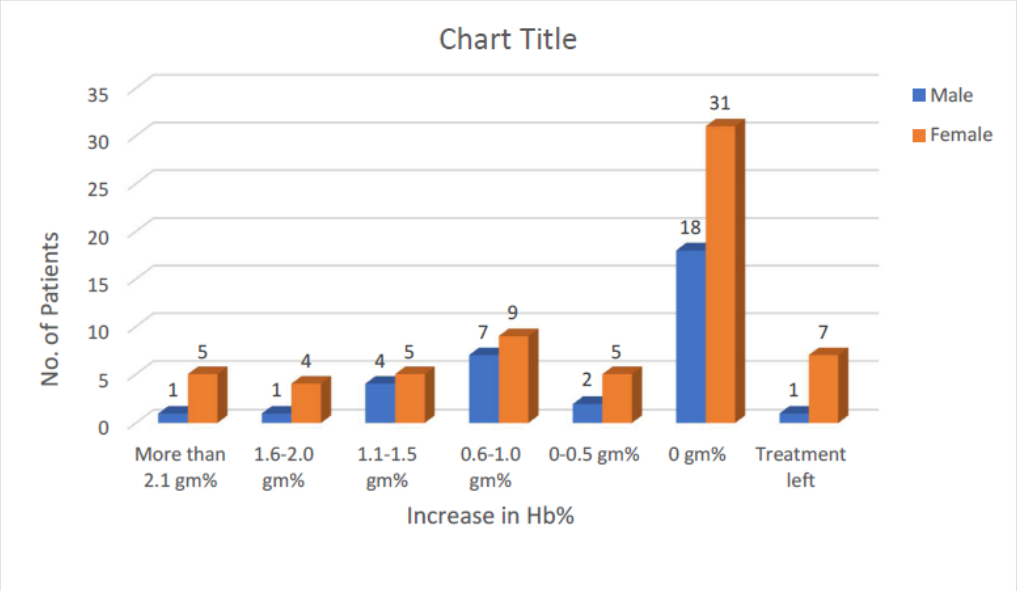


Figure-12.

DISCUSSION

The aim of this study was to know the efficacy of vanadium in cases of anaemia with statically support. After thorough clinical study of 100 cases, it has been discussed on following heads.

SEX: Under the head of introduction & prevalence of anaemia it is quoted that anaemia is more prevalent in females, observation of this study proves it, out of 100 cases, 66 cases (66%) were females and 34 cases (34%) were males.

AGE: Maximum number of cases of anaemia, 26, i.e. 26% was observed in age group 1-10 years, 23 cases (23%) were observed in age group 21-30 years, 17 cases (17%) were in age group 11-20 years, 11 cases (11%) laid in age group 31-40 years, 9 cases laid in age group 41-50 years, 8 cases observed in age group 51-60 years, and lowest 6% cases were of above

60 years.

RELIGION: This study shows that Muslims are more sufferers, may be due to large families, poor nourishment and ill literacy. In this study 56 cases (56%) were Muslims, 35 cases (35%) were Hindus, 8 patients (8%) were Sikhs and only 1 case was Christian.

OCCUPATION: It is also observed that maximum 32 patients (32%) were housewives, 29 (29%) were students, 13 (13%) were labours, 11 (11%) were government servants, 8 (8%) were in private job and minimum incidence 7 cases (7%) were observed in businessmen.

SOCIO-ECONOMIC STATUS: From the study it is clearly proved that anaemia is more prevalent in lower socioeconomic group, may be due to poor nourishment.

PRESENTING SIGNS AND SYMPTOMS: It is obtained that maximum number 72 cases (72%) present with tiredness and weakness. The second most presenting complaint of anaemia was easy fatigability and lethargy, shown by 66 cases (66%). Sign of pallor presents by 56% cases, anorexia by 43%, headache by 31%, breathlessness on exertion by 28%, palpitation by 21%, vertigo or faintness by 19%, menstrual disturbances by 18% and insomnia by only 5% cases.

HAEMOGLOBIN % RANGE OF PATIENTS: From 100 cases of study maximum cases 34 (34%) were fail in range of Haemoglobin % from 9.1 to 10.0 gm%, between 10.1 to 11.0 gm% were recorded of 22 (22%) patients, Haemoglobin % of 21 cases was between 8.1 to 9.0 gm%, Haemoglobin % of 16% cases was 11.1 to 12.0 gm% and Haemoglobin % of 7% cases was 7.1 to 8.0 gm%. Severe anaemia patients having Haemoglobin % below 7 gm% were not included in this study.

POTENCY: In this study vanadium was prescribed in 6 potency to 50 (50%) patients, another 50 patients were prescribed in 30 potency.

RESULT: As far as result is concerned it is clearly obtained from study that vanadium is more effective in 6 potency in comparison of 30 potency.

IMPROVEMENT IN HAEMOGLOBIN % VALUE: Out of 100 patients, in 6 (6%) patients Haemoglobin % was improved more than 2.1 gm%, in 5 (5%) patients improvement was observed between 1.6 to 2.0 gm%, in 9 (9%) patients improvement was observed

between 1.1 to 1.5 gm%, in 16 (16%) patients mild improvement was observed i.e. between 0.6 to 1.0 gm% & in 7 (7%) patients improvement was only up to 0.5 gm%.

SUMMARY AND CONCLUSION

After thorough clinical study this is to be concluded that.

- ☆ Anaemia is more prevalent in females.
- ☆ Anaemia is mostly found in the age group of 1-10 years.
- ☆ Muslims are most sufferers.
- ☆ Mostly housewives are anaemic.
- ☆ Anaemia is more prevalent in lower socioeconomic group.
- ☆ Tiredness & weakness are most frequent presenting symptoms of anaemia.

9.1 Maximum numbers of cases are observed in Haemoglobin % range from to 10.0 gm%.

- ☆ Vanadium is more effective in 6 potency than in 30.
- ☆ Overall 43 patients (43%) had shown more or less improvement in their Haemoglobin % in the study group of patients, after taking vanadium for 6 months.
- ☆ Haemoglobin % improvement between 0.6 to 1.0 gm% was observed in maximum 16 patients.

By the study which was conducted on a study group of 100 patients. This can be concluded that vanadium is an effective medicine for Anaemia and has power to increase haemoglobin. The following symptoms are confirmed for prescribing.

1. Anorexia
2. Breathlessness on exertion
3. Easy fatigability/ lethargy ness
4. Headache
5. Insomnia
6. Tiredness and weakness
7. Vertigo or attacks of faintness

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