

Results

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I. Studied parameters in patient's and control groups:

(A) Age:

In the thirty RA patients, the age was ranging between 35 and 70 years; with a mean value of 51.3 ± 6.8 years. The control group age was ranging between 35 and 65 years with a mean value of 47.8 ± 5.7 years.

(B) Sex distribution of the studied group :

There was a non-significant difference between RA patients and the control group as regards the sex distribution.

(C) Marital status:

In the patient's group, it was found that 16 patients were married, one patient is single ,seven were divorced and six were widows.

(D) Drug intake:

Table (1): Drug history of patient's group.

Type of treatment		Patients	
		No	%
NSAID	Conventional	18	60%
	Selective Cox II inhibitors	6	20%
Steroids	≤ 10 mg/dl	12	40%
	> 10 mg/dl	8	26.7%
DMARDS	Methotrexate	22	73.4%
	Other DMARDS :		
	Salazopyrine	7	23.3%
	Leflunomide	3	10%

(E) Joint deformity :

Twelve patients (40%) have joint deformities; while the rest of patients (18 patients) do not have joint deformities.

(F) Extra-articular manifestations:

Eight patients (26.7%) have extra-articular manifestations; while the rest of RA patients (22 patients) do not have extra-articular manifestations.

(G) Grip strength

The mean value of duration of grip strength in RA patients was 57.4 ± 30.7 ; while it was 175.5 ± 18.84 in the control group.

Table (2) : *Comparison between RA patients and control group as regards grip strength.*

	RA patients Mean \pm SD	Control group Mean \pm SD	t-value	p-value
Grip strength (mm/ hg)	57.4 ± 30.7	175.5 ± 18.84	15.74	<0.001

(H) Duration of morning stiffness:

The duration of morning stiffness varied from 5 to 240 minutes with a mean value of 30.55 ± 43.23 minutes.

Table (3): Range and mean value of duration of morning stiffness.

	Range	Mean value
Duration of morning stiffness	5: 240 minutes	30.55 ± 43.23 minutes

(I) Erythrocyte sedimentation rate (ESR):

Comparison between RA patients and the control group as regards the mean value of ESR showed that the mean value of ESR is statistically significantly high in RA patient compared to the control group ($p < 0.001$).

Table (4) : Comparison between RA patients and the control group as regards the mean value of the erythrocyte sedimentation rate.

Study group	RA patients Mean \pm SD	Control Group Mean \pm SD	t- value	p-value
ESR	38.2 \pm 27.5	9.8 \pm 3.6	5.59	< 0.001

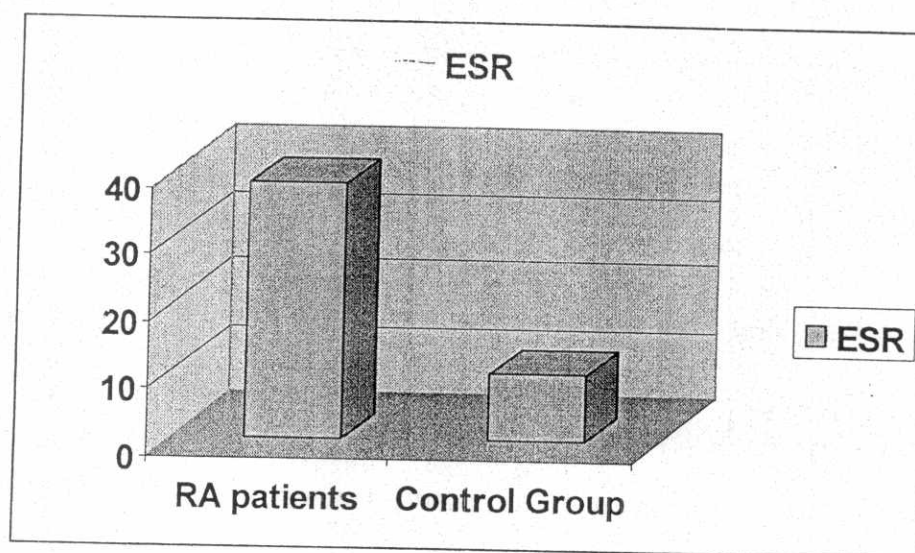


Figure (1) : Comparison between RA patients and the control group as regards the mean value of the erythrocyte sedimentation rate.

(J) Hemoglobin concentration (HB):

The mean value of Hb% of RA patients was 10.8 ± 1.27 g/dl; While The mean value of Hb% of control group was 10.9 ± 1.05 .

Table (5) : Comparison between RA patients and the control group as regards the hemoglobin concentration (Hb%).

	RA patients Mean \pm SD	Control Group Mean \pm SD	t- value	P-value
Hb% (g /d)	10.8 \pm 1.27	10.9 \pm 1.05	1.03	>0.05

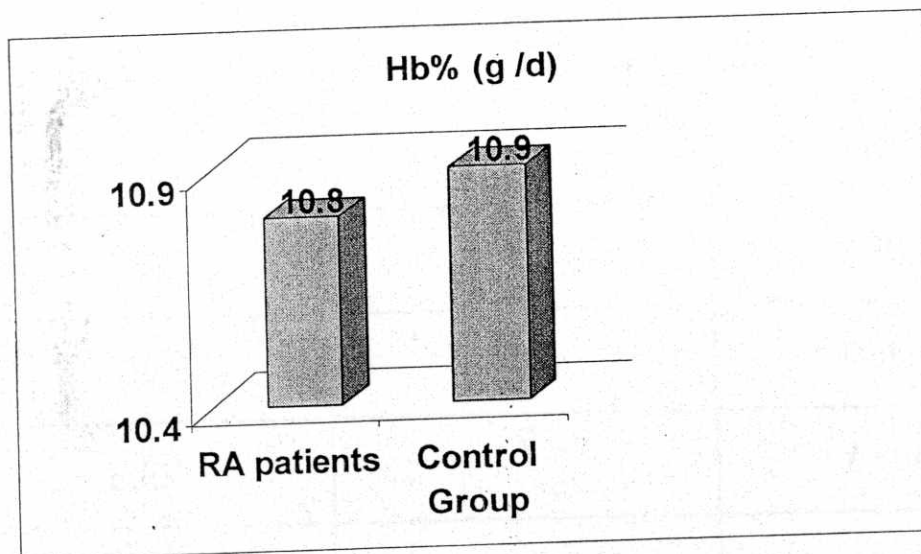


Figure 2: Comparison between RA patients and the control group as regards the hemoglobin concentration (Hb%).

(K) Rheumatoid factor (RF):

Fourteen patients (46.7%) have positive RF; while the rest of RA patients (16 patients) have negative rheumatoid factor.

(L) C-reactive protein (CRP):

Twelve patients (40%) have positive CRP while the rest of RA patients (18 patients) have negative CRP.

(M) Disease activity score (DAS):

The mean value of disease activity in the patient's group was 2.52 ± 0.6 . Eleven patients (36.7%) have grade 1 disease activity, twelve patients (40%) have grade 2 disease activity; while seven patients (23.3%) have grade 3 disease activity.

Table (6) : Distribution of RA patients as regard the grades of disease activity.

Grades of disease activity	NO	%
Grade 1	11	36.7
Grade 2	12	40
Grade 3	7	23.3
Total	30	100

(N.B): Grade1 = Low activity < 3.2

Grade 2 = Moderate activity $= 3.2 - 5.1$

Grade 3 = High activity > 5.1

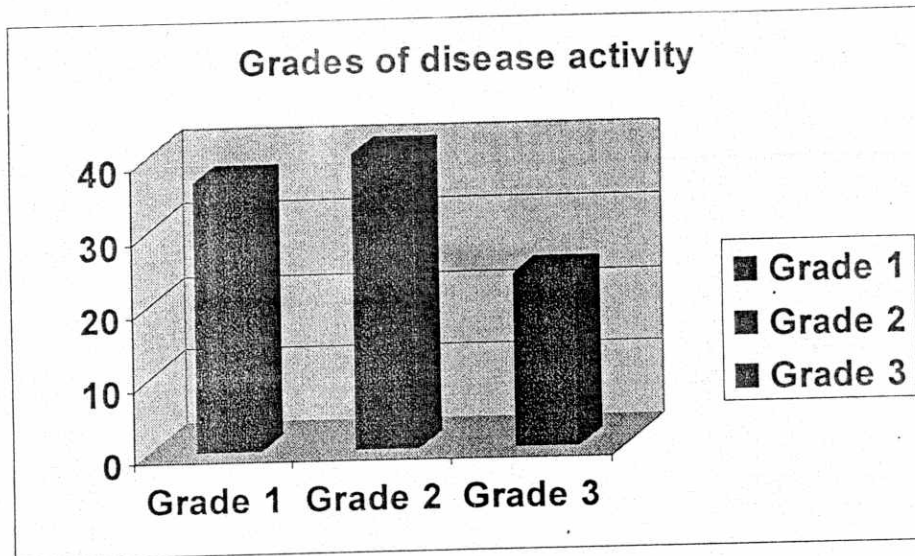


Figure (3): *Distribution of RA patients as regard the grade of disease activity.*

(N) Spread severity index:

Mean value of spread severity index in RA patient's group was 15 ± 6.1

(O) Health assessment questionnaire (HAQ)

The mean value of health assessment questionnaire in RA patient's group was 1.18 ± 0.6 .

(P) Prevalence of the psychiatric disorders among the study groups:

There were 12 patients (40%) suffering from psychiatric disorders among RA patient's group; while there was one subject (5%) suffering from psychiatric disorders among the control group. This was found to be statistically significant ($p < 0.05$). This could suggest a higher incidence of psychiatric illness among rheumatoid arthritis patients.

Table (7): The prevalence of psychiatric disorders among the two studied groups.

	Patient's group	Control group
Subject with psychiatric disorders	12 (40%)	1 (5%)
Subject without psychiatric disorders	18 (60%)	19 (95%)
p-value	0.024 (0.05) (significant)	

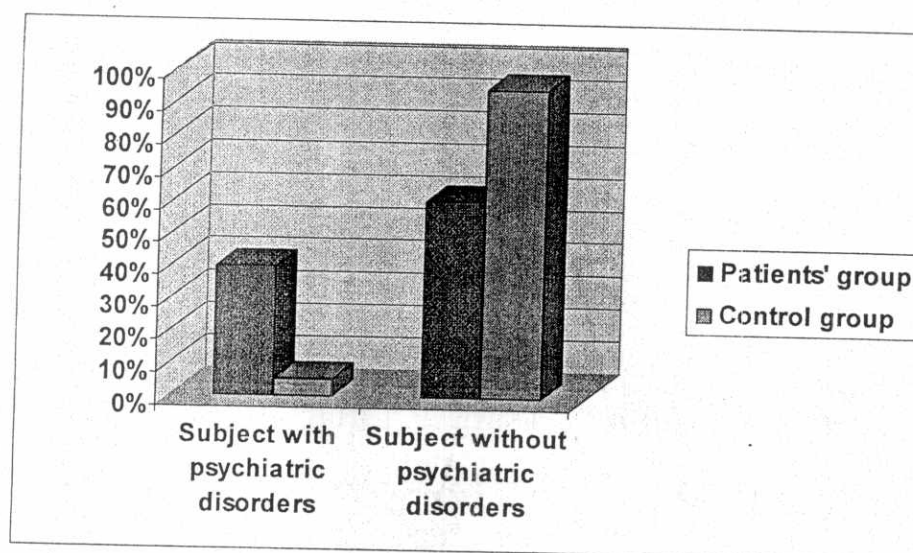


Figure (4): The prevalence of psychiatric disorders among the two studied groups.

(Q) Distribution of different psychiatric disorders among the two studied groups:

There were ten of RA patients had depression, Two patients had anxiety and nine patients had sleep disorders; while one of control group had depression. It was found that the psychiatric disorders was highly statistically significant in RA patients compared to the control group ($p < 0.001$).

Table (8): Distribution of psychiatric disorders among the two studied groups.

	Depression		Anxiety		Sleep disorder	
	NO	%	NO	%	NO	%
Patients group	10	33.3	2	6.7	9	30
Control group	1	5	0	0	0	0
p-value	< 0.001					

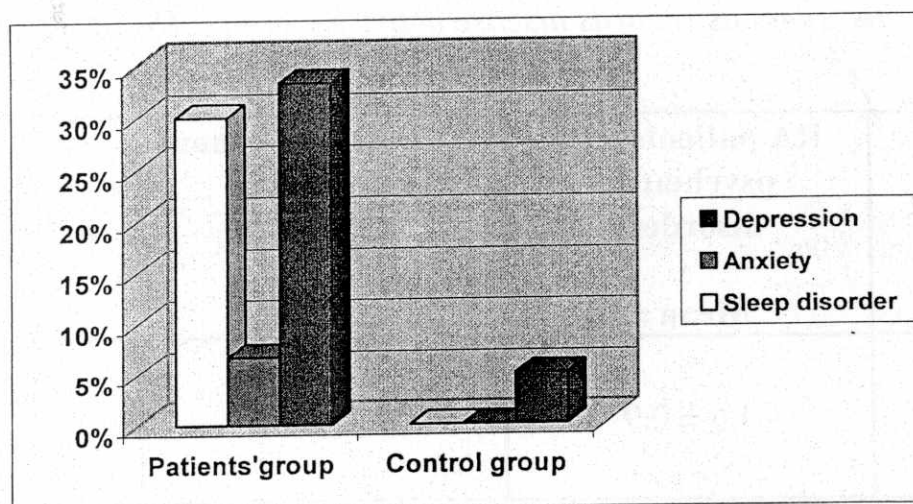


Figure (5): Distribution of psychiatric disorders among the two studied groups.

II-Impact of psychiatric disorders on disease activity and its parameters :

This could be tested through comparison between RA patients with and those without psychiatric disorders as regards parameters of disease activity.

(A) Comparison between RA patients with and without psychiatric disorders as regards disease activity:

The mean value of disease activity score in the RA patients with psychiatric disorders was 4.6 ± 0.9 ; while that of RA patients without psychiatric disorders was 1.3 ± 0.8 .

It was found that the score of disease activity was statistically significantly higher in RA patients with psychiatric disorders compared to those without psychiatric disorders ($p < 0.001$).

Table (9): Comparison between RA patients with and without psychiatric disorders as regards disease activity score (DAS).

	RA patients with psychiatric disorders	RA patients without psychiatric disorders	t- Test	p-value
	Mean \pm SD	Mean \pm SD		
DAS	4.6 ± 0.9	1.3 ± 0.8	6.7	< 0.001

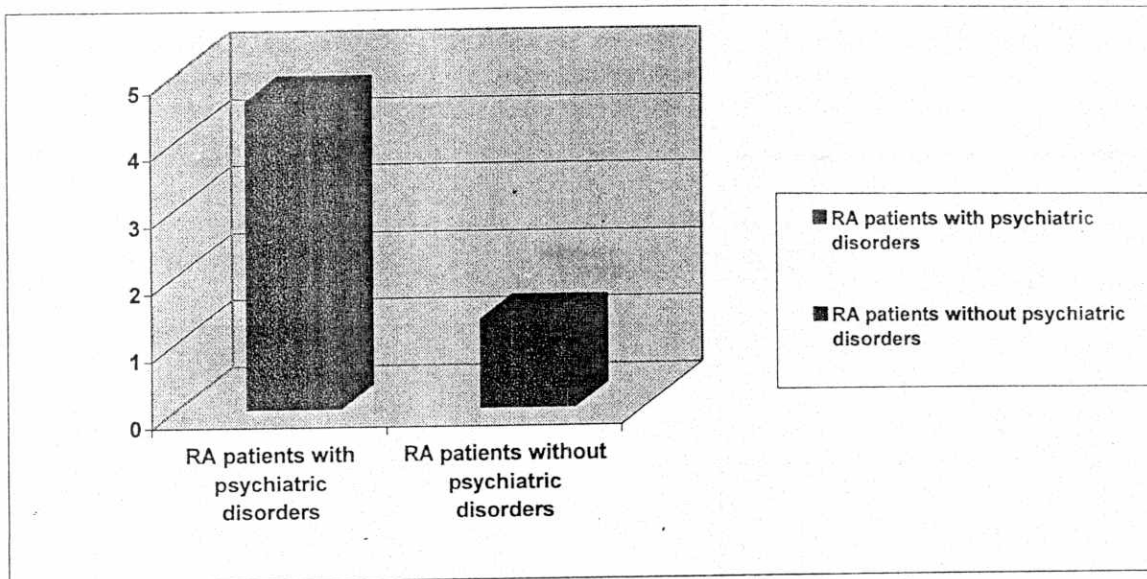


Figure (6): Comparison between RA patients with and without psychiatric disorders according to the disease activity score (DAS).

Most of RA patients suffering from psychiatric disorders [seven patients (58.3%)] have grade 3 disease activity; while most of RA patients not suffering from psychiatric disorders [ten patients (55.6%)] have grade 1 disease activity. RA patients with psychiatric disorders were found to have statistically significantly high grades of disease activity than those without psychiatric disorders ($p < 0.001$)

Table (10): *The comparison between RA patients with and without psychiatric disorders as regards the grades of disease activity.*

Grades of disease activity.	RA patients with psychiatric disorders		RA patients without psychiatric disorders	
	Number	Percentage	Number	Percentage
Grade 1	1	8.4	10	55.6
Grade 2	4	33.3	8	44.4
Grade3	7	58.3	0	0
p-value	<0.001			

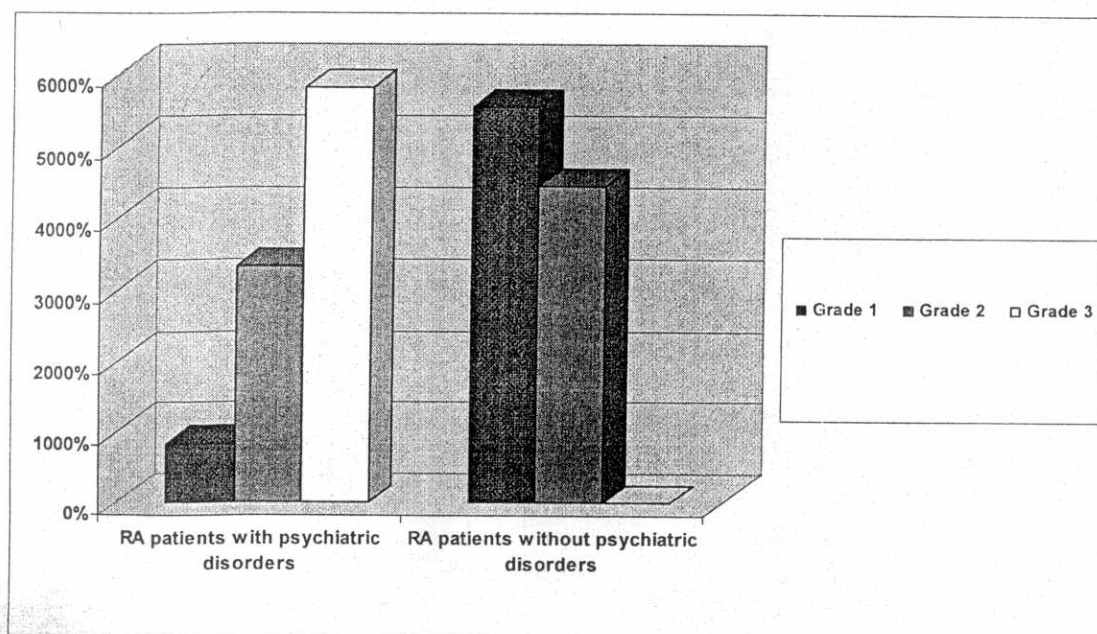


Figure (7): *The comparison between RA patients with and without psychiatric disorders as regards the grades of disease activity.*

(B) Comparison between RA patients with and without psychiatric disorders as regards duration of morning stiffness:

The mean value of morning stiffness duration in RA patients with psychiatric disorders was 66.66 ± 64.85 minutes; while that of RA patients without psychiatric disorders was 15.07 ± 12.26 minutes. It was found that the duration of morning stiffness was statistically significantly higher in RA patients with psychiatric disorders compared to those without psychiatric disorders ($p < 0.001$).

Table (11): Comparison between RA patients with and without psychiatric disorders according to the morning stiffness duration.

	RA patients With psychiatric disorders Mean \pm SD	RA patients without psychiatric disorders Mean \pm SD	t-value	p-value
Duration of morning stiffness (minutes)	66.66 \pm 64.85	15.07 \pm 12.26	4.1	<0.001

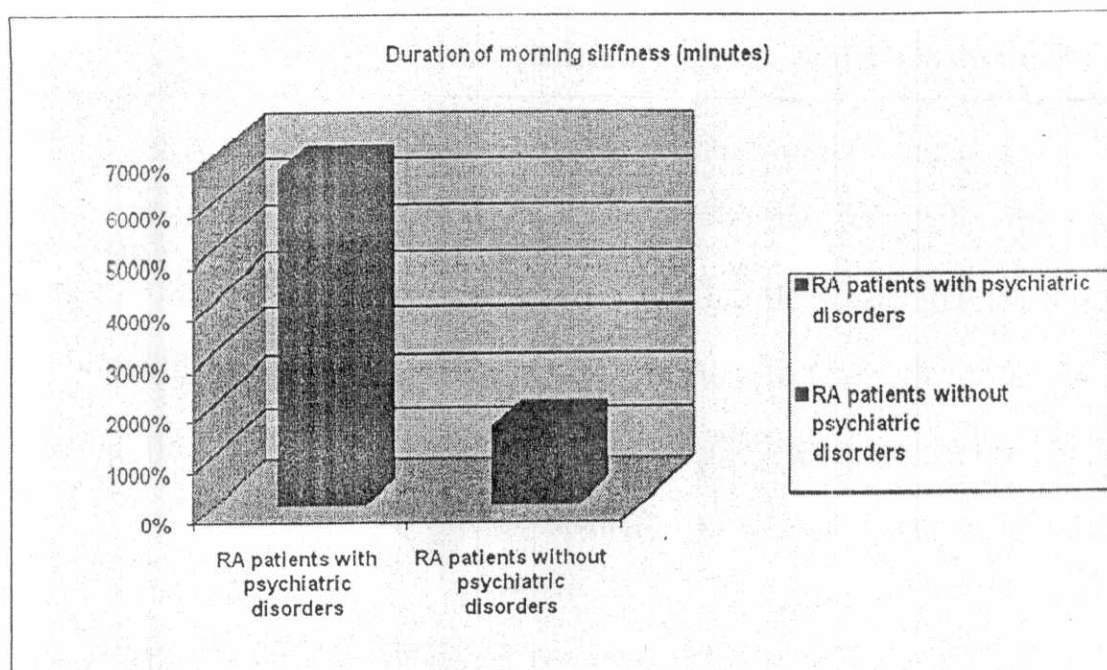


Figure (8): Comparison between RA patients with and without psychiatric disorders according to the morning stiffness duration.

(C) Comparison between RA patients with and without psychiatric disorders as regards erythrocyte sedimentation rate:

The mean value of ESR in the RA patients with psychiatric disorders was 86.16 ± 32.87 mm/h; while that of RA patients without psychiatric disorders was 24.57 ± 12.94 mm/h. It was found that erythrocyte sedimentation rate was statistically significantly higher in RA patients with psychiatric disorders compared to those without psychiatric disorders ($p < 0.001$).

Table (12) : Comparison between RA patients with and without psychiatric disorders as regards the mean value of ESR.

	RA patients with psychiatric Disorders Mean \pm SD	RA patients without psychiatric disorders Mean \pm SD	t-value	p-value
ESR(mm/h)	86.16 \pm 32.87	24.57 \pm 12.94	8.3	<0.001

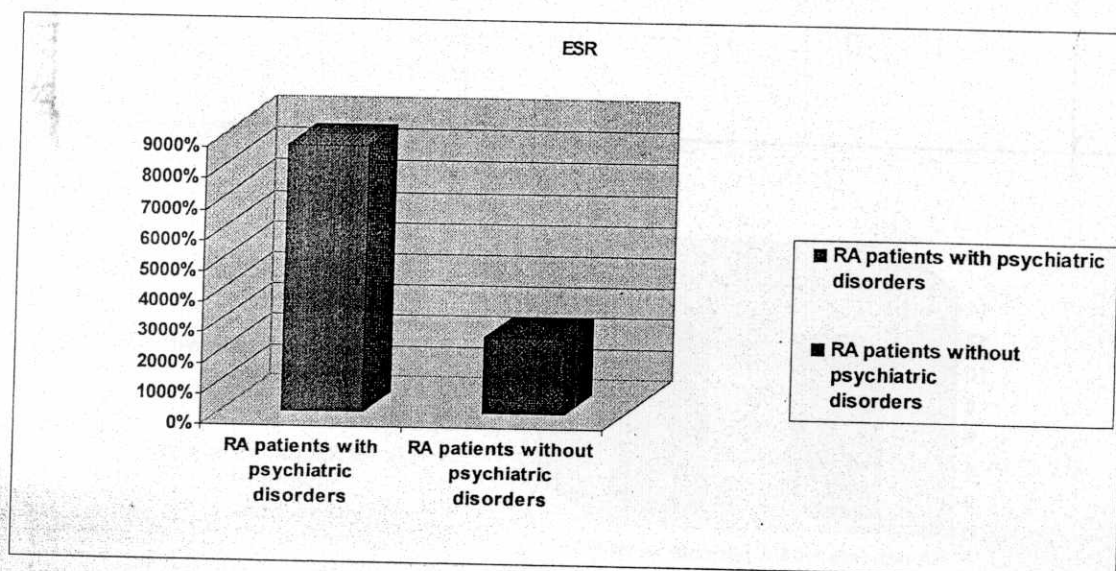


Figure (9): Comparison between RA patients with and without psychiatric disorders as regards the mean value of ESR.

(D) Comparison between RA patients with and without psychiatric disorders as regards hemoglobin concentration:

The mean value of Hb % in the RA patients with psychiatric disorder was 10.3 ± 1.6 g/d; while that of RA patients without psychiatric disorders was 10.9 ± 1.4 g/d. It was found that the concentration of hemoglobin was non-significant in RA patients with psychiatric disorders compared to those without psychiatric disorders ($p > 0.05$).

Table (13): Comparison between RA patients with and without psychiatric disorders as regards the mean value of Hb%.

	RA patients with psychiatric disorders Mean \pm SD	RA patients Without psychiatric disorders Mean \pm SD	t-value	p-value
Hb% (g / dl)	10.3 ± 1.6 g/d.	10.9 ± 1.4 g/d	1.09	> 0.05

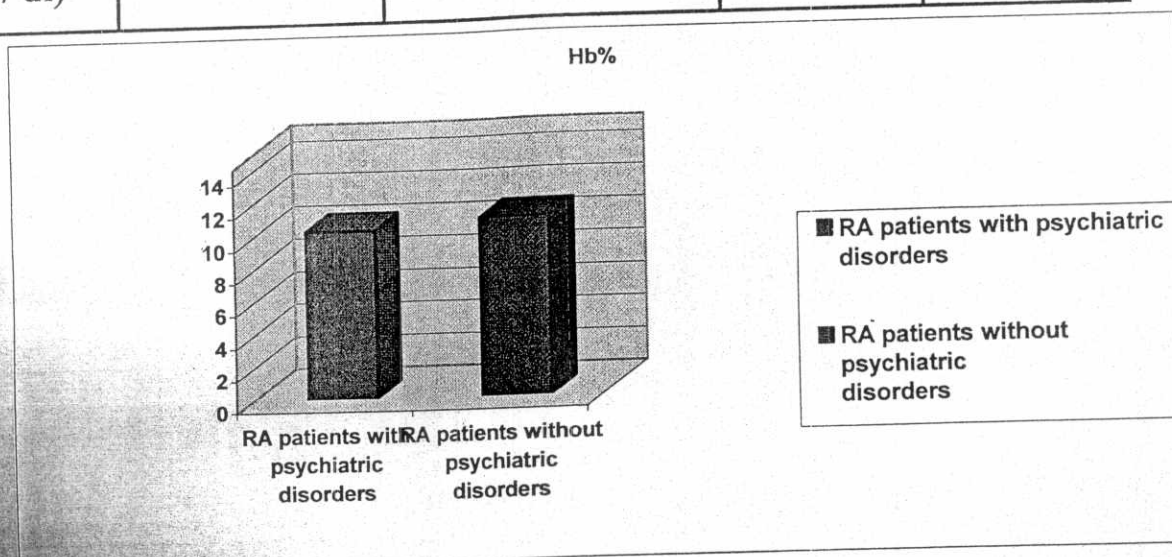


Figure (10): Comparison between RA patients with and without psychiatric disorders as regards the mean value of Hb%.

III) Impact of psychiatric disorders on disease severity:

This could be tested through comparison between RA patients with and without psychiatric disorders as regards spread severity index (SSI). The mean value of spread severity index in the RA patients with psychiatric disorders was 20.1 ± 5.6 ; while that of RA patients without psychiatric disorders was 11.6 ± 3.7 . It was found that the spread severity index was statistically significantly higher in RA patients with psychiatric disorders than those without psychiatric disorders ($p < 0.001$).

Table (14): Comparison between RA patients with and without psychiatric disorders as regards spread severity index (SSI).

	RA patients with psychiatric disorders Mean \pm SD	RA patients without psychiatric disorders Mean \pm SD	t-value	P-value
SSI	20.1 \pm 5.6	11.6 \pm 3.7	4.63	<0.001

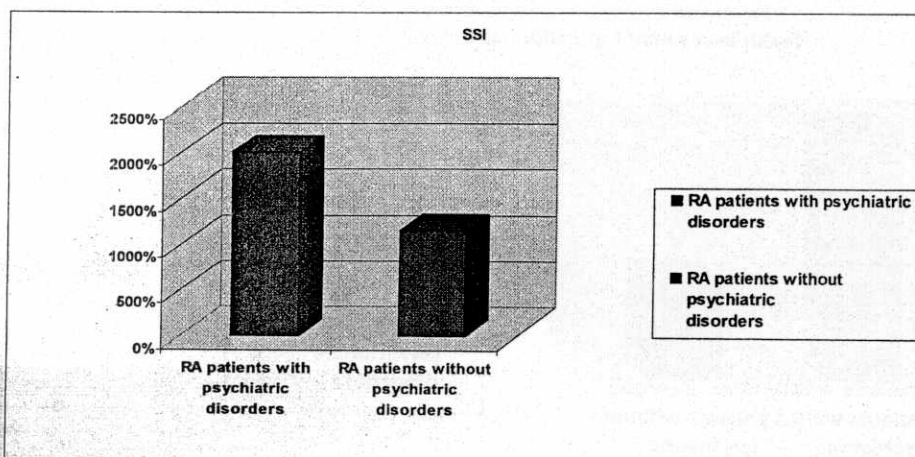


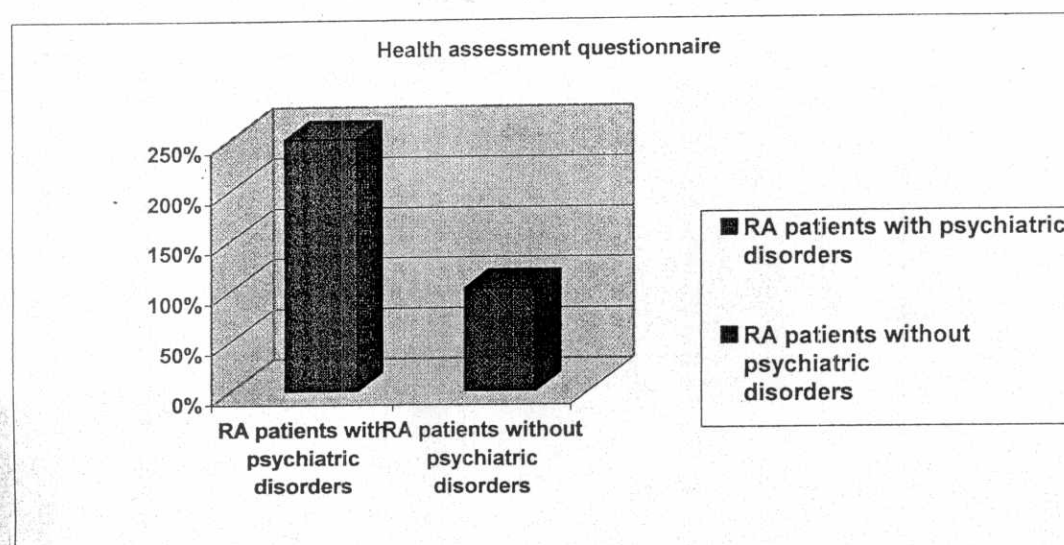
Figure (11): Comparison between RA patients with and without psychiatric disorders as regards spread severity index (SSI).

IV) Impact of psychiatric disorders on disability:

This could be tested through comparison between RA patients with and without psychiatric disorders as regards health assessment questionnaire (HAQ). The mean value of the health assessment questionnaire in the RA patients with psychiatric disorders was 2.5 ± 0.56 ; while that of RA patients without psychiatric disorders was 1.01 ± 0.65 . It was found that the health assessment questionnaire was statistically significantly higher in RA patients with psychiatric disorders than those without psychiatric disorders ($p < 0.05$).

Table (15): Comparison between RA patients with and without psychiatric disorders according to the health assessment questionnaire.

	RA patients with psychiatric disorders Mean \pm SD	RA patients without psychiatric disorders Mean \pm SD	t-value	P-value
Health assessment questionnaire	2.5 ± 0.56	1.01 ± 0.65	2.32	< 0.05



Figure(12): Comparison between RA patients with and without psychiatric disorders according to the health assessment questionnaire.

V) Comparison between RA patients with psychiatric disorders and those without psychiatric disorders as regard other studied parameters:

(A) Age:

The mean value of age in RA patients with psychiatric disorders was 49 ± 7.57 years; while that in patients without psychiatric disorders was 49.46 ± 7.08 years. There was a non-significant difference between RA patients with psychiatric disorders and those without psychiatric disorders as regards the mean value of age ($p > 0.05$).

Table (16) : Comparison between RA patients with and without psychiatric disorders as regards age.

	RA patients with psychiatric disorders Mean \pm SD	RA patients without psychiatric disorders Mean \pm SD	t -value	p- value
Age	49 ± 7.57	49.46 ± 7.08	0.186	>0.05

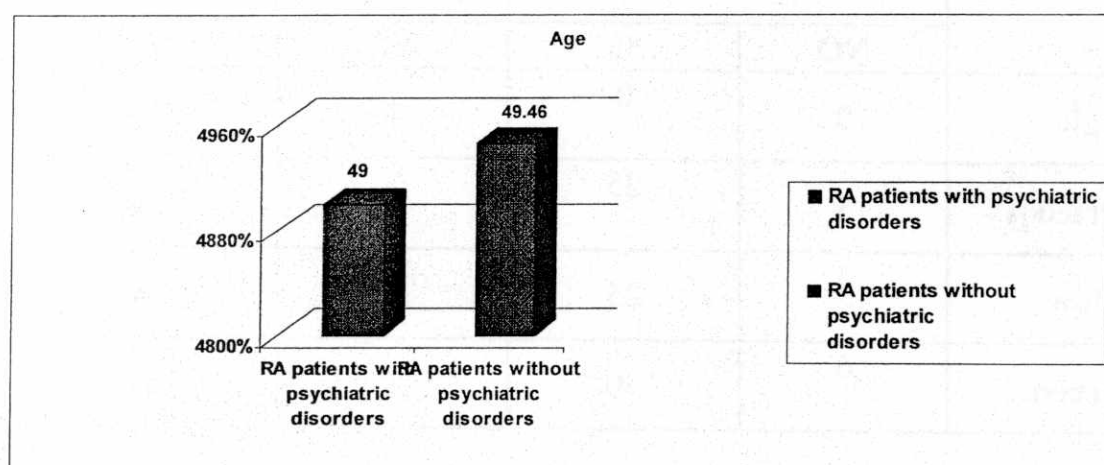


Figure (13): Comparison between RA patients with and without psychiatric disorders as regards age.

(B) Sex:

It was found that all males in the patient's group were not suffering from any psychiatric disorders.

(C) Marital-status:

Six (out of twelve) patients with psychiatric disorders (50%) and only one (out of eighteen) patient without psychiatric disorders (5.6%) were divorced. Three patients with psychiatric disorders (25%) and three patients without psychiatric disorders (16.7%) were widows. It was found statistically that the percentages of divorced patients were significantly higher among RA patients with psychiatric disorders than those without psychiatric disorders ($p < 0.05$). -

Table (17): Comparison between RA patients with and without psychiatric disorders as regards the marital status.

Marital state	RA patients with psychiatric disorders		RA patients without psychiatric disorders	
	NO	%	NO	%
Single	0	0	1	5.6
Married	3	25	13	72.2
Widow	3	25	3	16.6
Divorced	6	50	1	5.6

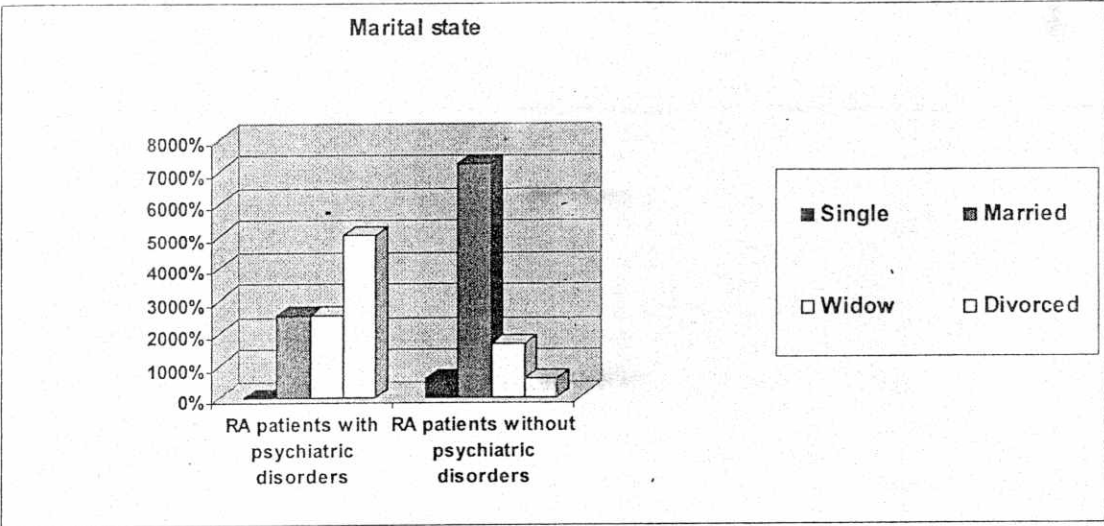


Figure (14): Comparison between RA patients with and without psychiatric disorders as regards the marital status.

(D) Joint deformities :

Seven RA patients (58.3) suffering from psychiatric disorders and five patients of RA patients (27.8) not suffering from psychiatric disorders have joint deformities, RA patients with and without psychiatric disorders were found to be non-significantly different as regards the presence of joint deformities ($p>0.05$).

Table (18): Comparison between RA patients with and without psychiatric disorders as regards joint deformities.

Joint deformities	RA patients with psychiatric disorders		RA patients without psychiatric disorders	
	NO	%	NO	%
Present	7	58.3	5	27.8
Absent	5	41.7	13	72.2
Chi-square value	0.394			
p-value	>0.05			

Table (19): Comparison between RA patients with and without psychiatric disorders as regards extra-articular manifestations.

Extra-articular	RA patients with psychiatric disorders	RA patients without psychiatric disorders
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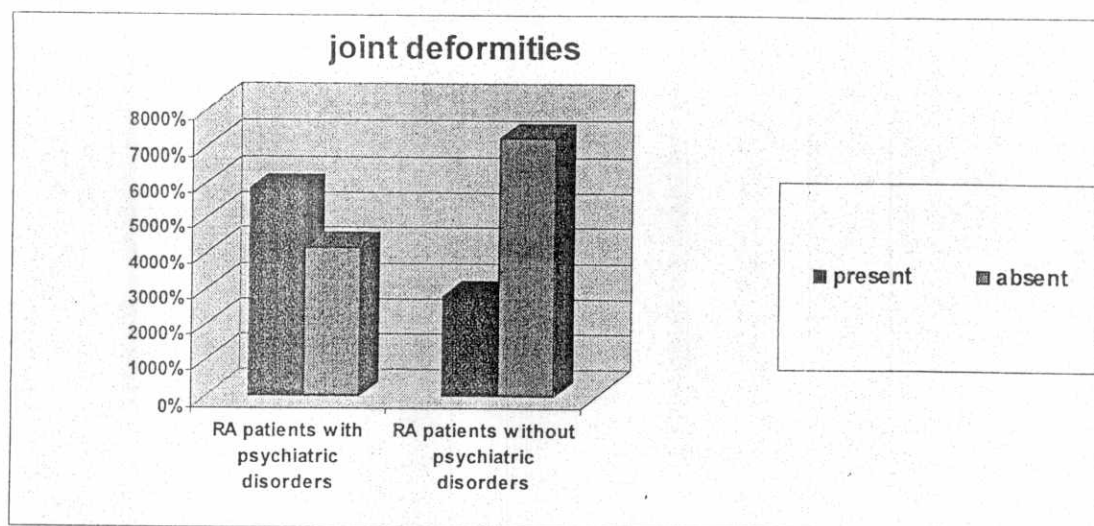


Figure (15): Comparison between RA patients with and without psychiatric disorders as regards joint deformities.

(E) Extra-articular manifestations:

Seven patients (58.3%) of RA patients suffering from psychiatric disorders have extra-articular manifestations; while only one of RA patients not suffering from psychiatric disorders (5.6) has extra-articular manifestations. RA patients with psychiatric disorders were found to have highly significant difference as regard extra-articular manifestations compared to patients without psychiatric disorders ($p<0.001$).

Table (20): Comparison between RA patients with and without psychiatric disorders as regards rheumatoid factor.

	RA patients with psychiatric disorders	RA patients without psychiatric disorders
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Table (21): Comparison between RA patients with and without psychiatric disorders as regard C-reactive protein.

C-reactive protein	RA patients with psychiatric disorders		RA patients without psychiatric disorders	
	NO	%	NO	%
Positive	7	58.3	5	27.8
Negative	5	41.7	13	72.2
Chi-square value	4.1			
p-value	<0.05			

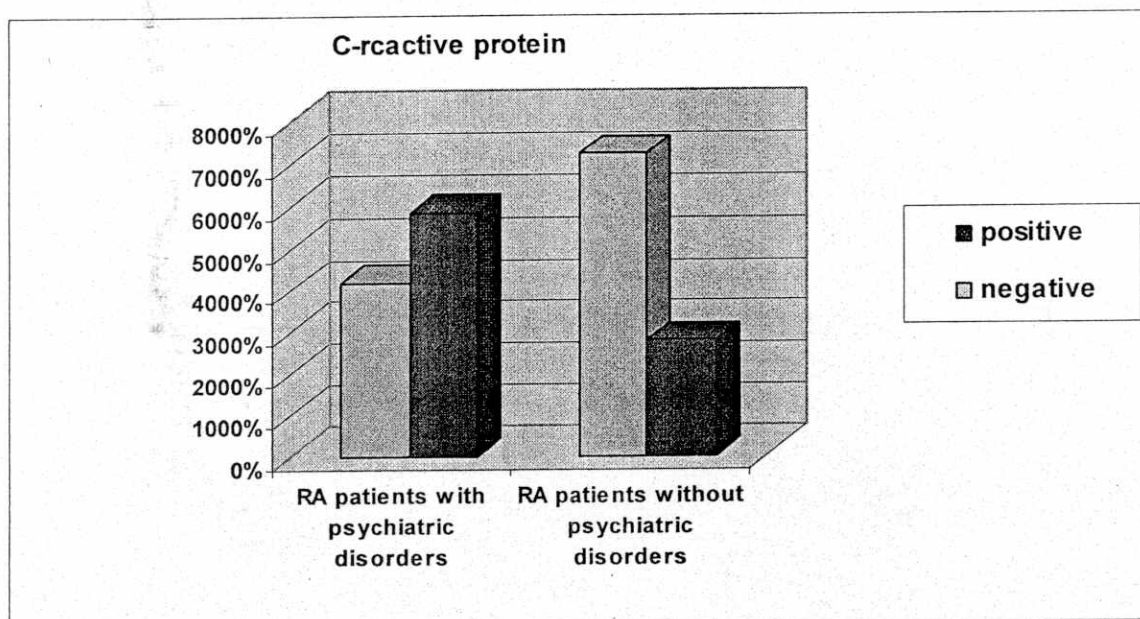


Figure (18): Comparison between RA patients with and without psychiatric disorders as regard C-reactive protein.