

Table (1): Mean $\pm$ SD Values Of Serum Protein Fractions For Control Positive , Control Negative And Different Diabetic Groups Fed On Herbs and Their Mixture

Group Parameters	Control	Control	Bitter wood (Diet A)		Bitter apple (Diet B)		Harmala (Diet C)		Garden cress (Diet D)		Dr Ming's tea (Diet E)		All herbs mixture (F)
	- Ve	+ Ve	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	
Total Protein (g/dl) (T.P) Mean $\pm$ SD	a 9.90 $\pm$ 0.26	i 6.30 $\pm$ 0.17	h 7.00 $\pm$ 0.19	f 7.60 $\pm$ 0.32	g 7.30 $\pm$ 0.85	e 8.20 $\pm$ 0.45	d 8.40 $\pm$ 0.19	c 9.00 $\pm$ 0.32	h 7.10 $\pm$ 0.37	fg 7.50 $\pm$ 0.43	f 7.70 $\pm$ 0.33	fg 7.50 $\pm$ 0.18	b 9.60 $\pm$ 0.24
Albumin (g/dl) (Alb) Mean $\pm$ SD	b 7.10 $\pm$ 0.15	I 1.70 $\pm$ 0.04	k 3.50 $\pm$ 0.17	j 4.00 $\pm$ 0.15	j 3.90 $\pm$ 0.23	i 5.00 $\pm$ 0.24	d 6.40 $\pm$ 0.12	c 6.90 $\pm$ 0.14	h 5.60 $\pm$ 0.26	e 6.20 $\pm$ 0.17	g 5.80 $\pm$ 0.27	f 6.00 $\pm$ 0.24	a 8.00 0.19
Globulin (g/dl) (Glob) Mean $\pm$ S	e 2.80 $\pm$ 0.026	a 4.60 $\pm$ 0.137	c 3.50 $\pm$ 0.123	b 3.80 $\pm$ 0.120	c 3.40 $\pm$ 0.135	d 3.20 $\pm$ 0.139	fg 2.00 $\pm$ 0.127	f 2.10 $\pm$ 0.125	h 1.50 $\pm$ 0.100	i 1.30 $\pm$ 0.101	g 1.90 $\pm$ 0.017	h 1.50 $\pm$ 0.105	h 1.60 0.132
Albumin/globulin (A / G) Ratio Mean $\pm$ SD	g 2.54 $\pm$ 0.05	k 0.37 $\pm$ 0.03	j 1.00 $\pm$ 0.01	j 1.05 $\pm$ 0.05	i 1.15 $\pm$ 0.04	h 1.56 $\pm$ 0.05	e 3.20 $\pm$ 0.07	e 3.29 $\pm$ 0.04	d 3.73 $\pm$ 0.06	b 4.77 $\pm$ 0.06	f 3.05 $\pm$ 0.05	c 4.00 $\pm$ 0.08	a 5.00 $\pm$ o.08

Control-ve: Rats fed on basal diet.

Control+ve: Diabetic Rats fed on basal diet.

Differences are significant at 5% (p<0.05).

Table (2): Mean $\pm$ SD Values of Liver Function Parameters For Control Positive , Control Negative And Different Diabetic Groups Fed On Herbs And Their Mixture

Group Parameters	Control	Control	Bitter wood (Diet A)		Bitter apple (Diet B)		Harmala (Diet C)		Garden cress (Diet D)		Dr Ming's tea (Diet E)		All herbs Mixture
	- Ve	+ Ve	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	
AST (U/L) Mean $\pm$ SD	F 42.00 $\pm$ 2.05	a 145.00 $\pm$ 4.58	c 60.70 $\pm$ 1.54	e 50.00 $\pm$ 1.00	d 55.00 $\pm$ 1.73	f 40.00 $\pm$ 2.64	d 55.80 $\pm$ 1.58	g 32.00 $\pm$ 1.37	d 54.00 $\pm$ 1.35	f 42.00 $\pm$ 2.57	b 66.00 $\pm$ 1.32	f 41.50 $\pm$ 1.51	g 30.00 $\pm$ 2.45
ALT (U/L) Mean $\pm$ SD	D 18.00 $\pm$ 0.87	a 40.00 $\pm$ 2.65	d 17.60 $\pm$ 0.53	e 15.00 $\pm$ 0.61	C 21.00 $\pm$ 1.32	e 15.80 $\pm$ 0.72	bc 22.20 $\pm$ 0.81	e 15.20 $\pm$ 0.73	d 17.50 $\pm$ 0.46	e 15.30 $\pm$ 0.68	b 22.50 $\pm$ 1.50	e 14.80 $\pm$ 0.72	e 14.80 $\pm$ 0.75
AST/ALT Ratio Mean $\pm$ SD	Gh 2.33 $\pm$ 0.061	a 3.63 $\pm$ 0.092	ab 3.45 $\pm$ 0.027	bc 3.33 $\pm$ 0.057	Fg 2.62 $\pm$ 0.036	fg 2.53 $\pm$ 0.026	fg 2.51 $\pm$ 0.048	hi 2.11 $\pm$ 0.036	cd 3.08 $\pm$ 0.072	ef 2.75 $\pm$ 0.029	de 2.93 $\pm$ 0.061	def 2.80 $\pm$ 0.045	i 2.03 $\pm$ 0.058
ALP (U/L) Mean $\pm$ SD	E 132.00 $\pm$ 3.21	a 312.00 $\pm$ 6.08	c 150.60 $\pm$ 5.11	e 131.50 $\pm$ 3.04	B 155.20 $\pm$ 2.55	g 107.50 $\pm$ 2.50	d 145.70 $\pm$ 3.24	g 107.50 $\pm$ 2.43	d 145.70 $\pm$ 3.23	f 125.60 $\pm$ 3.08	cd 149.80 $\pm$ 4.16	ef 129.50 $\pm$ 2.18	g 105.20 $\pm$ 2.03

Control –Ve : Rats fed on basal diet.

Control +Ve : Diabetic Rats fed on basal diet.

Differences are significant at 5% (P < 0.05) .

Table (3): Mean $\pm$ SD Values of Kidney Function parameters For Control Positive, Control Negative And Different Diabetic Groups Fed On Herbs And Their Mixture

Parameters \ Group	Control	Control	Bitter wood (Diet A)		Bitter apple (Diet B)		Harmala (Diet C)		Garden cress (Diet D)		Dr Ming's tea (Diet E)		All herbs Mixture
	- Ve	+ Ve	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	
Creatinine (mg/dl)	d	A	b	c	d	e	c	c	d	e	b	c	e
Mean $\pm$ SD	0.70 $\pm$ 0.032	1.20 $\pm$ 0.044	0.90 $\pm$ 0.017	0.78 $\pm$ 0.019	0.70 $\pm$ 0.023	0.63 $\pm$ 0.026	0.80 $\pm$ 0.045	0.78 $\pm$ 0.0236	0.68 $\pm$ 0.073	0.65 $\pm$ 0.036	0.90 $\pm$ 0.026	0.80 $\pm$ 0.021	0.63 $\pm$ 0.019
Urea (Mg/dl)	h	A	b	g	e	g	d	e	d	e	c	d	f
Mean $\pm$ SD	37.00 $\pm$ 2.45	162.00 $\pm$ 7.21	148.00 $\pm$ 7.15	82.00 $\pm$ 2.64	108.00 $\pm$ 2.51	86.00 $\pm$ 3.61	120.00 $\pm$ 2.54	107.00 $\pm$ 2.75	123.00 $\pm$ 2.53	107.00 $\pm$ 3.00	130.00 $\pm$ 4.36	119.00 $\pm$ 5.29	94.00 $\pm$ 1.73
Uric Acid (Mg/dl)	d	A	c	f	b	h	de	g	e	f	b	g	h
Mean $\pm$ SD	2.00 $\pm$ 0.11	3.50 $\pm$ 0.22	2.40 $\pm$ 0.06	1.70 $\pm$ 0.09	2.60 $\pm$ 0.13	1.06 $\pm$ 0.05	1.93 $\pm$ 0.03	1.33 $\pm$ 0.04	1.86 $\pm$ 0.05	1.60 $\pm$ 0.03	2.60 $\pm$ 0.07	1.45 $\pm$ 0.08	1.01 $\pm$ 0.03

Control-ve: Rats fed on basal diet.

Control+ve: Diabetic Rats fed on basal diet.

Differences are significant at 5%(p<0.05).

Table (4): Mean $\pm$ SD Values Of Lipid Profile Parameters For Control Positive, Control Negative And Different Diabetic Groups Fed On Unsupplemented And Supplemented Herbs And Their Mixture

Group Parameters	Control - Ve	Control + Ve	Bitter wood (Diet A)		Bitter apple (Diet B)		Harmala (Diet C)		Garden cress (Diet D)		Dr Ming's tea (Diet E)		All herbs Mixture
			Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	
TC(mg/dl) Mean $\pm$ SD	e 142.00 $\pm$ 2.64	a 191.00 $\pm$ 3.61	b 176.00 $\pm$ 4.36	f 137.00 $\pm$ 3.46	c 172.00 $\pm$ 7.21	f 136.00 $\pm$ 3.61	e 142.00 $\pm$ 3.44	g 130.00 $\pm$ 4.38	d 160.00 $\pm$ 2.57	g 132.00 $\pm$ 3.41	d 160.00 $\pm$ 2.65	g 131.00 $\pm$ 3.61	g 130.00 $\pm$ 4.88
TG(mg/dl) Mean $\pm$ SD	i 121.00 $\pm$ 3.41	a 188.00 $\pm$ 6.08	g 137.00 $\pm$ 2.64	i 120.00 $\pm$ 4.36	c 163.00 $\pm$ 6.27	e 150.00 $\pm$ 4.35	cd 161.00 $\pm$ 4.49	e 150.00 $\pm$ 4.78	f 141.00 $\pm$ 3.41	h 134.00 $\pm$ 3.16	b 174.00 $\pm$ 5.29	d 159.00 $\pm$ 3.60	i 119.00 $\pm$ 3.46
HDL (mg/dl) Mean $\pm$ SD	a 110.00 $\pm$ 4.35	i 68.00 $\pm$ 1.73	h 89.00 $\pm$ 3.46	def 95.30 $\pm$ 1.13	cde 97.20 $\pm$ 1.06	bc 100.60 $\pm$ 2.12	fgh 92.60 $\pm$ 1.51	def 95.30 $\pm$ 1.13	fgh 92.80 $\pm$ 2.43	bcd 98.80 $\pm$ 3.36	gh 90.70 $\pm$ 3.76	efg 93.30 $\pm$ 1.54	b 102.00 $\pm$ 2.65
LDL (mg/dl) Mean $\pm$ SD	g 7.80 $\pm$ 0.26	a 85.40 $\pm$ 2.51	b 59.60 $\pm$ 2.25	f 17.70 $\pm$ 0.61	c 42.20 $\pm$ 1.59	hi 5.40 $\pm$ 0.17	f 17.40 $\pm$ 0.53	hi 4.70 $\pm$ 0.45	d 39.00 $\pm$ 2.00	gh 6.40 $\pm$ 0.36	e 34.50 $\pm$ 2.18	gh 6.10 $\pm$ 0.55	i 4.20 $\pm$ 0.26
VLDL (mg/dl) Mean $\pm$ SD	f 24.20 $\pm$ 0.72	a 37.60 $\pm$ 2.42	e 27.40 $\pm$ 1.51	f 24.00 $\pm$ 1.73	c 32.60 $\pm$ 1.96	d 30.00 $\pm$ 1.00	c 32.00 $\pm$ 1.73	d 30.00 $\pm$ 1.00	e 28.20 $\pm$ 1.93	e 26.80 $\pm$ 0.75	b 34.80 $\pm$ 1.59	c 31.60 $\pm$ 1.44	f 23.80 $\pm$ 0.55
Atherogenic index(A.I.)Ratio Mean $\pm$ SD	j 0.29 $\pm$ 0.017	a 1.81 $\pm$ 0.025	b 0.98 $\pm$ 0.032	f 0.44 $\pm$ 0.025	c 0.77 $\pm$ 0.015	hi 0.35 $\pm$ 0.036	e 0.53 $\pm$ 0.026	h 0.36 $\pm$ 0.045	d 0.72 $\pm$ 0.057	h 0.34 $\pm$ 0.016	c 0.76 $\pm$ 0.026	g 0.40 $\pm$ 0.017	k 0.27 $\pm$ 0.015

Differences are significant at 5% (P < 0.05) .

Control –Ve : Rats fed on basal diet.

Control +Ve : Diabetic Rats fed on basal diet.

Table (5): Mean $\pm$ SD Values Of Serum Glucose For Control Positive, Control Negative And Different Diabetic Groups Fed On Herbs And Their Mixture

Group Parameters	Control - Ve	Control + Ve	Bitter wood (Diet A)		Bitter apple (Diet B)		Harmala (Diet C)		Garden cress (Diet D)		Dr Ming's tea (Diet E)		All herbs Mixture
			Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	
Glucose(mg/dl) Mean $\pm$ SD	B 75.00 $\pm$ 1.80	a 169.00 $\pm$ 3.46	f 51.00 $\pm$ 1.27	h 37.00 $\pm$ 1.32	i 35.00 $\pm$ 1.56	i 33.00 $\pm$ 1.73	d 57.20 $\pm$ 1.61	e 53.00 $\pm$ 1.82	f 50.50 $\pm$ 1.50	g 45.70 $\pm$ 1.57	c 60.20 $\pm$ 2.03	c 59.00 $\pm$ 1.87	i 33.00 $\pm$ 1.23

Differences are significant at 5% (P < 0.05) .

Control –Ve : Rats fed on basal diet.

Control +Ve : Diabetic Rats fed on basal diet.

Table (6): Mean $\pm$ SD Values Of BWG, FI And FER For Control Positive, Control Negative And Different Diabetic Groups Fed On Herbs And Their Mixture

Group Parameters	Control - Ve	Control + Ve	Bitter wood (Diet A)		Bitter apple (Diet B)		Harmala (Diet C)		Garden cress (Diet D)		Dr Ming's tea (Diet E)		All herbs Mixture
			Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	
BWG(g) Mean $\pm$ SD	I 0.076 $\pm$ 0.0017	j -0.36 $\pm$ 0.0026	d 1.71 $\pm$ 0.010	b 1.95 $\pm$ 0.064	h 1.21 $\pm$ 0.010	c 1.86 $\pm$ 0.053	f 1.44 $\pm$ 0.029	e 1.68 $\pm$ 0.023	e 1.61 $\pm$ 0.011	b 1.93 $\pm$ 0.045	g 1.32 $\pm$ 0.072	g 1.36 $\pm$ 0.051	a 1.99 $\pm$ 0.010
FI(g) Mean $\pm$ SD	g 6.90 $\pm$ 0.010	f 6.50 $\pm$ 0.050	c 21.90 $\pm$ 0.010	b 23.30 $\pm$ 0.029	e 14.20 $\pm$ 0.007	b 23.80 $\pm$ 0.007	e 13.20 $\pm$ 0.009	c 19.50 $\pm$ 0.005	c 20.00 $\pm$ 0.017	c 21.00 $\pm$ 0.009	a 27.90 $\pm$ 0.008	a 28.00 $\pm$ 0.007	d 17.77 $\pm$ 0.039
FER Mean $\pm$ SD	F 0.011 $\pm$ 0.005	g -0.06 $\pm$ 0.0007	d 0.078 $\pm$ 0.001	c 0.084 $\pm$ 0.002	c 0.085 $\pm$ 0.002	d 0.078 $\pm$ 0.007	b 0.109 $\pm$ 0.0173	c 0.086 $\pm$ 0.0386	c 0.081 $\pm$ 0.0132	f 0.011 $\pm$ 0.0035	e 0.047 $\pm$ 0.0019	e 0.049 $\pm$ 0.0123	a 0.112 $\pm$ 0.0018

Differences are significant at 5% (P < 0.05) .

Control –Ve : Rats fed on basal diet. Control +Ve : Diabetic Rats fed on basal diet.

Table (7): Mean $\pm$ SD Weight Values Of Lungs, Spleen, Heart,Kidney And Liver For Control Positive,Control Negative And Different Diabetic Groups Fed On Herbs And Their Mixture

Group Parameters	Control	Control	Bitter wood (Diet A)		Bitter apple (Diet B)		Harmala (Diet C)		Garden cress (Diet D)		Dr Ming's tea (Diet E)		All herbs Mixture
	- Ve	+ Ve	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	Alone	Oat + Chestnut	
Lungs(g) Mean $\pm$ SD	h 0.49 $\pm$ 0.024	A 1.22 $\pm$ 0.039	b 1.00 $\pm$ 0.010	C 0.70 $\pm$ 0.017	c 0.70 $\pm$ 0.013	c 0.69 $\pm$ 0.026	cd 0.68 $\pm$ 0.020	de 0.66 $\pm$ 0.010	e 0.64 $\pm$ 0.022	F 0.61 $\pm$ 0.015	f 0.59 $\pm$ 0.016	g 0.53 $\pm$ 0.025	g 0.54 $\pm$ 0.011
Spleen(g) Mean $\pm$ SD	h 0.28 $\pm$ 0.010	A 0.84 $\pm$ 0.020	c 0.60 $\pm$ 0.026	D 0.55 $\pm$ 0.017	b 0.69 $\pm$ 0.017	d 0.56 $\pm$ 0.011	C 0.59 $\pm$ 0.017	d 0.55 $\pm$ 0.019	e 0.46 $\pm$ 0.021	F 0.37 $\pm$ 0.015	g 0.32 $\pm$ 0.020	h 0.29 $\pm$ 0.013	h 0.28 $\pm$ 0.012
Heart(g) Mean $\pm$ SD	i 0.20 $\pm$ 0.012	A 0.61 $\pm$ 0.019	b 0.58 $\pm$ 0.020	C 0.55 $\pm$ 0.013	d 0.46 $\pm$ 0.010	e 0.41 $\pm$ 0.017	F 0.33 $\pm$ 0.010	g 0.30 $\pm$ 0.015	f 0.34 $\pm$ 0.023	G 0.28 $\pm$ 0.016	h 0.24 $\pm$ 0.021	hi 0.22 $\pm$ 0.011	i 0.20 $\pm$ 0.016
Kidney(g) Mean $\pm$ SD	h 0.52 $\pm$ 0.015	A 1.42 $\pm$ 0.019	d 0.79 $\pm$ 0.010	E 0.73 $\pm$ 0.011	d 0.78 $\pm$ 0.020	f 0.69 $\pm$ 0.013	B 0.92 $\pm$ 0.020	c 0.84 $\pm$ 0.011	f 0.69 $\pm$ 0.026	G 0.60 $\pm$ 0.029	g 0.62 $\pm$ 0.021	g 0.60 $\pm$ 0.027	h 0.52 $\pm$ 0.017
Liver(g) Mean $\pm$ SD	fg 3.82 $\pm$ 0.017	A 5.73 $\pm$ 0.026	c 4.52 $\pm$ 0.013	E 4.18 $\pm$ 0.016	d 4.40 $\pm$ 0.052	e 4.18 $\pm$ 0.017	B 5.30 $\pm$ 0.043	d 4.38 $\pm$ 0.032	f 3.84 $\pm$ 0.020	Fg 3.82 $\pm$ 0.031	g 3.80 $\pm$ 0.023	g 3.80 $\pm$ 0.026	fg 3.82 $\pm$ 0.016

Differences are significant at 5% (P < 0.05) .

Control –Ve : Rats fed on basal diet.

Control +Ve : Diabetic Rats fed on basal diet.