

Depression in rheumatoid arthritis

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SUMMARY. We have examined 144 patients with rheumatoid arthritis and found a high prevalence of depression, which has not previously been reported.

It is probable that good practitioners who see patients at home acquire a better understanding of the social and psychological aspects of such an illness. The presence of depression was statistically significant when associated with the articular index, the degree of functional impairment, and with dependence on others, but not with many other medical and social factors.

Ro fhada mar so a tha mi
(Too long in this condition)
Old Pibroch Tune

Introduction

MOST physicians and other health workers consider that persistent pain is the main problem facing the patient with rheumatoid arthritis. In a previous paper (Baillie *et al.*, 1974) it was reported that a high proportion of patients with rheumatoid arthritis suffer from depression, which is often not appreciated by hospital doctors at an outpatient attendance. The patient's general practitioner who sees the patient in his home setting is, however, more aware of chronic depression associated with rheumatoid arthritis. Even the large textbooks of clinical rheumatology make no reference to depression as a clinical feature of the disease (Copeman, 1969; Boyle and Buchanan, 1971; Hollander and McCarty, 1972).

This paper describes a study of possible factors associated with depression in patients with rheumatoid arthritis.

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Method

One hundred and forty-four patients with "definite" or "classical" rheumatoid arthritis, as defined by the diagnostic criteria of the American Rheumatism Association (Ropes *et al.*, 1959) were studied. The patients were all attending, as outpatients, the Centre for Rheumatic Diseases in Glasgow, which is the only referral centre for rheumatic diseases in the area. One hundred and twelve patients were female, and 32 were male. The ages and sexes are shown in Table 1. The majority of patients had suffered from the disease for many years. In the female patients 33 (30 per cent) had had arthritis for less than five years, 25 (22 per cent) from five to ten years, and 54 (48 per cent) for more than ten years. In the male patients eight (25 per cent) had had the disease less than five years, ten (31 per cent) from five to ten years, and 14 (44 per cent) for more than ten years. All the patients were seen by either E.T.R. or W.W.B. Consent was given by all patients with no refusals.

The information was recorded on a single form divided into three sections. The first contained basic demographic data about the patient, the second contained questions of a social nature, and the third recorded clinical information about the rheumatoid disease. Each part of the investigation, for example, mobility assessment, was subdivided into a number of relevant achievements which were given a number ranging from zero to six. Zero indicated that the

Table 1. Age and sex distribution in 144 patients with rheumatoid arthritis.

Age (years)	Females		Males		Total	
	Number	%	Number	%	Number	%
< 40	26	92.9	2	7.1	28	19.4
40-49	18	72.0	7	28.6	25	17.4
50-59	33	76.7	10	23.3	43	29.9
60-69	26	74.3	9	25.7	35	24.3
70+	9	69.2	4	30.8	13	9.0
Total	112	77.8	32	22.2	144	100.0

Table 2. Summary of clinical and laboratory data on 144 patients with rheumatoid arthritis.

Clinical and laboratory data	Females		Males		Total	
	Number	%	Number	%	Number	%
<i>Pain</i>						
Slight	14	12.5	7	21.9	21	14.6
Moderate	40	35.7	18	56.3	58	40.3
Severe	36	32.1	6	18.8	42	29.2
Very severe	16	14.3	1	3.1	17	11.8
<i>Articular index</i>						
0-10	39	34.8	14	43.8	53	36.8
10-30	51	45.5	14	43.8	65	45.1
30-50	18	16.1	3	9.4	21	14.6
50+	2	1.8	1	3.1	3	2.1
<i>Morning stiffness</i>						
0-½ hour	35	31.3	14	43.8	49	34.0
½-2 hours	29	25.9	10	31.3	39	27.1
2-4 hours	23	20.5	2	6.3	25	17.4
> 4 hours	20	17.9	4	12.5	24	16.7
<i>Functional impairment</i>						
Fully mobile	33	29.5	9	28.1	42	29.2
Impaired, but able to leave house alone	46	41.1	20	62.5	66	45.8
Housebound	27	24.1	2	6.3	29	20.1
Bed or chairbound	6	5.4	1	3.1	7	4.9
<i>Hb (g/100 ml)</i>						
< 8	1	0.9	0	0	1	0.7
8-10	12	10.7	2	6.3	14	9.7
10-12	29	25.9	5	15.6	34	23.6
> 12	52	46.4	22	68.8	74	51.4
<i>ESR (Westergren) (mm/hr)</i>						
< 10	9	8.0	2	6.3	11	7.6
10-30	27	24.1	12	37.5	39	27.1
30-60	34	30.4	8	25.0	42	29.2
> 60	21	18.8	5	15.6	26	18.1
<i>Rheumatoid factor</i>						
< 1:32	14	12.5	2	6.3	16	11.1
1:32-1:128	34	30.4	9	28.1	43	29.9
1:128-1:512	30	26.8	11	34.4	41	28.5
> 1:512	17	15.2	8	25.0	25	17.4
<i>Articular erosions</i>						
Absent or not known	30	26.8	6	18.8	36	25.0
Present	82	73.2	26	81.3	108	75.0

information was not known or not obtained, '1' indicated that no problem was present, '2' that a problem existed but was inactive, and '3' and above represented increasing severity of active problems.

Information was collected about specific tests for rheumatoid factor (MacSween *et al.*, 1974), Westergren erythrocyte sedimentation rate, haemoglobin concentration, and examination of x-rays for articular erosions. In addition, a subjective enquiry was made regarding the clinical features of pain (slight, moderate, severe, and very severe; Lee *et al.*, 1973), articular index of joint tenderness (Ritchie *et al.*, 1968), duration

of morning stiffness (half an hour, half an hour to two hours, two to four hours, and exceeding four hours) and the social features of functional impairment (fully mobile, impaired but able to leave the house alone, housebound, and bed or chairbound), and dependence on others for help (not dependent, dependent for shopping, for domestic care, for personal care; Table 2). It can be seen from Table 2 that there was a wide distribution in the clinical and laboratory findings, indicating that the sample of patients selected reflected all degrees of severity of the disease.

The civil status, housing conditions and other clinical

Table 3. Summary of social data.

Social data	Females		Males		Total	
	Number	%	Number	%	Number	%
<i>Civil status</i>						
Single	16	14.3	3	9.4	19	32.2
Married	78	69.6	27	84.4	105	72.9
Widowed, divorced or separated	18	16.1	2	6.2	20	13.9
<i>Household</i>						
Lives with relatives or friends	100	89.3	30	93.8	130	90.3
Lives alone	12	10.7	2	6.2	14	9.7
<i>Housing problem</i>						
Too many stairs	20	17.9	4	12.5	24	16.7
Poor housing	21	18.7	2	6.2	23	16.0
<i>Dependence on others</i>						
For shopping only	9	8.0	0	0	9	6.2
Domestic care	17	15.2	3	9.4	20	13.9
Personal care	43	38.4	10	31.3	53	36.8

problems relevant to chronic disability as listed in Table 3 were recorded. Eleven per cent of the female patients and six per cent of the male patients lived alone. Seventy per cent of the female patients and 84 per cent of the male patients were married. Some housing problems were present in 38 per cent of female patients and 18 per cent of the male patients. Twenty-four patients (17 per cent) had problems with their stairs.

The social requirements of the patients were recorded as "met" or "unmet" for the following: social worker,

health visitor or district nurse, physiotherapy, occupational therapy, home help, chiropody, meals on wheels, housing, and voluntary services (Table 4).

The patients were asked the questions listed in Table 5 to elicit depression. The definition for the purposes of statistical analysis included positive responses to the three questions: Have you lost interest in things? Have you felt so low in spirits that you just sit for hours? Do you feel you would be better off dead? The statistical analysis was performed by the chi-squared test.

Table 4. Social needs of patients.

	Females						Males						Total					
	No need		Need met		Need unmet		No need		Need met		Need unmet		No need		Need met		Need unmet	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Social worker	98	87.5	5	4.5	9	8.0	29	90.6	1	3.1	2	6.3	127	88.2	6	4.2	11	7.6
Health visitor/ district nurse	84	75.0	17	15.2	11	9.8	29	90.6	1	3.1	2	6.3	113	78.5	18	12.5	13	9.0
Physiotherapy	88	78.6	1	0.9	23	20.5	30	93.8	1	3.1	1	3.1	118	81.9	2	1.4	24	16.7
Occupational therapy	64	57.1	12	10.7	36	32.1	23	71.9	3	9.4	6	18.8	87	60.4	15	10.4	42	29.2
Home help	82	73.2	16	14.3	14	12.5	30	93.8	1	3.1	1	3.1	112	77.8	17	11.8	15	10.4
Chiropody	60	53.6	28	25.0	24	21.4	21	65.6	4	12.5	7	21.9	81	56.2	32	22.2	31	21.5
Meals on wheels	108	96.4	1	0.9	3	2.7	32	100	0	0	0	0	140	97.2	1	0.7	3	2.1
Voluntary services	96	85.7	5	4.5	11	9.8	30	93.8	2	6.3	0	0	126	87.5	7	4.9	11	7.6
Housing	66	58.9	13	11.6	33	29.5	23	71.9	6	18.8	3	9.4	89	61.8	19	13.2	36	25.0

Table 5. Results of enquiry into depression.

Degree of depression	Females		Males	
	Number	%	Number	%
Does not feel lonely or depressed	46	41.1	21	65.6
Sometimes feels lonely	3	2.7	2	6.3
Often feels lonely	9	8.0	4	12.5
Lost interest in things	6	5.4	0	0
Felt so low in spirits that just sat for hours	15	13.4	0	0
Felt would be better off dead	33	29.5	5	15.6

Results

The results of the questionnaire on depression are summarized in Table 5. Almost 60 per cent of the female patients had felt depressed in varying degrees at some time, whereas only 35 per cent of the male patients had had symptoms of depression. A greater number of female patients were depressed and were more seriously depressed than male patients. Depression in these female patients was significantly correlated with the articular index of joint tenderness ($p < 0.001$), functional impairment ($p < 0.01$), and dependence on others ($p < 0.01$) (Table 6). Somewhat surprisingly there was no significant correlation between depression and pain, morning stiffness, or duration of disease. Depression did not significantly correlate with social status or with a housing problem.

Table 6. Correlation between depression and clinical, social and laboratory parameters in 144 patients with rheumatoid arthritis.

Parameter	Females	Males
Age	NS	NS
Pain	NS	NS
Articular index	$P < 0.01$	NS
Morning stiffness	NS	NS
Functional impairment	$P < 0.001$	NS
Duration of disease	NS	NS
Civil status	NS	NS
Household	NS	NS
Housing problem	NS	NS
Dependence on others	$P < 0.01$	NS
Haemoglobin (g/100 ml)	NS	NS
ESR (mm/hr)	NS	NS
Rheumatoid factor	NS	NS
Articular erosions	NS	NS

NS = not significant.

The "met" and "unmet" needs of the patients are summarized in Table 7. Not only was there a high prevalence of social requirements in both female and male patients, but there was also a very high prevalence of "unmet" needs—this was especially so in those patients who were depressed.

Discussion

It is surprising that, despite the numerous papers describing the clinical manifestations of rheumatoid arthritis, a clinical feature such as depression, which in this study is present in between one third and one half of sufferers, should not have been commented upon before. This is probably due to the fact that practically all publications emanate from hospital-based physicians who, if they are academically orientated, will be fully employed in hospital and will not have had, like the general practitioner, an opportunity of seeing patients in their homes. Although general practitioners appreciate the fact that many patients with rheumatoid arthritis are depressed, this does not seem to have been appreciated by physicians working in hospital.

The reasons why doctors in hospital are largely ignorant of depression in patients with rheumatoid arthritis are many. The hospital doctor in the outpatient clinic is more concerned, as indeed is the patient, with relief of pain. In addition, the hospital doctor's time is taken up with pathological complications of the disease such as scleritis and Sjögren's syndrome, and he is not attuned to this kind of enquiry into the total well-being of the patient. The patient may not appear depressed in the hospital environment, as a visit to the hospital in many ways becomes to a severely disabled patient a welcomed social outing. The patients, while waiting for the doctor, can talk with fellow sufferers over a cup of tea, and after a number of return visits get to know the receptionist and nursing staff who become their friends. The atmosphere is cheerful and deliberately optimistic and when the patient sees the doctor she may appear much more cheerful than normal. The patient is in the position of visiting the doctor who plays the dominant role. However, the reverse is the case when the general practitioner is called to see a patient in his home. Here the roles are better balanced, although with a young general practitioner an elderly patient who has long-standing knowledge of his illness may well play the dominant role. The patient in his own home is less likely to be inhibited about complaining to the doctor and the relatives are likely to encourage the patient to relate his problems to the general practitioner. In these circumstances symptoms of depression are more likely to become apparent.

It was surprising to find that there was no correlation between the patient's pain and symptoms of depression. However, there was a correlation between the degree of joint tenderness and symptoms of depression. The other two important variables appeared to be functional disability and dependence on relatives or others. The

Table 7. Social needs of depressed and non-depressed patients.

	Females								Males							
	Not depressed				Depressed				Not depressed				Depressed			
	Met		Unmet		Met		Unmet		Met		Unmet		Met		Unmet	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Social worker	2	3.5	3	5.2	3	5.6	6	11.1	0	0	2	7.4	1	20	1	20
Health visitor/ district nurse	9	15.5	3	5.2	8	14.8	8	14.8	0	0	0	0	1	20	2	40
Physiotherapy	0	0	12	20.7	1	1.9	11	20.4	1	3.7	0	0	1	20	0	0
Occupational therapy	3	5.2	14	24.1	9	16.7	22	40.8	1	3.7	4	14.8	2	40	2	40
Home help	5	8.6	5	8.6	11	20.4	9	16.7	1	3.7	1	3.7	0	0	0	0
Chiropdy	15	25.9	10	17.2	13	24.1	14	25.9	2	7.4	5	18.5	2	40	2	40
Meals on wheels	0	0	1	1.7	1	1.9	2	3.7	0	0	0	0	0	0	0	0
Housing	5	8.6	17	29.3	8	14.8	16	29.6	6	22.2	1	3.7	0	0	2	40

Females — 112; not depressed — 58; depressed — 54. Males — 32; not depressed — 27; depressed — 5.

less mobile and more dependent patients become, the more depressed they are. More housing problems were found in patients who were depressed, but these by themselves were not significantly associated with depression.

Having identified the problem that so many patients with rheumatoid arthritis are depressed, the question arises as to what can be done to help. Clearly those caring for patients must identify those who are depressed in order that they can be helped. It would be of interest to meet the various social needs of the patients, which were more prevalent in those with depression, to see if this would improve their well-being. For instance, many female patients who were depressed were in need of a home help and occupational therapist, but it is not known whether meeting these needs would help to alleviate depression. Does reconstructive surgery help to improve depression? Despite the large volume of surgical publications on reconstructive surgery in rheumatoid arthritis there is not, to our knowledge, one paper on whether patients feel less depressed or any better after surgery. This is clearly important since if the patient's mood improves then the strains within the family are reduced and economic benefit to the community will result, for example, from the husband losing less time off work. It is important to draw the distinction between a patient suffering from depression as a result of loss of functional ability, for example, and depression of the true endogenous type. The latter is likely to respond to anti-depressive drug therapy, but we have not observed clinical improvement of the former type of depression with drug treatment.

The hospital physician dealing with chronic arthritis must, we believe, now become involved in the

community problem. It is essential that he support charitable organizations attempting to meet the social needs of patients. Just as the general practitioner must become aware of recent concepts in clinical management of patients with arthritis, so must the hospital physician appreciate the social and psychological aspects of the patient's illness. With the current efforts to encourage closer working relationships between the hospital physician and general practitioner, treatment of patients with arthritis must inevitably improve with greater awareness of all aspects of the patient's illness.

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