The using effects of Nettle herb in elevating Hb&PCV levels

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Abstract:

A dose of ten grams of the roots and leaves of Nettle (Urtica dioica) dissolved in (200)ml of boiled water then covered for (10)min. was given to a sample of (15) patients attending to the herbal department of ministry of health complaining of malnutrition and low Hb(hemoglobin) concentration and PCV(packed cell volume) levels with absence of any other predisposing factors disease inorder to find the effects of these roots and leaves on Hb and PCV levels for different periods of time in relation to age and sex variations .

The study have shown that this mixture has a high significant effect ($p<0.001$) in elevating (Hb) concentration and PCV levels on those patients according to the differences recorded from the start of the basic period until the end of the experiment and this increase was significantly apparent in the (4^{th}) week of the experiment. The relation of the age and sex variation were estimated according to the results of the experiment which showed no significant relationship ($p<0.005$).

Introduction:

The plant (Nettle) comes from the family urhcaceae and has about 500 species. It can be found in south and north of al-jazeera Western desert, Amadia and Rawandose in north part of Iraq (1). It has dispersed throughout the world from Europe to Asia, Japan, South Africa and Austral in (3).

The clinical and nutritional content of Nettle includes Choline, Chlorophyll formic acid, Iodine, Magnesium, Potassium, Silicon, Iron, Sodium, Sulfur, iron and vitamins A,B and C .(3-4-5)

Medicinal uses: Nettle is known for it's detoxifying and laxative properties in addition to stimulating metabolism, improving digestion and relieving pain (5).

As a result of containing the Nettle such important elements which are involved in homeostasis of red blood cell (R.B.C.) in addition to the other properties of increasing Iron and folic acid absorption (6); therefore this work is undertaken to study the effect of this herb on Hb and PCV level instead of different medical drugs which may have different or dangerous side effects.

Material and Method:

Fifteen patients (10 male,5 female)were attending to the herbal department of Ministry of health with age ranging between (25 – 38) years suffering from anemia were given roots and leaves of Nettles instead of medicines. Each patient took (10)gm of Nettle (leaves and roots), dissolved in (200)ml of boiling water and left to cool, then became ready for drinking by the patients three times daily after meals and for (4) weeks duration .

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The (Hb and PCV) levels were recorded before the start of the treatment and then estimated weekly until the end of the experiment (appendix A, B).
The method of Hb was analysed by (cyanomethamoglobin) and the method of PCV was analysed by (Haemtcrit centrifuge 10000 R.P.M). (2-7)
The results were tabulated and a statistical analysis was done to find the significant differences.
All calculations were done under the statistical program of social science (spss) v.10.0 on Pentium (3)

The Results:

The results have shown that there were too highly significant differences at $p<0.00$, in the Hb and pcv levels with development time period of experiment (table 1, figure 1) and (table 2, figure 2).

Table (1) showed descriptive statistics of differences Hb levels by different period of time

Hb levels weekly	No.	Mean gm/100ml	std. Deviation	comparison
Hb0	15	8.933	0.753	H.S
Hb1	15	9.700	0.751	
Hb2	15	10.067	0.704	p<0.000
Hb3	15	10.783	0.678	
Hb4	15	11.233	0.678	

Fig (1): showed the Hb. Levels with different period of time

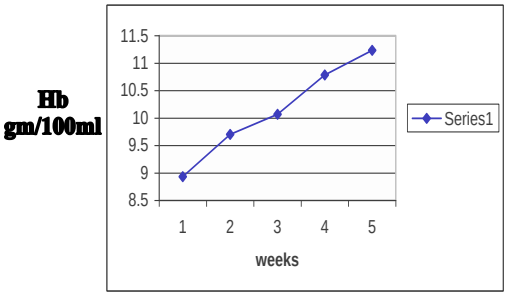
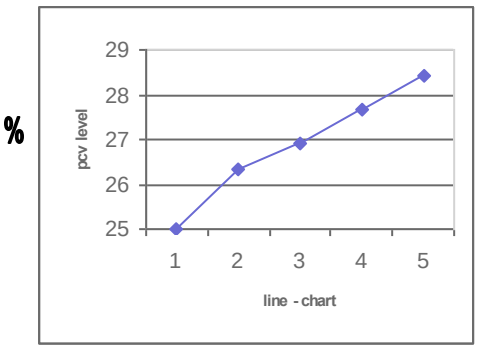


Table (2) showed descriptive statistics of differences pcv levels by different period of time

pcv levels weekly	No.	Mean %	std. Deviation	c.s (by-period t-test) (p- value)
Pcv0	15	25.000	0.535	Hs 0.000
Pcv1	15	26.330	0.585	
Pcv2	15	26.933	0.621	
Pcv3	15	27.660	0.598	
Pcv4	15	28.420	0.648	

Fig (2): showed the PCV. Levels with different period of time



In addition to that pair wise multiple comparisons between different periods of time which shows significant differences of changes between the initial and the final periods of time at $p<0.05$ whereas it has too highly significance (table 3,4).

Table (3) inferential statistics of different Hb responses by different period of time

Time/ weekly	Initial	1st	2nd	3rd	4th
Initial	-	HS (0.024)	HS (0.000)	HS (0.000)	HS (0.000)
1st		-	HS (0.000)	HS (0.000)	HS (0.000)
2nd			-	HS (0.000)	HS (0.000)
3rd					HS (0.000)
4th					-

Table (4) descriptive and inferential statistics of different Pcv responses by different period of time.

Time/ weekly	Initial	1st	2nd	3rd	4th
Initial	-	HS (0.000)	HS (0.000)	HS (0.000)	HS (0.000)
1st		-	HS (0.000)	HS (0.000)	HS (0.000)
2nd			-	HS (0.001)	HS (0.000)
3rd					HS (0.000)
4th					-

Table (5) showed the descriptive statistics of differences which were obtained by initial and final period of times of Hb factor which showed that the range of differences was (3) mg/lit.

Table (5) descriptive statistics differences between initial and final period of times of Hb factor

factor	N	Min.	Max.	Mean	Std.dev.
DHb ValidN (List wise)	15 15	1.5	4.5	2.367	0.812

Table (6) showed some descriptive statistics of differences which were obtain by initial and final period of times of Pcv factor which showed that the range of differences was (6.5).

Table (6) different between initial and final period of time of PCV factor

factor	N	Range	Min.	Max.	Mean	Std.dev.
DPcv Valid N (List wise)	15 15	5.5	1.5	7	3.353	1.320

Table (7, 8) showed the observed frequencies with their percentage within sex differences within total, in addition to that comparison significant of continence coefficient with P value was obtained which gave a non – significant correlationship between the two factors of table at $p<0.05$.

Table (7) cross tabulation between different levels of different Hb reading (initial with final period of time) distributing among both sex

Sex group	Differences of Hb					Total	C.C P.value
	1.5	2.0	2.5	3.0	4.5		
(female) sex count	3	-	-	1	1	5	0.604 P<0.05 (NS)
% within sex	60%	-	-	20%	20%	100 %	
% within DHb	75%	-	-	33.3 %	100 %	33.3 %	
% of total	20%	-	-	6.7%	6.7%	33.3 %	
(Male) count	1	3	4	2	-	10	
% within sex	10%	30%	40%	20%	-	100 %	
% within DHb	25%	25%	100 %	66.7 %	-	66.7 %	
% of total	6.7%	20%	26.7 %	13.3 %	-	66.7 %	
(Total) count	4	3	4	3	1	15	
% within sex	26.7 %	20%	26.7 %	20%	6.7%	100 %	
% within DHb	100 %	100 %	100 %	100 %	100 %	100 %	
% of total	26.7 %	20%	26.7 %	20%	6.7%	100 %	

Table (8) cross tabulation between different levels of different PCV reading

Sex group	Differences of Pcvs			Total	C.C P.value
	1	2	3		
(female) sex count	3	2	-	5	0.232 P<0.05 (NS)
% within sex	60%	40%	-	100%	
% within DPcvs	42.9%	28.6%	-	33.3%	
% of total	20%	13.3%	-	33.3%	
(Male) count	4	5	1	10	
% within sex	40%	50%	10%	100%	
% within DPcvs	57.1%	71.4%	100%	66.7%	
% of total	26.7%	33.3%	6.7%	66.7%	
(Total) count	7	7	1	15	
% within sex	46.7%	46.7%	6.7%	100%	
% within DHb	100%	100%	100%	100%	
% of total	46.7%	46.7%	6.7%	100%	

(initial with final period of time)

Table (9,10) showed the observed frequencies with their percentage within age and differences within total , in addition to that comparison significant of continence coefficient with p value was obtain which gave a non- significant correlationship between the two factors of table at p<0.05.

Table (9) cross tabulation between different levels of different Hb reading (initial with final period of time) distributing among both age group

Age group	Differences of Hb					Total	C.C P.value
	1.5	2.0	2.5	3.0	4.5		
Ages (1) count	1	3	2	1	-	7	0.511 P<0.05 (NS)
% within ages	14.3%	42.9%	28.6 %	14.3 %	-	100%	
% within DHb	25%	100%	50%	50 %	33.3%	46%	
% of total	6.7%	20%	13.3 %	6.7 %	-	46%	
(2) count	3	-	2	2	1	8	
% within ages	37.5%	-	25%	25 %	12.5%	100%	
% within DHb	75%	-	50%	66.7 %	100%	53.3%	
% of total	20%	-	13.3 %	13.3 %	6.7%	53.3%	
(Total) count	4	3	4	3	1	15	
% within ages	26.7%	20%	26.7 %	20 %	6.7%	100%	
% within DHb	100%	100%	100 %	100 %	100%	100%	
% of total	26.7%	20%	26.7 %	20 %	6.7%	100%	

Table (10) cross tabulation between different levels of different PCVs reading (initial with final period of time) distributing among both sex among both age group

Age group	Differences of Pcvs			Total	C.C P.value
	1	2	3		
Ages (1) count	3	3	1	7	0.275 P<0.05 (NS)
% within ages	42.9%	42.9%	14.3%	100%	
% within DPcvs	42.9%	42.9%	100%	46.7%	
% of total	20%	20%	6.7%	46.7%	
(2) count	4	4	-	8	
% within ages	50%	50%	-	100%	
% within DPcvs	57.1%	57.1%	-	53.3%	
% of total	26.7%	26.7%	-	53.3%	
(Total) count	7	7	1	15	
% within ages	46.7%	46.7%	6.7%	100%	
% within DPcvs	100%	100%	100%	100%	
% of total	46.7%	46.7%	6.7%	100%	

Discussion:

From the descriptive statistics mean, standard deviation as whole multiple comparison of different period of times for Hb and Pcv factors, (Table1, 2), The results have shown that there were too highly significant differences at P<0.000, whereas the figure of line chart represents the high changes which were obtained by the effect of the suggested Nettle .The result shows clearly the increase of the Hb and Pcv levels with the developing time period of the experiment (4-5) . In addition to that pair wise multiple comparison between different periods of time shows significant differences of change between initial and the first period of time at 0.05 whereas highly significant difference at p<0.000, at the others contrast pairs comparison were obtained. These results gave an attention to put an extreme period of time (4) weeks as a final of this study, because the over dose may cause damage in hepatic tissues (8).

The descriptive statistics of differences which were obtained by initial and final period of times of Hb and Pcv factors have shown that the range of differences was (3)mg/lit for Hb level and 6.5 for Pcv gave highly grade of changes between sample individual patients(5-8).table(5,6). From the observed frequencies with their percentage within sex and differences which were mentioned by the previous table and within total, in addition to that a comparison significance of continence coefficient with P value were obtained and gave a non-significant correlationship parameter was approximately accepted(9-10).(Table 7,8).The observed frequencies with their percentage within age and differences which were mentioned by the previous

table and within total. In addition to that Coefficient with(P)value was obtained which gave a non- significant correlationship between the factor of table at $p< 0.05$ which revealed to cause effect of small sample size whereas the result correlationship parameter was approximately accepted (Table9,10).

According to the results and discussion we conclude the following:

1. There are too highly significant differences at $p<0.001$.
2. There was a clear increase of the Hb and Pcv levels during the comparison significant of continence developing time of period of the experiment.
3. The range of differences was (3) mg/lit and 6.5, which deals with highly grade of changes between sample individual patient.
4. There was a non-significant correlationship between the observed frequencies with their percentage within sex or ages at $p<0.05$ which revealed to causes effect of small size.

Appendix (A)

Original observation for Hb repeated measurement according to the different period of time

No of patient	Age	Age by score	Sex	PCV level (weekly)					DPCV
				Pcv0	Pcv1	Pcv2	Pcv3	Pcv4	
1	15	1	M	23	23	24	26	27	4
2	15	1	M	25	26	26	27	28	3.5
3	16	1	M	26	27	28	28	28	2.5
4	20	1	M	26	27	28	28	33	7
5	20	1	M	29	31	32	33	33	4
6	22	1	M	30	31	32	33	33	3
7	23	1	M	24	25	26	26	26	1.5
8	25	2	M	24	25	26	26	26	2.5
9	28	2	M	24	26	27	27	28	4.5
10	28	2	M	25	26	26	27	28	3.5
11	28	2	F	25	26	26	27	27	2
12	30	2	F	24	25	26	26	26	2.5
13	30	2	F	24	25	25	26	26	2.4
14	34	2	F	23	24	25	25	26	3.4
15	38	2	F	23	24	25	26	27	4

Appendix (B)

Original observation for PCV repeated measurement according to the different period of time

No of patient	Age	Age by score	sex	Hb level (weekly)					DHb
				Hb0	Hb1	Hb2	Hb3	Hb4	
1	15	1	M	8	8	8.5	9	9.5	1.5
2	15	1	M	9	10	10	11	11	2
3	16	1	M	9	10	10	11	11	2
4	20	1	M	9.5	9.5	10	10	11	1.5
5	20	1	M	10	11	11	11	12	2
6	22	1	M	9	9.5	10	10	11	2
7	23	1	M	8	9	9.5	10	11	3
8	25	2	M	9.5	10	10	11	12	2.5
9	28	2	M	9	9.5	10	11	11	2.5
10	28	2	M	8	9.5	15	10	11	3
11	28	2	F	9.5	9.5	9.5	10	11	1.5
12	30	2	F	8	9	9.5	10	11	3
13	30	2	F	8	10	11	12	12	4
14	34	2	F	9.5	10	10	11	11	1.5
15	38	2	F	10	11	10	11	11	1.5

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تأثير استخدام عشبة القراص في مستوى خضاب الدم وكريات الدم الضغوطة

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الخلاصة:

استخدم مستخلص القراص Nettle (Urtica dioica) بجرعة (10)غم (من الجذور والاوراق) المذابة في (200)ملي لتر ماء مغلي تركت مغطاة لمدة (10)دقائق .

تم اعطاؤها لكل فرد من افراد عينة التجربة البالغ عددهم (15) من مراجعي قسم طب الاعشاب التابعة الى وزارة الصحة بسبب سوء التغذية وذلك من خلال خلو نتائج فحوصاتهم المختبرية من اي سبب مرضي ويشكون من انخفاض مستوى خضاب الدم وحجم كريات الدم المضغوطة وذلك لغرض التعرف على تأثير جذور وأوراق نبات القراص في مستوى خضاب الدم وحجم الكريات المضغوطة لدى المراجعين لفترات زمنية مختلفة حسب متغيرات العمر والجنس .

اظهرت الدراسة ان لهذا الخليط تأثير معنوي عال عند ($P<0.001$) في زيادة مستوى خضاب الدم وحجم كريات الدم المضغوطة لدى المراجعين وذلك في ضوء الفروق المسجلة ابتداء" من الفترة الاساسية وحتى نهاية الفترة للتجربة وهذه الزيادة تبدو بشكل واضح في الاسبوع الرابع من فترة التجربة وتم تعيين مستوى علاقة ارتباط العمر والجنس مع نتائج المستويات التجريبية ايضا حيث اسفرت عن عدم تحقق العلاقة المعنوية عند مستوى الدلالة ($P<0.05$) .