

Research Article

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Effectiveness of Vediuppu chenduram in the management of Anaemia (Pandu) - An Open Clinical Trial

S. Visweswaran¹, S. Suganya², M.Murugesan³

¹Dept. of Gunapadam, National Institute of Siddha

²PG scholar, Dept. of Gunapadam, National Institute of Siddha

³HOD, Dept. of Gunapadam, National Institute of Siddha

Abstract

Even though the awareness programme and dietary advices are more than adequate, incidence and recurrence of iron deficiency Anaemia is still reporting. The main aim of the study was to assess the efficacy of herbo-mineral formulation Vediuppu Chenduram for iron deficiency Anaemia. It was diagnosed by clinical signs, symptoms with haemoglobin levels in the range of 7-12 mgs %. It was an open labeled, single center, prospective, pilot study conducted in 20 patients of iron deficiency Anaemia in National Institute of Siddha. All the patients were advised to take 520 mg of Vediuppu chenduram with adjuvant of Lemon juice twice a day after food for 30 days. After the treatment period there were prognosis of symptoms statistical analysis- paired 't' test "P" value showed 0.240 which is moderately significant and for rise of haemoglobin it showed $P < 0.001$ which is highly significant. No significant change in most of the safety laboratory parameters was observed at the end of the study. Hence Vediuppu Chenduram can be used in the treatment of iron deficiency Anaemia.

Keywords

Vediuppu Chenduram,
Siddha,
Anaemia,
Paandu

Introduction

Anaemia is a medical condition in which the red blood cell count or hemoglobin is less than the normal.⁽¹⁾ The World Health Organization (WHO) definition of Anaemia says that the decreased level of circulating haemoglobin will be less than 13 g/dl in male and 12 g/dl in females.⁽²⁾

It is the most common disease in the world. As well as affecting a large number of children and women in developing countries. Anaemia reduces the work capacity of individuals. The major health consequences include impaired physical and cognitive development, increased risk of morbidity in children and reduced work productivity in adults. Anaemia

contributes to 20% of all maternal deaths.⁽³⁾ Anaemia constitutes a serious health problem in many tropical countries.⁽⁴⁾ The prevalence of anaemia is found to range from 30% to 98% in different studies from different regions.⁽²⁾ Anaemia affects 2 billion people over 30% of the world's population.⁽³⁾

WHO regional office estimates from the data generated for pre-school age children and pregnant and non-pregnant women indicate that the highest proportion of individuals affected are in South-East Asia, where 315 million individuals in these three population groups are affected. Low socioeconomic status, illiteracy and lower body mass index were associated with higher prevalence of Anaemia.⁽⁵⁾

In India the overall prevalence of Anaemia in the age group of 16-70 years was 47.9% being 50% among females and 44.3% among males.⁽⁵⁾

The young population, both males and females with age group of 20-50 years from north Indian, were studied for the prevalence of anaemia with respect to the religion, blood group and the socio-demographic status. The prevalence of anaemia in females (20-50 years) was 70.1%, which included 48.7% of mild, 19.9% of moderate and 1.5% of severe anaemia cases. The prevalence of anaemia in Males (20-50 years) was 53.2%, with 34.3% suffering from mild, 17.7% from moderate and 1.2% from severe anaemia.⁽²⁾

WHO has developed guidelines on prevention and control of anaemia.⁽³⁾ Anaemia is correlated to Paandu in Siddha system of medicine. In Siddha text many formulation has been indicated for Paandu as effective.

Vediuppu Chendurum is a classical formulation mentioned in the Siddha text Anuboga Vaithiya Navaneetham(Part 3) for Paandu.⁽⁶⁾ Spring onion (*Allium cepa*) is one of the ingredient of Vediuppu Chendurum which contains iron and vitamin C favours for the treatment of anaemia.⁽⁷⁾

Materials and Methods

Ingredients of Vediupp chenduram:

1. Vediuppu (Potassium Nitrate) – 35 g
2. Vengayathaal juice (*Allium cepa*) – 325 ml

Purification of Vediuppu:⁽⁸⁾

Vediuppu was soaked in lemon juice and then dried in sun shadow for purification.

Preparation of the Medicine:⁽⁶⁾

Vediuppu was placed in a mudpot and the spring onion juice was poured up to the mouth of the mudpot. Then it was introduced in to Pudam process. Pudam process has to be continued till all the juice get completely vapourized. After the product has cooled down it was taken and ground well with spring onion juice for 1 samam (3 hrs). Then the drug Vediuppu was made in to villai and placed in an earthen pot which is covered by 5 layered cloth bandage. Then the earthen pot was introduced in to pudam process.

Cowdung cake was taken with the ratio of 4 times the weight of banded pot. After the process was completed it was taken out and the process was repeated again 3 times.

Clinical Study

Clinical study on “VEDIUPPU CHENDURUM” for “HAEMATINIC ACTIVITY” in the management of Paandu (Anaemia) were carried out in Ayothidass Pandithar Hospital of National Institute of Siddha, Chennai-47, with the IEC Approval No. NIS/ IEC/ 12-13/11

Sample Size : 20 patients of both sexes

Inclusion criteria:

Age : 19-60 yrs

Sex : Both sex

Patient having symptoms of

- Pallor of skin and mucous membrane
- Fatigue
- Dyspnoea on exertion
- Giddiness
- Insomnia
- Palpitation
- Poor appetite
- Any of the above 4 clinical symptoms, along with Hb level ranges between 7 and 12 mgs %

Patient who are willing to provide blood for lab investigation before and after treatment.

Patients who are willing to attend OPD once in 7 days.

Patient who are willing to be admitted in the hospital for 30 days.

Exclusion criteria:

- Renal failure
- Liver disorder
- Congestive cardiac failure
- Hemolytic anaemia (Sickle cell anaemia and Thalassaemia)
- Pregnancy and lactation

Withdrawal criteria:

1. Development of any adverse reactions
2. Occurrence of any other serious illness
3. Non co-operation of the patient

Treatment:

The drug VEDIUPPU CHENDURUM was administered internally in a dose of 520 mg b.d with Lemon juice (after food) for 30 days.

Conduct of the clinical trial:

Anaemia patients satisfying the inclusion criteria were admitted to the trial. Patient was informed about the trial and consent form was obtained. For Out-patients the trial drug was issued for seven days course. Weekly clinical assessment was done during review visit to the hospital.

The following investigations were done before and at the end of the treatment (Table 1-4).

Hb, TC, DC, TRBC, ESR, HCT/PCV, MCV, MCH, MCHC, and smear study, Glucose (F, PP), T.cholesterol, RFT and LFT, Urine test (Albumin, Sugar, Deposits)

Clinical Observation:

- For the clinical study of VEDIUPPU CHENDURUM on Paandu, 20 patients were selected.
- Among 20 patients, 19 patients (95 %) were in female, 1 patient (5%) was in male.
- According to age wise distribution 20% were in 15-30 years, 45% were in 31-45 years and 35% were in 46-60 years.
- Among 20 patients, 17 patients were pallor, 16 patients were affected from Dyspnoea on exertion, 16 patients were affected from Fatigue, 13 patients were affected with giddiness, 12 patients were affected from anorexia, 11 patients were affected with palpitation and 7 were affected with insomnia.
- From the clinical study, 64.71% patients relieved from pallor, 68.75% patients relieved from Dyspnoea on exertion, 62.5% patients relieved from Fatigue, 61.53% patients relieved from giddiness, 66.66% patients relieved from anorexia, 63.63% patients relieved from palpitation, 71.42% patients

relieved from insomnia and no adverse effects were observed during trial period.

Conclusion

Clinical study revealed the therapeutic efficacy of the trial drug by showing raise in Haemoglobin, Haematocrit value, TRBC significantly. There was improvement in other clinical symptoms before and after treatment. There were no adverse reactions complained during the clinical trial.

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Table-1 Symptoms before and after treatment for anaemia patients

S.NO	OPD NO	AGE/ SEX	PALLOR		DYSPTNOEA		FATIGUE		GIDDINESS		ANOREXIA		PALPITATION		INSOMNIA	
			BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	E008394	43/F	+	-	-	-	+	-	-	-	+	-	+	-	-	-
2	E009252	29/F	+	-	+	-	+	+	+	+	+	-	+	-	-	-
3	E008379	47/F	+	-	+	-	-	-	+	-	-	-	-	-	-	-
4	E007433	43/F	+	+	+	+	+	-	-	-	-	-	+	+	-	-
5	E011977	31/F	+	-	+	-	+	+	-	-	+	-	-	-	+	-
6	E008769	46/F	+	-	+	+	-	-	+	+	-	-	+	-	-	-
7	E016819	53/F	+	+	+	-	+	-	-	-	+	+	-	-	-	-
8	E016506	28/F	+	-	-	-	+	-	+	-	-	-	-	-	+	+
9	E008794	41/F	+	-	+	+	+	-	+	-	-	-	+	-	+	-
10	E012143	43/F	-	-	+	-	-	-	-	-	+	-	-	-	-	-
11	E010385	28/F	+	-	+	-	+	+	+	+	+	-	+	+	-	-
12	E014350	60/F	+	+	-	-	+	-	+	-	+	-	+	-	+	+
13	E011766	33/F	+	+	+	+	+	-	-	-	+	-	-	-	-	-
14	E007526	47/M	-	-	+	-	+	+	+	+	-	-	+	+	-	-
15	E014492	19/F	+	+	+	-	-	-	+	-	+	+	-	-	+	-
16	E008224	50/F	+	-	+	-	+	+	+	+	-	-	+	-	-	-
17	E010298	35/F	+	-	-	-	+	+	+	-	+	-	-	-	+	-
18	E010178	45/F	-	-	+	+	+	-	-	-	+	+	-	-	-	-
19	E015621	42/F	+	-	+	-	+	-	+	-	-	-	+	-	+	-
20	E014403	57/F	+	+	+	-	+	-	+	-	+	+	+	+	-	-

Table 2 Before and after blood investigation for anaemia patients

S.NO	OPD NO	AGE/ SEX	Hb (gm/dl)		PCV(%)		MCV(fl)		MCH(pg)		MCHC(gm/dl)		T.RBC(mill/μl)	
			BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	E008394	43/F	8.5	10	31.8	35.9	71.1	79.9	17.1	25.3	26.7	29.9	4.9	4.9
2	E009252	29/F	11.3	13.9	31.6	45.2	75.9	83.4	26.5	26.8	29.7	33.0	4.2	4.3
3	E008379	47/F	10.3	11.6	34.1	35.8	73.6	88.4	26.9	28.6	30.2	32.4	4.2	4.0
4	E007433	43/F	9.6	11.1	31.8	38.5	72.9	78.4	23.6	27.8	30.2	31.3	4.0	4.1
5	E011977	31/F	9.8	11.6	33.2	35.6	70.8	83.2	25.6	27.1	29.4	32.6	4.1	4.2
6	E008769	46/F	9.3	11.3	31.4	37.6	73.4	81.8	21.7	26.0	29.6	31.7	4.2	4.3
7	E016819	53/F	10.1	11.5	33.1	37.0	74.1	79.1	22.6	25.7	27.6	31.0	4.0	4.8
8	E016506	28/F	9.4	11.7	31.5	35.4	78.4	88.3	23.1	30.3	29.7	34.3	4.2	4.4
9	E008794	41/F	9.9	11.9	34.9	39.4	63.7	90.9	19.2	27.3	30.1	33.1	5.9	6.0
10	E012143	43/F	10.4	12.8	33.7	41.5	79.4	83.4	25.7	29.2	30.9	30.8	4.0	4.1
11	E010385	28/F	8.1	10.5	29.2	36.9	62.4	84.4	17.3	26.9	27.7	31.9	3.9	4.2
12	E014350	60/F	9.5	9.9	31.9	40.3	68.3	85.7	20.3	25.4	29.8	29.7	4.1	4.1
13	E011766	33/F	8.5	10.8	31.6	42.8	60.2	81.9	25.9	28.6	25.6	34.7	5.0	5.1
14	E007526	47/M	10.9	13.8	32.9	43.4	75.2	84.3	25.9	28.2	29.0	32.3	4.1	4.2
15	E014492	19/F	8.2	11.9	29.9	37.0	62.6	88.7	17.2	30.5	27.4	32.2	4.1	4.2
16	E008224	50/F	11.2	13.8	32.1	42.2	72.3	91.7	24.3	30.0	30.1	32.7	4.4	4.4
17	E010298	35/F	9.7	12.0	30.1	37.5	76.7	82.4	25.6	27.3	29.1	33.1	3.8	3.9
18	E010178	45/F	10.7	12.8	30.5	36.2	73.4	81.4	27.0	26.4	31.8	33.4	3.9	4.0
19	E015621	42/F	7.9	10.4	28.9	35.2	60.5	82.9	16.9	29.5	26.6	29.5	4.0	4.2
20	E014403	57/F	10.4	11.4	31.8	37.9	63.2	79.7	19.3	31.2	27.8	30.1	3.8	4.0

Table-3 Blood investigation for anaemia patients- before treatment

S.No	OPD	AGE	SEX	PLT (lak/ μ l)	TC (Cells/ μ l)	DC(%)			ESR (mm/hr)		B.sugar (mg/dl)		Lipid profile (mg/dl)					LFT (IU/L)			RFT (mg/dl)		URINE				
						P	L	MXD	1/2	1	FBS	PPBS	T.cho	HDL	LDL	VLDL	TGL	SGOT	SGPT	ALP	UREA	CREA	SUG	ALB	Deposits		
						PUS		EPI																			
1	E008394	43	F	4.2	10400	70	26	4	12	26	91	105	229	55	127	21	103	21	22	176	24	0.7	NIL	NIL	1-2	3-4	
2	E009252	29	F	3.0	10200	75	22	3	6	4	95(R)	-	135	33	52	15	76	19	12	68	30	0.8	NIL	NIL	2-4	5-8	
3	E008379	47	F	2.8	5700	60	36	4	4	16	131(R)	-	146	35	52	17	85	10	8	86	27	0.8	NIL	NIL	3-5	2-4	
4	E007433	43	F	108	7000	45	41	14	4	8	108	123	158	39	79	50	73	23	24	210	28	0.9	NIL	NIL	3-4	4-5	
5	E011977	31	F	3.1	8500	60	34	6	6	18	98(R)	-	192	29	102	26	129	12	15	79	14	0.7	NIL	NIL	3-5	3-5	
6	E008769	46	F	2.4	7300	66	28	6	4	12	106(R)	-	170	38	99	24	121	13	14	76	27	0.9	NIL	NIL	2-7	3-4	
7	E016819	53	F	3.1	8100	75	21	4	10	34	119(R)	-	162	39	100	25	130	16	10	184	17	0.8	NIL	NIL	1-2	2-3	
8	E016506	28	F	2.7	9100	53	40	6	22	46	106	122	138	28	80	42	118	38	28	110	28	0.9	NIL	NIL	2-3	1-2	
9	E008794	41	F	3.2	7100	72	26	2	6	12	108	120	190	43	103	56	278	20	21	176	36	0.8	NIL	NIL	3-5	2-3	
10	E012143	43	F	3.2	11600	62	33	5	7	14	118(R)	-	163	28	86	38	192	16	20	69	19	0.8	NIL	NIL	2-4	3-5	
11	E010385	28	F	2.1	8800	55	40	5	8	16	112(R)	-	134	32	84	37	186	19	22	76	18	0.7	NIL	NIL	1-2	3-4	
12	E014350	60	F	2.6	9000	72	25	3	6	12	128	131	198	39	109	20	124	12	14	145	29	0.9	NIL	NIL	2-5	4-5	
13	E011766	33	F	3.8	7100	62	33	5	2	10	108	121	67	21	23	10	50	12	14	57	17	0.6	NIL	NIL	1-3	2-3	
14	E007526	47	M	2.6	7400	65	26	9	6	14	82	112	136	42	56	19	90	19	21	179	18	0.5	NIL	NIL	2-3	2-6	
15	E014492	19	F	3.8	6000	59	36	5	4	12	107(R)	-	145	36	62	28	81	21	16	82	14	0.7	NIL	NIL	2-5	1-3	
16	E008224	50	F	2.4	7400	54	38	8	10	24	108	136	225	50	73	52	260	35	37	175	15	0.8	NIL	NIL	3-6	3-6	
17	E010298	35	F	2.7	4200	65	28	7	14	28	122	132	167	41	56	19	94	20	21	125	16	0.6	NIL	NIL	1-3	2-4	
18	E010178	45	F	2.2	4700	61	38	4	2	4	110(R)	-	122	30	183	11	83	15	17	86	17	0.6	NIL	NIL	1-2	2-3	
19	E015621	42	F	3.6	6400	61	35	4	3	6	98	105	143	35	73	15	77	12	14	181	23	0.9	NIL	NIL	2-4	3-5	
20	E014403	57	F	2.3	7200	65	34	3	12	24	116	132	159	45	75	21	105	29	17	90	30	0.8	NIL	NIL	4-5	2-4	

Table-4 Blood investigation for anaemia patients-after treatment

S.No	OPD	AGE	SEX	Plt (lak/ μ l)	TC (Cells/ μ l)	DC(%)		ESR (mm/hr)		B.sugar (mg/dl)			Lipide profile (mg/dl)					LFT (IU/L)				RFT (mg/dl)	URINE		Deposits	
						P	L	MXD	I/2	1	FBS	PPBS	T.cho	HDL	LDL	VLDL	TGL	SGOT	SGPT	SALKPHO	UREA	CREA	SUG	ALB	Deposits	
																									PUS	EPI
1	E008394	43	F	5.4	10000	70	26	4	10	20	82(R)	-	200	43	106	25	124	14	11	84	28	0.7	NIL	NIL	1-2	2-4
2	E009252	29	F	3.1	7900	70	27	3	4	16	110(R)	-	134	34	51	17	78	18	14	66	31	0.6	NIL	NIL	2-4	4-7
3	E008379	47	F	3.0	6900	62	32	5	8	16	135(R)	-	120	34	48	19	82	12	15	72	26	0.8	NIL	NIL	2-4	3-5
4	E007433	43	F	3.0	6800	45	39	16	2	4	91	112	160	40	79	48	78	24	25	200	27	0.7	NIL	NIL	2-3	3-4
5	E011977	31	F	3.4	11500	70	25	5	6	14	86(R)	-	180	28	100	25	126	13	10	60	15	0.5	NIL	NIL	3-4	2-3
6	E008769	46	F	2.4	6700	66	28	6	6	16	106(R)	-	152	37	80	26	110	16	11	93	26	0.8	NIL	NIL	1-3	2-4
7	E016819	53	F	2.8	6800	72	24	4	8	16	99(R)	-	140	36	88	24	122	18	12	180	25	0.9	NIL	NIL	3-4	2-3
8	E016506	28	F	2.7	6900	52	42	5	4	8	103(R)	-	142	28	72	38	117	39	27	107	30	0.7	NIL	NIL	1-4	3-4
9	E008794	41	F	3.4	7900	64	33	3	4	12	106(R)	-	188	58	90	46	230	22	23	172	35	0.8	NIL	NIL	2-3	3-4
10	E012143	43	F	3.3	11300	60	36	4	8	16	116(R)	-	150	29	83	37	189	18	21	70	22	0.7	NIL	NIL	1-3	1-2
11	E010385	28	F	2.6	7000	56	39	5	2	6	82	102	130	34	80	38	185	18	20	77	24	0.8	NIL	NIL	1-2	2-4
12	E014350	60	F	2.7	8600	70	24	6	8	16	102	121	186	38	100	21	121	14	23	140	30	0.9	NIL	NIL	2-3	1-2
13	E011766	33	F	3.4	6100	60	34	6	2	8	106	118	78	22	23	12	52	15	26	58	18	0.7	NIL	NIL	1-4	2-4
14	E007526	47	M	3.0	7200	70	26	4	12	26	98(R)	-	140	39	65	23	92	27	16	99	20	0.5	NIL	NIL	2-6	2-4
15	E014492	19	F	3.2	6700	69	26	5	2	4	85(R)	-	137	41	58	19	79	23	19	88	16	0.6	NIL	NIL	2-3	1-2
16	E008224	50	F	3.1	7400	55	41	4	9	18	113	127	198	42	106	53	218	55	40	94	29	0.6	NIL	NIL	2-5	1-4
17	E010298	35	F	2.6	4800	63	29	8	12	24	108	115	172	40	53	20	90	22	21	127	18	0.5	NIL	NIL	1-2	2-3
18	E010178	45	F	2.4	5700	60	37	3	3	6	99(R)	-	142	32	182	14	85	16	18	88	18	0.7	NIL	NIL	1-3	2-4
19	E015621	42	F	3.1	6500	56	39	5	5	10	99	104	154	39	72	19	76	12	17	179	24	0.7	NIL	NIL	1-2	3-4
20	E014403	57	F	2.4	7300	69	27	4	7	14	117	139	162	43	78	20	111	28	18	92	32	0.7	NIL	NIL	3-4	2-4

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