RESULTS

RESULTS

This study included 100 patients with RA. These patients were questioned about the symptom of back pain, of whom 15 patients (15%) had this complaint for more than three months, and were studied in more details.

A group of 15 patients having RA but not complaining of back pain was also included, together with a group of 15 patients with chronic mechanical low back pain (>3 months).

All these patient were matched as regards their age and sex (Table 1) (Fig. 8).

Group I :-

Comprising 15 patients with RA complaining of back pain (> 3 months) whose ages ranged between 25-66 years (mean 49.9±13.1). They were 14 females (93.7%) and one male (6.3%) (Table 2).

Group II :-

Comprising 15 patients with RA without back pain, the patients' ages ranged between 22-69 years (mean 44.9±14.7). They were 12 females (80%) and 3 male (20%) (Table 3).

Group III :-

These patients were included as a control group which comprised 15 patients with chronic mechanical low back pain (>3 months).The patients' ages ranged between 29-69 years (mean 47.4±11.9) they were 13 females (86.7%) and 2 males (13.3%).

Results of the clinical study of group I and group II (Table 4):-

* The duration of RA ranged between 24-168 months (mean 17.6±23.3) in group I, while, in group II it ranged between 6-156 months (mean 49.1±42.2). A signficant difference was observed between both groups, ($P < 0.02$).

* The duration of mornning stiffness for both groups (I and II) ranged between 30-120 minutes but the mean was (70.7±34.5 minutes) in group I while it was (64.02±45.1 minutes) in group II.

A non-significant differance was observed between both groups ($P > 0.05$).

* The articular index scoring ranged between 6-47 joints (mean 26.8±7.7) in group I, while in group II, it ranged between 6-40 joints (mean 20.5±8.8).

A signifcant difference was observed between both group ($P < 0.05$).

* As regards functional capacity grading in group I, 2 patients (13.3%) were in (grade 0), 7 patients (46.7%) were in (grade 1), 5 patients (33.3%) were in (grade 2), and only one patient (6.7%) was in (grade 3).

While, in group II the functional capacity grading included 8 patients (53.3%) in (grade 0), 3 patients (20%) were in (grade 1), 2 patients (13.3%) were in (grade 2), while only one patient (6.7%) was in (grade 3).

A non-significant difference was observed between both groups ($P > 0.05$) (Table 5) (Fig.9).

Results of laboratory investigations in group I and II (Table 6):

* The erythrocyte sedimentation rate (ESR) ranged from 20-120 mm / hr (mean 63.2±37.6) in group I while for group II, it ranged from 18-113 mm / hr (mean 66.6±28.4).

A non-significant difference was observed between both groups ($P > 0.05$).

* Rheumatoid factor (RF) was positive in all cases of group I, while in group II, it was positive in 12 patients (80%) and negative in 3 patients (20%).

A non-significant difference was observed between both gropus ($P > 0.05$).

* The concentration of hemoglobin (HB%). In group I, (HB%) ranged between 9-14 gm% (mean 11.3±1.8), while for group II, it ranged between 7.5-13 gm% (mean 10.9±1.9).

A non-significant difference was observed between both groups ($P > 0.05$).

* In group I,12 patient (80%)out of the 15 patients were on steroid therapy for a duration ranging between 5-156 months (mean 40.2±31.5), while in group II, 7 patient (46.7%) out of the 15 patients also recieved steroids for a duration ranging between 6-60 monthes (mean 19.8±18.8).

A non-significant difference was observed between both groups ($P > 0.05$).

Results of the clinical examination of the lumbar spine of group I :-

The duration of low back pain ranged between 4-48 months (mean 17.7±3.3m). Ten patients (66.7%) complained of low back pain and 5 patients (33.3%) complained of lower and upper back

pain. There was significant negative correlation between the duration of the disease and the duration of back pain r = 0.4 (Fig.10).

The onset of pain was acute in 7 patient (46.7%) and gradual in 8 patients (53.3%).

The character of pain was described as dull in 9 patients 60% and sharp in 6 patients 40% with the radiation of the pain to the thigh in 7 patient (46.7%) lower leg in 3 patients (18.8%) and to the ribs in 5 patients (33.3%) (Table 7a).

Certian positions aggrevated pain :-

Flexion	7 pt	46.7%
Sitting	3 pt	20%
Exercise	8 pt	53.3%
Inspiration	3 pt	20%
Cough	6 pt	40%
Extension	9 pt	60%

Relief of pain was most frequently obtained from rest in 10 patients (66.7%) in group I, physiotherapy was helping in 6 patients (40%), and analgesic in 5 patient (33.3%) (Table 7b).

Neurological abnormality was not detected in any of our patients.

Results of the physical examination of the lumbar spine of the 3 groups :-

* The mean of spinal flexion in group I, was 4.4±1.2cm, while in group II, the mean was 5.3±0.59 and in group III, the mean was 4.7±1.03 cm.

A significant difference were detected between group I and II.($P < 0.05$)

A non-significant difference was observed between groups I and III ($P>0.05$).

* The mean extenion in group I, was 0.61±0.57, while in group II, the mean was 1.2±0.3 cm and in group III, the mean was 1.2±0.6 cm.

A significant difference was detected between group I and II ($P < 0.05$).

A non-significant difference was observed between groups I and III ($P>0.05$).

The mean of lateral flexion in group I was 2.3±0.4, while in group II, the mean was (2.3±0.2) and in group III the mean was 2.1±0.4.

A non-significant difference was observed between groups I and II (P>0.05).

A non-significant difference was observed between groups I and III (P>0.05).

* The mean of finger to floor test in group I, was 19.5±11.3 cm, while in group II, the mean was 19.6±11.2 cm and in group III, the mean was 17.2±9.9 cm (Table 8).

The radiological findings reported in all groups of patients were (Table 9):-

* Disc narrowing was observed in 6 patients (40%) of group I, four patients (26.7%) had one disc narrowing while, 2 patients (13.3%) had 2 disc narrowing. Three patients (20%) had disc narrowing without osteophytosis while the remaining 3 patients (20%) had disc narrowing with little osteophytosis (Fig. 11).

In group II, there was 2 patients (13.3%) with disc narrowing without osteophytosis while one patient had 2 disc narrowing with

osteophytosis, in group III, 9 patients (60%) had disc narrowing, 4 patients (26.7%) had 2 dis narrowing while, 5 patients (33.3%) had only one disc narrowing all the disc narrowing was ascociated with osteophytosis except for 2 patients (13.3%).

A non-significant difference was observed between groups I and II ($P>0.05$).

A significant difference were detected between group I and III ($P < 0.05$).

* In group I, 8 patients (53.3%) had osteophytes five patients (33.3%) had only one vertebra involved while 2 patients (13.3%) had 2 vertebrae involved and only one patient (6.7%) had 3 vertebrae involved (Fig. 12).

In group II, 4 patients (26.7%) had osteophytes, 3 patients (20%) had one vertebrae involved, while one patient (6.7%) had 2 vertebrae involved and in group III, 9 patients (60%) had osteophytes, 4 patients (26.7%) had one vertebrae involved, 2 patients (13.3%) had 2 vertebrae involved, one patients (6.7%) had 3 vertebrae involved, 2 patients (13.3%) had 3 vertebrae involved.

* Osteoporosis was observed in 12 patients (80%) of group I, while in (group II), it was in 9 patients (60%) and in group III, in 6 patients (40%).

A significant difference was observed between group I and III.

* In group I, 2 patients (13.3%) had wedge fracture, one patient had the fracture at L4 while, the other site was at L1, while in group II and III, no fracture was detected (Fig. 13).

* In group I, 2 patients (13.3%) had spondylolisthesis one patient has spondylolisthesis first degree at L5-S1 and the other patient had spondylolisthesis first degree at L4-L5, in group II, no spondylolisthesis was detected, while in group III, 4 patient (26.7%) had spondylolisthesis (Fig.14).

* In group I, there were 2 patients (13.3%) with sacroiliitis grade II, one patient (6.7%) had unilateral sacroiliitis and one patient had bilateral sacroiliitis.

In group II, 4 patients (26.7%) had unilateral sacroiliitis and in group III, 2 patients (13.3%) had unilateral sacroiliitis.

* No abnormality was detected in group I, as well as in group III, while in group II, 3 patients had abnormal narrowed hip joint space (Table 10).

* In group I, 3 patients (20%) had narrowing in the facet joints and irrgularity as well, there was one patient who had sclerotic margin of the facet joint (Fig. 15).

No abnormality was detect in group II and III.

In group I, there was an old heald fracture of pars interarticularis and spina bifida, while in group II, no positive finding were detected.

In group III the abnormal finding included

* Spinal canal stenosis in 2 patients as reported by the radiologist.
* Schmoral's nodes at L_2-L_3-L_4.
* Spondylosis.
* Gas phenomena with disc narrowing.
* Scoliosis.
* Exaggerated or flattend lumbar curve.

No discitis was detected in any of our patients.

Table (1)

Classification of patients according to their age and sex

GROUPS	TOTAL	RANGE OF (AGE)	MEAN (± S.D YEARS)	NO.OF MEN		NO.OF WOMEN	
				NO	%	NO	%
GROUP (1) R.A WITH L.B.P	15	25-66	49.9 ± 13.1	1	6.3	14	39.7
GROUP (2) R.A	15	22-69	44.9 ± 14.7	3	20	12	80
GROUP (3) L.B.P	15	29-69	47.4 ± 11.9	2	13.3	13	86.7

Figure (8) Sex distribution of the studied patients

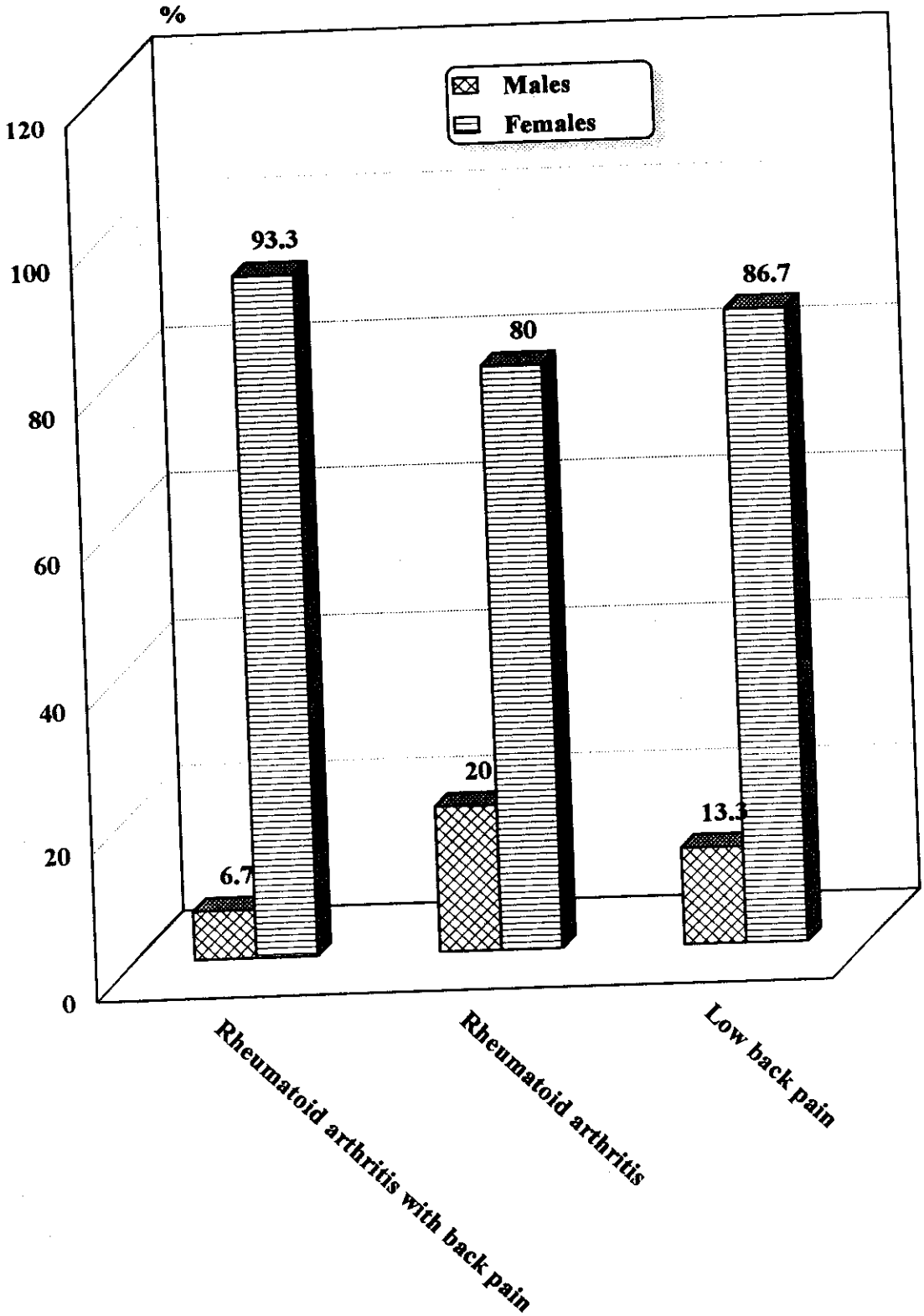


Table (2): Results of the clinical data of patients with rheumatiod arthritis with low back pain group I

case number	age	sex	disease duration / monthes	Mornning stiffness / minutes	Articular index / joints	Functional capacity grading
1	62	F	156	60	28	2
2	53	F	84	90	39	1
3	55	F	48	30	21	1
4	52	F	60	30	22	1
5	69	F	120	60	32	2
6	25	F	96	120	35	2
7	49	F	48	60	18	1
8	59	F	48	60	30	2
9	42	F	96	120	37	2
10	36	F	96	60	12	0
11	45	F	120	90	24	2
12	66	F	84	90	35	1
13	63	F	168	30	15	0
14	42	F	84	30	36	1
15	35	M	48	120	53	1
mean	49.9		17.6	70.7	26.8	
±S.D	13.1		23.3	34.5	7.7	

M = Male F = female

Table (3) : Results of the clinical data of patients with rheumatiod arthritis without low back pain group II

case number	age	sex	Duration of disease / months	Morning stiffness/ minutes	Articular index / joints	Functional capacity grading
1	59	F	48	120	28	2
2	53	F	9	60	30	3
3	50	F	48	90	23	2
4	62	M	84	30	11	0
5	30	F	36	30	10	0
6	42	F	24	30	8	0
7	55	F	84	30	20	0
8	47	M	60	120	23	1
9	40	F	96	30	23	0
10	47	F	6	30	10	0
11	63	M	156	30	19	0
12	62	F	36	30	11	1
13	42	F	12	120	37	0
14	35	F	48	90	28	1
15	54	F	36	60	40	1
mean	44.9		49.1	64.02	20.5	
±S.D	14.7		42.1	45.1	8.8	

M = male F = femal

Table (4) : Clinical disease activity parameters of group I & II

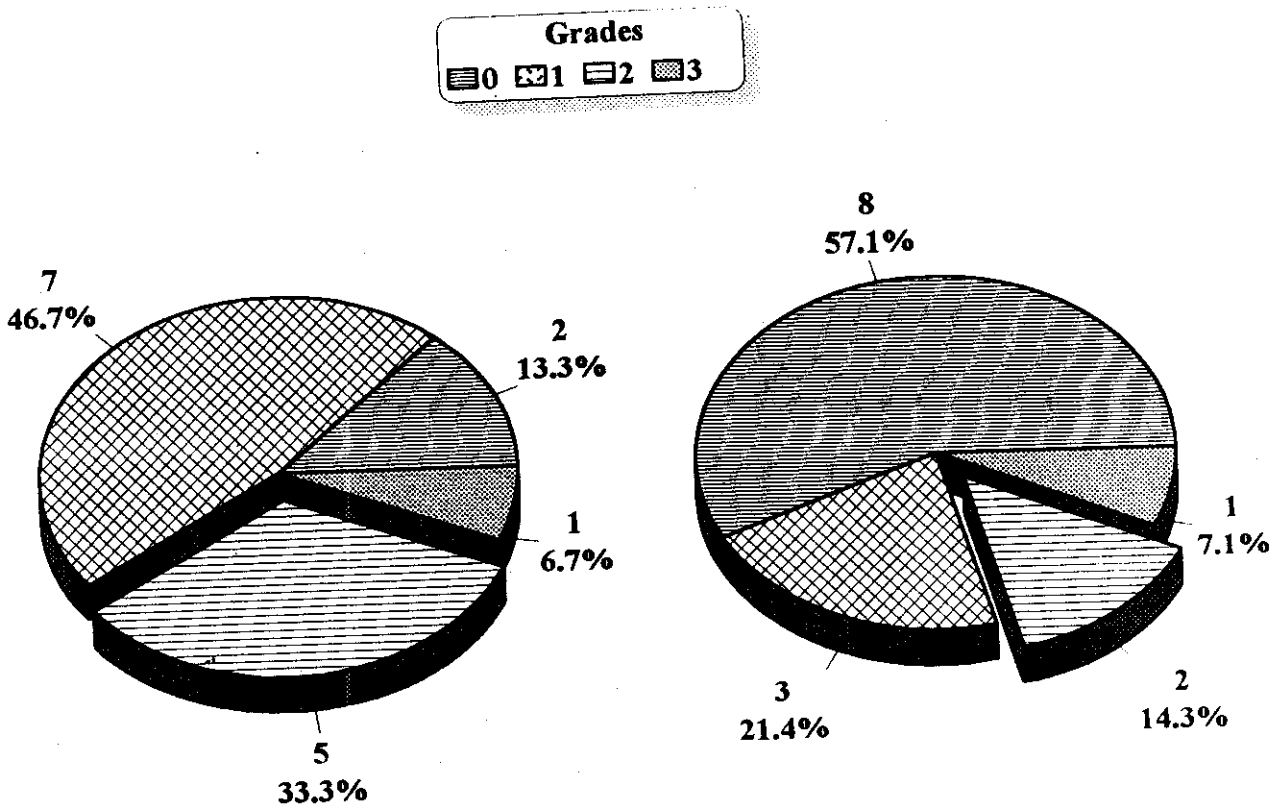
	Mornning Stiffness	Ritchi Articular Index	Duration of Disease in Months
Group I	1.2 ± .575	26.8 ± 7.75	17.6 ± 23.3
Group II	1.06 ± .753	20.05 ± 8.79	44.1 ± 42.2
P value	>0.05 insignificant.	<0.05 Significant.	<0.05 Significant

Table (5) Functional Capacity in group (I) & (II)

Functional Capacity	RA with L B P		RA	
Grade	NO	%	NO.of patients	%
0	2	13.3	8	53.3
1	7	46.7	3	20
2	5	33.3	2	13.3
3	1	6.7	1	6.7
P	>0.05 insignificant			

R A = Rheumatoid arthritis
L B P = Low back Pain

Figure (9) Functional capacity grading



Rheumatoid arthritis + low back pain

Rheumatoid arthritis

table (6) : Laboratory Finding in group I & II

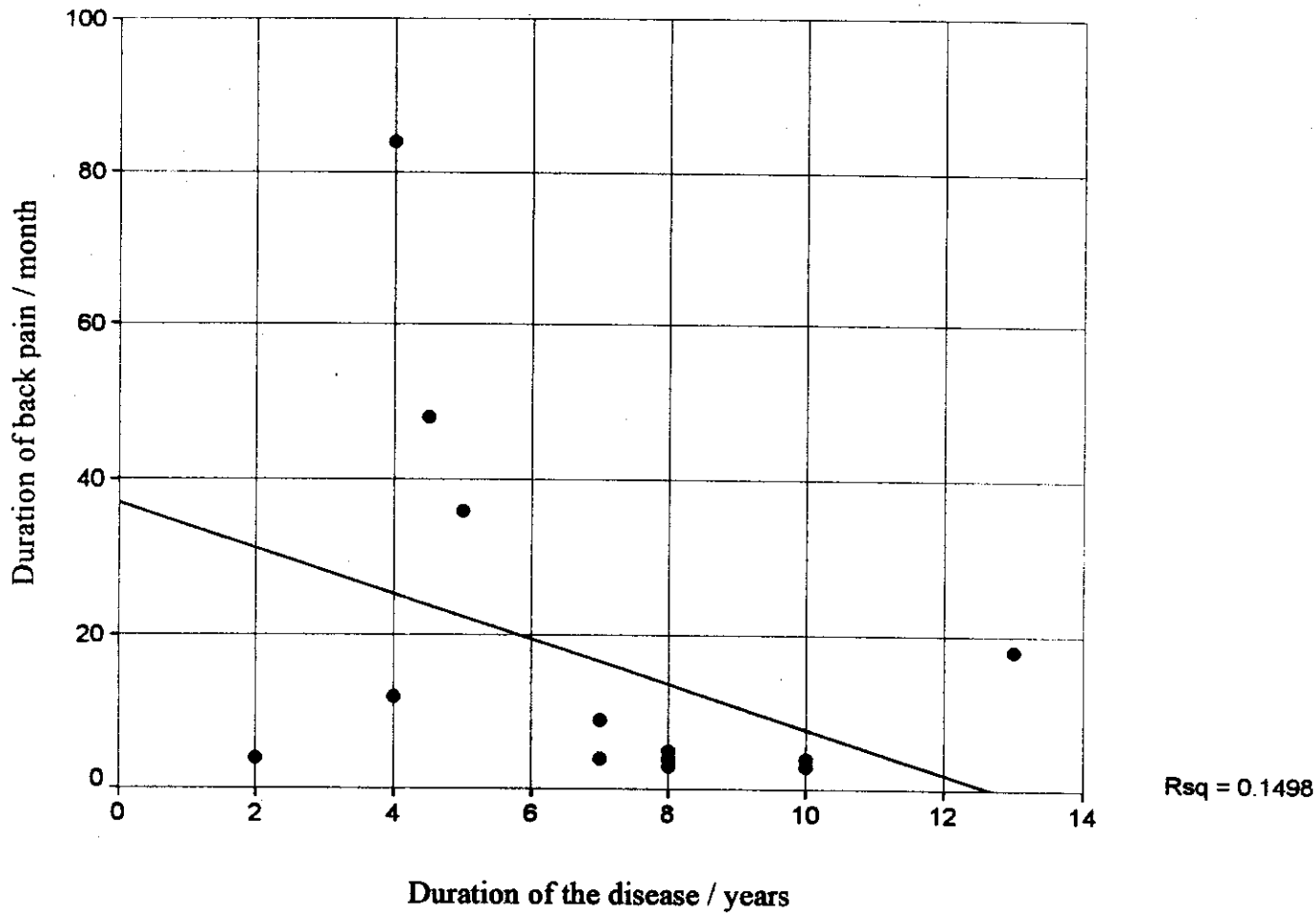
	ESR	Rh. Factor	HB %
Group 1	66.6 ± 28.48	1.13 ± 352	11.3 ±1.8
Group2	63.2 + 37.61	1.08 ± 289	10.9 ± 1.9
P value	>0.05 insignificant	>0.05 insignificant	>0.05 insignificant

ESR = Erythrocyte Sedemintation Rate

RH. = Rheumatoid Factor

HB = Heamoglobin concentration

Figure (10) Scatter diagram showing the relation between duration of the disease and onset of back pain



The figure shows negative correlation between the duration of the disease and the duration of back pain. r = 0.4

Table (7-A)
Results of the clinical examination of the lumbar spine in Group I and III

Pain characterstics		Group I		Group III	
	Dull	9	69 %	12	80 %
	Sharp	6	46 %	3	20 %
	Radiating TO				
	ribs	5	33.3 %	2	13.3 %
	thigh	7	46.7 %	5	33.3 %
	leg	3	20 %	1	6.7 %

Table (7 - b) : Results of clinical examination of the lumbar spine as regard Pain characterstic InGroup I And Group III

Pain characterstics	Group I		Group III	
Aggrevated by	NO	%	NO	%
Flexion	7	46.7%	5	33.3
Extension	9	60%	2	13.3
Exercise	8	53%	5	33.3
Sitting	3	20%	7	46.7%
Inspiration	3	20%	-	-
Cough	6	40%	-	-
Releived by				
Rest.	10	66.7%	6	40%
Medications	5	33.3	10	66.7%
Physiotherapy .	6	40%	9	60%

Table (8)

Results of the physical examinations

of the lumbar spine of the 3 groups

GROUPS	MEAN & S.D	Schober	Lat . flex	Extension	Finger to floor
GROUP (1) R.A with L.B.p	mean ± S.D	4.4 1.2	2.3 0.4	0.6 0.6	19.6 11.3
GROUP (2) R.A	mean ± S.D	5.3 0.6	2.3 0.2	1.2 0.3	19.6 11.2
GROUP (3) L.B.P	mean ± S.D	4. 7 1.03	2.14 0.5	1.2 0.6	17.2 10
P (I) / (II)		P <0.05	P>0.05	P < 0.02	P> 0.05
P (I) / (III)		P>0.05	P>0.05	P>0.05	P>0.05

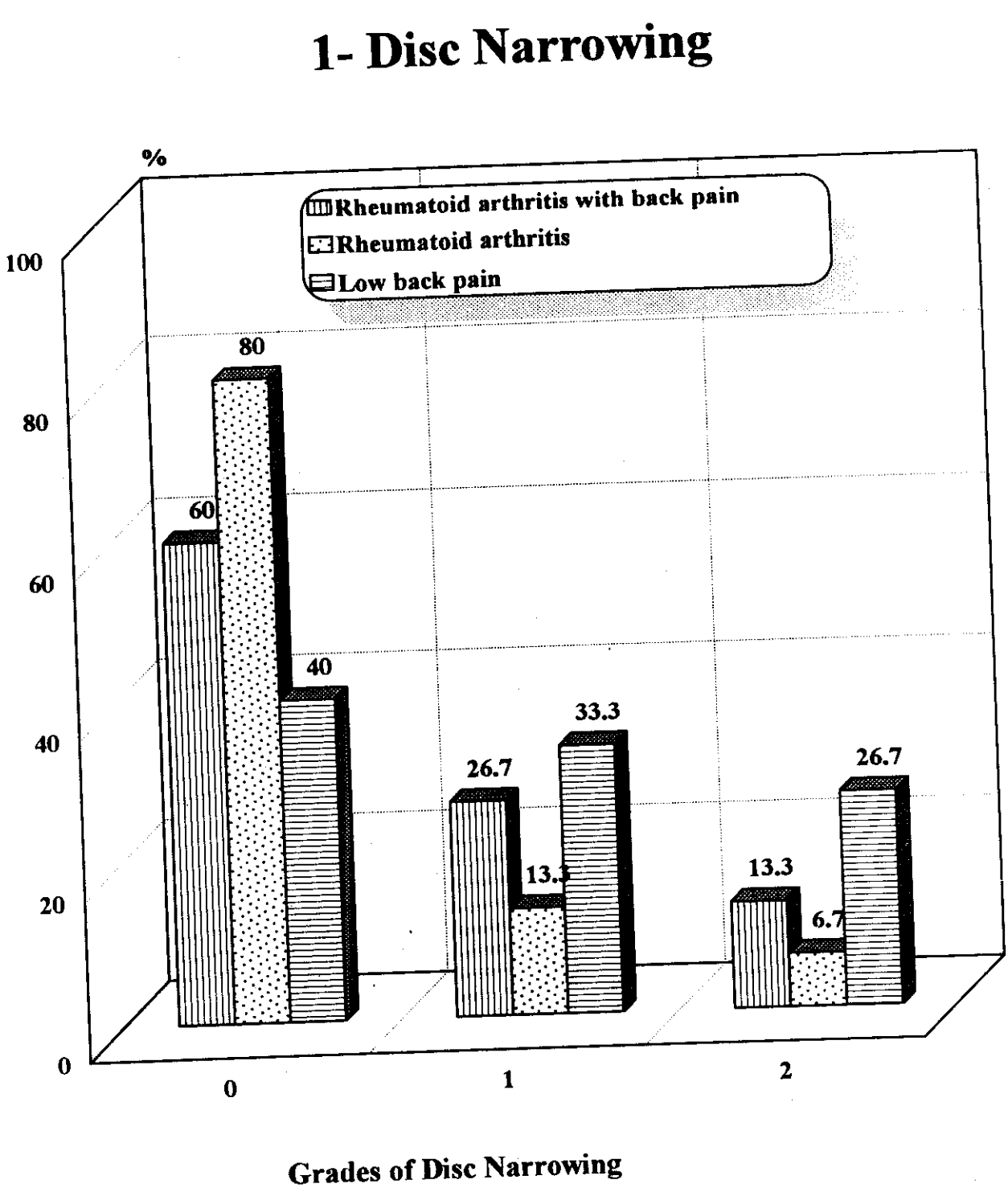
Table (9) : Radiological Finding of group I , II , III

	Group 1		Group 2		Group 3	
	No	%	No	%	No	%
Disc narrowing						
0	9	60.0%	12	80.0%	6	40.0%
1	4	26.7%	2	13.3%	5	33.3%
2	2	13.3%	1	06.7%	4	26.7%
3	-		-		-	
4	-		-		-	
5	-		-		-	
Osteophytes						
0	7	46.7%	11	73.3%	9	60.0%
1	5	33.3%	3	20.0%	4	26.7%
2	2	13.3%	1	06.7%	2	13.3%
3	1	06.7%				
4						
5						
Osteoporosis	11	73.3%	8	53.3%	6	40.0%
Fracture	2	13.3%				
Sacroiliitis						
Unilateral	1	06.7%	3	20.0%	2	13.3%
Bilateral	1	06.7%	_		—	
Hip-Joint abnormality.	—		3	20.0%	—	
Spondylolythesis.	2	13.3%	—		—	
Scoliosis	1	06.7%	—		—	
Facet joints abnormality	3	20%	—		—	

*As regard osteoporosis, a significant difference was observed between group I and III

* As regard disc narrowing, a significant difference was observed between group I and III

Figure (11) Distribution of the studied groups according Radiological Findings



Figure(12) Distribution of the studied groups according Radiological Findings