Psychodemographic Assessment of Rheumatoid Arthritis Patients

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This study aims to assess the psychological profile of patients with Rheumatoid Arthritis (RA) in comparison to patients with osteoarthritis (OA) of the knees, correlated to various demographic characteristics. The sample consisted of 100 patients, including 60 RA patients and 40 patients with OA of the knees as a comparative group. Thorough history taking, examination and investigations were done. Psychological assessment using the Arabic version of Symptom Check List-90-Revised (SCL-90-R) was done. The findings of the study showed that urbanicity was associated with depression, hostility and psychological distress and female sex with anxiety. Unmarried RA patients had higher interpersonal sensitivity scores, while formally educated unemployed RA patients may represent a special problem, feeling socially alienated and reporting more depression. Discussion of the results in the light of the current literature has been made.

(Egypt.J. Psychiat.,1994, 17:47-57).

Introduction

Creed (1990) mentions that rheumatoid arthritis (RA) women are excessively prone to anxiety, and those who develop it are likely to react poorly to their illness. Psychological well-being is associated with perceived social support and diffuse social relationships in RA patients in many recent studies (Schulz and Decker, 1985; Fitzpatrick *et al.*, 1988; Fitzpatrick *et al.*, 1991), while depression was associated with lack of social support (Revenson *et al.*, 1991). Meenan *et al.* (1981) pointed to the pervasive effect of RA on employment and found work disability to be the most important sociomedical impact of RA, because it is associated with great income and psychosocial losses. Fifield *et al.* (1991) found that work disability was associated with depression in RA patients, while Pincus (1988) drew the attention to the association of formal educational level with morbidity and mortality in RA. Meenan *et al.* (1981) also found that even employed RA patients earn only 50% of their earning potential, and mentioned that the income losses produced by RA are a much greater

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financial burden than are the costs of medical care.

Aim of the Study

This study aims to assess the psychological profile of RA patients in comparison to patients with OR of the knees, correlated to demographic characteristics such as age, sex, marital status, residence, education, occupation, economic dependence, and family income.

Subjects and Method

100 patients, including 60 rheumatoid arthritis (RA) and 40 osteoarthritis (OA) patients of the knee as a comparative group, were recruited from the rheumatology and rehabilitation out-patients clinics of El-Minia and Cairo University Hospitals during the period from Jan, to Dec. 1992, to form the study sample which included urban and rural dwellers, and represented newly diagnosed patients as well as chronic patients in different classes and stages of the disease.

Criteria for diagnosis of RA patients were the 1987 American Rheumatism Association (AEA) criteria (Arnett *et al.*, 1988), while criteria for diagnosing OA of the knee were the clinical and radiographic criteria developed by Altman *et al.*, (1986).

Psychological Assessment was done by the Symptom Check List-90-Revised (SCL-90-R), the arabic version (El-Behairy, 1984).

Results

1- Demographic Characteristics of the Sample:

The demographic characteristic of the 60 Rheumatoid Arthritis (AR) patients as compared to the 40 osteoarthritis are shown in table (1). The age distribution of RA patients ranged from 20 to 68 years with a mean of 39.73±10.85 years, while OA patients were 30 to 73 years old with a mean of 49.05±4.58 years. There was a very highly significant difference between the two groups as regards age ($P< 0.001$).

There were 12 male patients (12%) and 48 female patients (80%) in the RA group, with a ratio of 1:4, while in the OA group there were 9 males (22.5%) and 31 females (77.5%). There was no statistically significant difference in sex distribution between the two groups.

As for marital status, the RA group comprised 41 married patients (69%), 5 widows and 5 single patients (8% each) and 9 divorced or separated patients (15%), while the OA group had 34 married patients (85%), 3 widows (7.5%), 1 single (2.5%) and 2 divorced or separated patients (5%). Though the percentage of married patients was lower and the percentage of widows, single or divorced patients was higher in the RA group, the overall difference in marital status was not statistically significant.

As regards education: 32 RA patients (53%) were illiterate, 9 received informal education and were able to read and write (15%), and 19 received formal school or high education (32%), whereas there were 13 illiterate patients (32.5%) in the OA group, with a lower percentage of illiteracy than RA group while the percentages of informal and formal education were greater than RA group: 10 patients (25%) and 17 patients (42.5%) respectively. However, the overall difference in education between RA and OA groups was not statistically significant.

In the RA group 25 (42%) were rural dwellers, while 35 (58%) were urban dwellers, whereas in the OA group 11 (27.5%) were rural and 29 (72.5%) were urban with no statistically differences in residence.

Table 1

The Demographic Characteristics of RA Patients as Compared to OA Patients

Variable		RA (N= 60)	OA (N= 40)	Test	P value
Age (Years)	Range	20-68	30-73		
	Mean±SD	39.73±10.85	49.05±9.589	T= 4.4	<0.001
Sex	Male	12 (20%)	9 (22.5%)	X^2= 0.09	0.76 (NS)
	Female	48 (80%)	31 (77.5%)		
Marital Status	Single	5 (8.33%)	1 (2.5%)		
	Married	41 (68.33%)	34 (85%)	X^2= 4.45	0.20 (NS)
	Widow	5 (8.33%)	3 (7.5%)		
	Divorced or Separated	9 (15%)	2 (5%)		
Residence	Rural	25 (41.67%)	11 (27%)	X^2= 2.04	0.15 (NS)
	Urban	35 (58.33%)	29 (72.5%)		
Education	Illiterate	32 (53.33%)	13 (32.5%)		
	Informal	9 (15%)	10 (25%)	X^2= 4.36	0.11 (NS)
	Formal	19 (31.67%)	17 (42.5%)		
Occupation	Unemployed	13 (21.67%)	3 (7.5%)	X^2= 8.35	0.015
	Housewife	39 (65%)	23 (57.5%)		
	Employed	8 (13.33%)	14 (35%)		
Economic Dependence	Dependent	47 (78.3%)	22 (55%)	X^2= 6.109	0.014
	Independ	13 (21.7%)	18 (45%)		
Income (Pound/Person/ month)	Range	5 -100	5-600		
	Mean± SD	27.4±16.68	65.75±103.64	T= 2.8	0.006

NS= Nonsignificant

Concerning the occupation of our patients: 39 (65%) of the RA as compared to 23 (57.5%) of the OA patients were housewives, whereas there were more unemployed patients: 13 (22%) and less employed patients: 8 (13%) in the RA group as compared to the OA group; the latter having 3 (7.5%) unemployed and 14 (35%) employed patients. This difference in employment was statistically significant (P< 0.05).

Financially, there were significantly more economically dependent (47 =78%) and less economically independent (13 =22%) RA patients than OA patients, of whom 22 (55%) were dependent and 18 (45%) were independent (P< 0.05). The family income in the RA group ranged from 5 to 100 pounds/person/month with a mean of 27.4%±16.68 pounds, while in the OA group the range was 5 to 100 pounds with a mean of 65.75±103.64 pounds, which was significantly more than in the RA group (P<0.01).

Table 2

Psychiatric Morbidity in RA as Compared to OA Patients

SCL-90-R Scales	RA (N= 60) Frequency (%)	OA (N= 40) Frequency (%)	Difference Z	P
Somatization	11 (18.33%)	4 (10%)	1.143	0.24 (NS)
Obsessive-compulsive	13 (21.67%)	5 (12.5%)	1.167	0.24 (NS)
Interpersonal sensitivity	9 (15%)	5 (12.5%)	0.353	0.72 (NS)
Depression	14 (23.33%)	4 (10%)	1.7	0.09 (NS)
Anxiety	9 (15%)	3 (7.5%)	1.131	0.26 (NS)
Hostility	9 (15%)	5 (12.5%)	0.353	0.72 (NS)
Phobic anxiety	14 (23.33%)	1 (2.5%)	2.858	0.004
Paranoid ideation	11 (18.33%)	5 (12.5%)	0.780	0.43 (NS)
Psychoticism	9 (15%)	2 (5%)	1.759	0.07 (NS)
Total Anxiety	17 (28.33%)	3 (7.5%)	2.552	0.01

Total anxiety = anxiety and / or phobic anxiety.
NS nonsignificant.

Table 3

Spearman Rank Correlation Coefficients of Age and Family Income/Person/Month with Scales of the SCL-90-R in RA Patients (N= 60)

SCL-90-R Scale	Age	Income
Somatization	-0.15	0.14
Obsessive- compulsive	-0.18	0.06
Interpersonal sensitivity	-0.07	0.06
Depression	-0.03	0.07
Anxiety	-0.14	0.08
Hostility	-0.29*	0.11
Phobic anxiety	-0.11	0.02
Paranoid ideation	-0.21	0.12
Psychoticism	-0.15	0.04
Distress	-0.16	0.03

* Statictically significant correlation (P<0.05)

To sum up, the RA group had a lower mean age and income and less employed and economically independent than the OA group, while the two groups showed no statistically significant differences in sex distribution, marital status, education or residence.

2- Psychiatric Morbidity in the Sample:

Table (2) shows the prevalence of psychiatric symptoms in RA patients compared to OA patients as determined by a cut-off point of 60 in T-scores of the patients. Depression and phobic anxiety were the most prevalent psychiatric morbidity in RA (23.3%). All psychiatric symptoms in OA were less prevalent than RA and did not exceed 12.5% at onset. However, statistically significant difference in

proportions of positive patients was only found for phobic anxiety, while the differences in depression approached significance (P= 0.09). Nevertheless, when RA patients were analyzed as a group, the increase in mean depression T-scores was very highly significant.

3- Association of Psychological Variables with Demographic Variables in RA Patients:

Table (3), (4) and (5) show the association between psychological scales of the SCL-90-R and demographic variables in RA patients. There was no significant association between psychological variables and income or economic dependence, whereas age was significantly correlated negatively with hostility and female sex positively with anxiety.

Urbanicity showed a highly significant association with depression, hostility and total symptom distress, while marital status was associated with interpersonal sensitivity: widows had the highest scores, followed by single patients, divorcees and married patients, who had the least scores.

There was also a significant association of education and unemployment with psychoticism.

Obsessive compulsive, phobic

Table 4

Association [1] between Economic Dependence, Sex and Residence and the SCL-90-R Scales in RA Patients (N= 60).

SCL-90-R Scale	Economic Dependence		Sex		Residence	
	U	P value	U	P value	U	P value
Somatization	300.5	0.92	248.5	0.46	387	0.44
Obsessive-compulsive	303.5	0.98	233	0.31	323.5	0.08
Interpersonal sensitivity	275	0.58	275	0.82	378	0.38
Depression	304.5	0.98	222	0.22	298.	0.04**
Anxiety	248	0.30	177	0.04*	319.5	0.07
Hostility	236	0.22	192	0.07	267	0.01**
Phobic anxiety	287.5	0.74	275.5	0.82	368	0.3
Paranoid ideation	295.5	0.86	266	0.68	321.5	0.08
Psychoticism	250	0.32	231	0.30	323.5	0.08
Distress	293	0.82	243	0.40	301.5	0.04**

1 Tested as the difference between 2 groups in scales by the Mann-Whitney U-test.

* Females had significantly more anxiety than males.

** Urban dwellers had significantly more depression, hostility and distress than rural dwellers.

anxiety and paranoid ideation did not show significant association with any demographic variables, while depression and distress were only associated with urbanicity.

As regards the association between past history of psychiatric disorder and demographic variables and psychological scales of the SCL-90-R in RA patients, the results (not presented in tables here) showed a highly significant association between formal education and a past history of depression ($p<0.01$). All 5 patients reporting a past history of psychiatric disorder were formally educated and all reported major depression or dysthymia. Also, this group of patients had significantly higher psychoticism scores than patients not reporting past history of psychiatric disorder ($p<0.05$).

Discussion

Table 5

Association[1] of Marital Status, Education and Occupation with Scales of the SCL-90-R in RA Patients (N=60)

SCL-90-R Scale	Marital Status		Education		Occupation	
	H	P	H	P	H	P
Somatization	2.12	0.55	1.78	0.41	0.24	0.89
Obsessive- compulsive	6.37	0.10	2.18	0.33	2.62	0.27
Interpersonal sensitivity	8.9	0.03*	0.66	0.72	1.24	0.54
Depression	5.1	0.17	0.57	0.75	1.06	0.60
Anxiety	2.3	0.51	1.09	0.60	1.4	0.50
Hostility	1.49	0.69	2.4	0.30	0.94	0.62
Phobic anxiety	1.8	0.61	0.64	0.73	0.47	0.79
Paranoid ideation	3.47	0.32	4.9	0.09	5.3	0.07
Psychoticism	6.9	0.07	6.3	0.04**	7.82	0.02***
Distress	5.1	0.16	1.65	0.44	1.12	0.57

1 Tested by Kruskall-Wallis test for ANOVA by ranks for differences in scales between several groups.

* Married patients had the least scores in interpersonal sensitivity, followed by divorced/separated patients, then single patients, then widows, who had the highest scores. Differences were statistically significant.

** Illiterate patients had the least scores in psychoticism, followed by those having informal education, followed by those having a formal education who had the highest scores. Differences between the 3 groups were statistically significant.

*** Housewives had the least scores followed by employed patients, while unemployed patients had the highest psychoticism scores. Differences were statistically significant.

Our sample of 60 RA patients was a heterogenous group, reflecting the various grades and stages of activity, severity and disability as well as showing a wide range of demographic and socio-economic characteristics typical of the disease.

Despite the inclusion of patients with secondary OA of the knees among the 40 control OA patients, in the hope of decreasing the well-Known age difference between RA and OA, there remained a highly significant difference between the mean ages of the two groups. RA patients were 20 to 68 years old with a mean of 39.7±10.9, while OA patients were 30 to 73 years old with a mean of 49±9.6. However, the notion that this age difference might have influenced the difference in psychological profile between the two groups was overruled, since age was not significantly correlated with any psychological variable except negatively with hostility, and hostility was not significantly different between the two groups.

The female: male ration of 4:1 was typical of RA sex prevalence ratio, which ranges from 2:1 to 4:1 (Harris, 1989a). In OA patients, it was 3:1, with no statistically significant differences between the two groups.

There were no significant differences between and female RA patients in psychological profile, except that female sex was significantly associated with anxiety. This is in agreement with Creed (1990), noting that RA women are excessively prone to anxiety, and those who develop it are likely to react poorly to their illness.

As for marital status, there was a lower percentage of married patients and a higher percentage of single patients, widows and divorcees in the RA group which however did not reach statistical significance. Meenan *et al.* (1981) also noticed that there are higher percentages of divorcees and single patients in RA, and emphasized that RA patients suffer major losses in family structure. This was also found by Shaheen *et al.* (1987), who attributed it to a decrease in social adaptation in RA patients due to their disabling disease.

When studying the association of marital status with psychological factors, it was found that married RA patients had significantly the lowest interpersonal sensitivity scores. Since interpersonal sensitivity reflects problems with self-concept (Derogatis *et al.*, 1983), unmarried RA patients may suffer from lack of self-confidence and have a low self - esteem due to their disease, which decreases their social adaptation and prevents them achieving a satisfactory marital status.

The difference in marital status between the two groups may help in part explain the significant increase in interpersonal sensitivity scores in RA over OA patients.

Concerning residence, 58% of RA patients and 72.5% of OA patients were urban dwellers, with no statistically significant difference between the group.

Urbanicity showed a highly significant association with depression, hostility and total symptom distress in the RA group. This may be due to the impact of modern city life on the RA patient and to lack of social support. Urban RA patients with their pain and disability have to face life in the city with its difficulties in transportation and communication and its demands for independence and competitiveness. The rural RA patient may have less of these problems with more social support due to strong emotional ties, extended family life,and diffuse relationships: Psychological well being was associated with perceived social support and diffuse

social relationships in RA patients in many recent studies (Schultz and Decker, 1985; Fitzpatrick et al., 1988; Fitzpatrick et al., 1991), while depression was associated with lack of social support (Revenson et al., 1991).

As a result of urbanicity, the RA patient may be significantly more hostile and depressed, and suffer much more psychological distress than the rural RA patients. However, urbanicity could not be the reason for the increase in depression and distress scores in RA over OA patients, since there were more urban OA patients in our sample.

There were more illiterate and less informally and formally educated patients in the RA group, but the differences from OA patients in education were not statistically significant. On the other hand, there were significant differences in occupation: whereas the percentages of housewives were not significantly different in the two groups, there were significantly less employed (13%) and more unemployed patients (22%) in the RA group than the OA group (35% employed and 7.5% unemployed). This is in agreement with Meenan *et al.* (1981) who pointed to the pervasive effect of RA on employment and found work disability to be the most important sociomedical impact of RA, because it is associated with great income and psychosocial losses. Fifield *et al.* (1991) found that work disability was associated with depression in RA patients, while Pincus (1988) drew the attention to the association of formal educational level with morbidity and mortality in RA. In our study, unemployment and formal education were each significantly associated with psychoticism ($P<0.05$), and unemployed, formally educated patients had a highly significant increase in psychoticism scores ($P<0.01$). Psychoticism scale of the SCL-90-R actually reflects social alienation in medical samples such as ours (Derogatis *et al.*, 1983), and Newman *et al.*, (1989) stated that in RA, social isolation is a common feature, and may result from enforced isolation as a result of problems of mobility, from voluntary social withdrawal because of the stigma associated with disability or from both.

When we further analyzed the relationship between unemployment, formal education and psychoticism, we found that among the 19 formally educated RA patients, 7 were unemployed (37%), while among the illiterate and informally educated patients, only 4 patients (12%) and 2 patients (22%) respectively were unemployed. This shows that unemployment was most prevalent among the formally educated patients. To add that 4 of the 7 formally educated unemployed RA patients were disabled and that the other 3 couldn't find job because of arthritis, we could understand why those 7 patients would have much more psychoticism scores (i.e. feel more socially alienated).

There was also a highly significant association between formal education and a past history of depression: all 5 patients with a past history of psychiatric disorder were formally educated and all reported major depression or dysthymia.

From the above discussion we can conclude that formally educated, unemployed RA patients represent a special problem. They feel having the right to a job because of their better education, however, their disease either prevents them from finding a job or makes them work disabled.So, it is understandable that they would then feel socially alienated and isolated (highly significant increase in psychoticism), and would suffer from dysthymia or have

a depressive episode (significant association of formal education with past history of depression), which would further exacerbate their feelings of social alienation (significant association of past history of depression with psychoticism).

Economically, the OA group showed significantly more independence and had a very significantly higher income than the RA group. This can be easily attributed to the significant increase in employment over the RA group. Meenan *et al.*, (1981) also found that even employed RA patients earn only 50% of their earning potential, and mentioned that the income losses produced by RA are a much greater financial burden than are the costs of medical care.

Nevertheless, economic differences could not account for any differences in psychological status between RA and OA patients, because neither economic dependence nor income were correlated with any of the psychological variables.

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L'Assessment Psychodémographique Des Patients de l'Arthritis Rheumatoid

Cette étude vise à assesser le profile psychological des patients de l'arthritis rheumatoid (A.R) par comparaison aux patients de l'osteoarthritis (O.A) des genoux, en correlation à des charactéristiques démographiques variées. L'échantillant est consisté de 100 patients, includent 60 patients A.R. et 40 patients de O.A. des genoux comme étant un grouppe comparatif. Les histoires ont été obtenues, l'examination et les investiguations ont été faites.

L' Assessment psychological utilisant la version arabe des symptômes de la liste du check 90 revisée (SCL-90-R) a été faite. Les découvertes de l'étude ont demontré que l'urbanicité était associeé avec la deperssionet le détresse psychological tandis que le sexe femele avec l'inquiétude. Les patients de l'A. R non-marriés ont marqué un score de sensitivité interpersonnel plus haut tandis que les patients de l'A.R inemployés représentent un probléme special.

La sensation d'être aliener socialement améne à des dépressions en puls. La discution des résultats a la lumiére de la littérature currente a été faite.

دراسة نفسية ديموجرافية لمرضى الروماتويد المفصلى

الهدف من هذا البحث هو دراسة الخصائص النفسية لمرضى الروماتويد المفصلى فى مدى ارتباطها بأوصافهم الديموجرافية . وتكونت عينة البحث من ستين مريضا بالروماتويد المفصلى ، وأربعين مريضا بالتهاب المفاصل العظمى بالركبة كمجموعة مقارنة . وتضمنت – المراجعة كوسيلة تم التحقق ٩٠طريقة البحث دراسة إكلينيكية واختبار قائمة الأعراض – من صدقها حديثا للقياس النفسى فى مرضى الروماتويد حيث أنها خالية من العبارات المتعلقة بالمرض . وقد أظهرت نتائج الدراسة وجود ارتباط بين الاكتئاب وكذلك الميول العدوانية والضغوط النفسية وساكنى الحضر (المدينة) من المرضى ، وبين الإناث والتوتر النفسى ، وكان مرضى الروماتويد غير المتزوجين أكثر حساسية فى العلاقات بين الأشخاص ، وكذلك المرضى المؤهلين دراسيا ، وفى نفس الوقت من غير الموظفين ، أظهروا شعورا أكثر بالاغتراب ونوقشت النتائج فى ضوء ماهو متاح من.الاجتماعى وكذلك قدرا أكبر من الاكتئاب النفسى الدراسات السابقة والمرتبطة بموضوع هذا البحث .