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Original Article

Work Status and Related Variables in Patients with Rheumatoid Arthritis and Ankylosing Spondylitis

Romatoid Artrit ve Ankilozan Spondilitli Hastalarda Çalışma Durumu ve İlişkili Değişkenler

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Objectives: The aim of this study was to determine and compare the work status in patients with rheumatoid arthritis (RA) and ankylosing spondylitis (AS) while also defining the factors related to work disability.

Patients and methods: Forty-nine patients with RA (18 males, 31 females; mean age 46.6±12.6 years) and 54 patients with AS (43 males, 11 females; mean age 35.9±9.2 years) were included in the study. The demographic and disease-related variables were recorded. The Disease Activity Score 28 (DAS28) and Health Assessment Questionnaire (HAQ) were used in RA patients and the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI) in AS patients, to determine disease activity and functional status. The Short Form Health Survey (SF-36), Life Satisfaction Index (LSI), Beck Depression Inventory (BDI) and Hamilton Anxiety Scale (HAS) were used to assess quality of life (QoL), life satisfaction, depression and anxiety, respectively. The work disability ratio and related factors were evaluated in both patient groups.

Results: The mean age, age at onset of disease, education level and gender of the patients were different while active phase response, pain, LSI, BDI and QoL levels assessed by SF-36 were similar between the groups. Forty-six percent of AS and 22.4% of RA patients had paid employment. Twenty-three (42.5%) of AS and 16 (32.6%) of RA patients had work disability. In the AS group, the pain by visual analog scale (VAS), the Bath Ankylosing Spondylitis Radiology Index (BASRI) and Bath Ankylosing Spondylitis Metrology Index (BASMI) scores were statistically different between work disabled and non-working disabled patients while the mean age at onset of disease, pain by VAS, the HAQ and C-reactive protein values were significantly different in RA patients with and without work disability. The HAQ and BASMI were found to be the most predictive factors for work disability in RA and AS groups, respectively.

Conclusion: In conclusion, the results of our study indicate higher rates of work disability in RA and AS patients which was related to functional status and metrological limitations.

Key words: Ankylosing spondylitis; rheumatoid arthritis; work disability.

Amaç: Bu çalışmada romatoid artrit (RA) ve ankilozan spondilitli (AS) hastalarda çalışma durumu belirlendi ve karşılaştırıldı, aynı zamanda çalışma yetersizliği ile ilişkili faktörler tanımlandı.

Hastalar ve yöntemler: Kırk dokuz RA'lı (18 erkek, 31 kadın; ort. yaş 46.6±12.6 yıl) ve 54 AS'li hasta (43 erkek, 11 kadın; ort. yaş 35.9±9.2 yıl) çalışmaya dahil edildi. Demografik ve hastalıkla ilişkili değişkenler kaydedildi. Hastalık aktivitesinin ve fonksiyonel durumun belirlenmesi için AS'li hastalarda Hastalık Aktivitesi Skoru 28 (DAS28) ve Sağlık Değerlendirme Anketi (SDA), RA'lı hastalarda Bath Ankilozan Spondilit Hastalık Aktivite İndeksi (BASDAİ) ve Bath Ankilozan Spondilit Fonksiyonel İndeksi (BASFİ) kullanıldı. Yaşam kalitesi (YK), yaşam doyumu, depresyon ve anksiyetenin belirlenmesi için sırasıyla Short Form-36 (SF-36), Yaşam Doyum Ölçeği (YDÖ), Beck Depresyon Ölçeği (BDÖ) ve Hamilton Anksiyete Ölçeği (HAÖ) kullanıldı. Her iki hasta grubunda iş özürlülük oranı ve ilişkili faktörler değerlendirildi.

Bulgular: Hasta grupları arasında yaş ortalaması, hastalık başlangıç yaşı, eğitim düzeyi ve cinsiyet açısından farklılık mevcutken, SF-36 ile belirlenen aktif faz yanıtı, ağrı, YDÖ, BDÖ ve YK seviyeleri benzerdi. AS'li hastaların %46.2'sinin ve RA'lı hastaların %22.4'ünün maaşlı işi vardı. AS'li hastaların 23'ü (%42.5) RA'lı hastaların ise 16'sının (%32.6) çalışma yetersizliği vardı. Ankilozan spondilitli grupta görsel analog ölçekle (GAÖ) belirlenen ağrı, Bath Ankilozan Spondilit Radyoloji İndeksi (BASRİ) ve Bath Ankilozan Spondilit Metroloji İndeksi (BASMİ) skorları çalışma yetersizliği olan ve olmayan hastalar arasında istatistiksel olarak farklı iken, ortalama hastalık başlangıç yaşı, GAÖ ile belirlenen ağrı, SDA ve C-reaktif protein düzeyleri çalışma yetersizliği olan ve olmayan RA'lı hastalar arasında istatistiksel olarak farklıydı. Sağlık değerlendirme anketi ve BASMİ'nin sırasıyla RA ve AS'li gruplarda çalışma yetersizliği konusunda en iyi öngörü sağlayan faktörler olduğu bulundu.

Sonuç: Sonuç olarak, çalışmamızın bulguları RA ve AS'li hastalarda fonksiyonel durum ve metrolojik sınırlılıklara ilişkili olarak daha yüksek oranda çalışma yetersizliği olduğunu işaret etmektedir.

Anahtar sözcükler: Ankilozan spondilit; romatoid artrit; çalışma yetersizliği.

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Rheumatoid arthritis (RA) and ankylosing spondylitis (AS) are two common types of chronic inflammatory rheumatic diseases associated with negative social and economic consequences for both the individual patient and society. Work disability is a common problem in rheumatic conditions like rheumatoid arthritis and ankylosing spondylitis affecting the quality of life of patients and their families.[1-4] Costs directly ensuing from work disability account for a large part of the total disease-related costs for these rheumatic conditions. Systematic reviews on work disability indicate a high percentage of RA and AS patients became work disabled during the course of the disease.[1-3] Previous studies have identified work disability and the determinants of work disability in RA patients, but the determinants were different between the studies. This may be attributable to differences in study design, population and social security system differences.[1,2,4-10] Earlier studies suggested that the majority of AS patients did not experience work disability, but more recent studies concluded that work disability in AS appeared worthy of increased attention.[3-5,11] Ankylosing spondylitis and RA are chronic disabling conditions having a socioeconomic impact on family and society. One would expect to know which diseases have more of an impact on socioeconomic consequences. Although AS and RA both influence quality of life and work status, there are only a few studies comparing the work status and related determinants between these two rheumatic conditions.[5,11,12]

The aim of this study was to determine and compare the work status in patients with RA and AS and also to define the related factors on work disability in these patient groups.

PATIENTS AND METHODS

Forty-nine patients (18 males, 31 females; mean age 46.6±12.6 years) with a diagnosis of RA according to the American College of Rheumatology (ACR) criteria,[13] and 54 AS patients (43 males, 11 females; mean age 35.9±9.2 years) who satisfied the modified New York criteria[14] were included in the study. All the patients were recruited from the inpatient and outpatient clinics of Physical Medicine and Rehabilitation, Numune Training and Research Hospital, Ankara, within a six month period. Entry criteria were age between 16 and 65 years for both diseases, and diagnosis of disease before 40 years in AS patients. The demographic variables including age, sex, marital status, education, occupation, job and comorbidity were recorded. Educational level was classified as illiterate, elementary, middle, high school and university. Employment status was recorded as working, non-working and retired. The jobs were classified as physically demanding, mentally demanding, physically and mentally demanding, and sedentary. Disease-related variables comprised of duration of disease, medication, and extra-articular involvement were also recorded. For RA patients, tender and swollen joint count and articular pain assessed by visual analog scale (VAS) were determined. Disease activity was assessed by a Disease Activity Score 28 (DAS28) scoring system.[15] The radiographs of the hands were evaluated according to a modified Larsen scoring system.[16] The Health Assessment Questionnaire (HAQ) was used to assess functional status.[17]

For AS patients; the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI)[18] and Bath Ankylosing Spondylitis Functional Index (BASFI)[19] were used to determine disease activity and functional status, respectively. In addition, radiological assessment was made by the Bath Ankylosing Spondylitis Radiological Index (BASRI),[20] and the quality of life (QoL) was assessed by Short Form-36 (SF-36).[21] The Bath Ankylosing Spondylitis Metrology Index (BASMI) was used for metrological assessments.[22]

Laboratory variables including erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) were also recorded for both patient groups. SF-36 assessed the QoL of the subjects.[21] The Life Satisfaction Index (LSI), Beck Depression Inventory (BDI) and Hamilton Anxiety Scale (HAS) were used to assess life satisfaction, depression and, anxiety respectively.[23-25] The LSI is a global sense of subjective well-being with a multidimensional concept that analyzes three factors (zest, mood tone, and congruence between desired and achieved goals). Scores could range from 0 to 20, with the greater value indicating maximum LS.[23] The BDI is an inventory consisting of 21 questions related to symptoms and attitudes describing particular manifestations of depression. The total score is obtained by adding the scores of the individual symptom categories and range from 0-63.[24] The HAS is a self-administered scale that quantifies anxiety with 14 items with a possible score of 0-4 for each item. The total anxiety score ranges from 0 to 56.[25]

Work was defined as having paid employment. Paid employment was defined as having a paid job and also consisted of subjects who were partially disabled but still able to work. Working status was classified as *(i)* having a paid job, *(ii)* being partially disabled due to a rheumatic condition and working for pay,

(iii) being work disabled and not working for pay, *(iv)* having stopped working due to reasons unrelated to rheumatic condition like retirement *(v)* unemployment. In Turkey, a person who is judged to be impaired by 40% or more is entitled to be work disabled while those who are impaired by two thirds or more are entitled to permanent work disability and early retirement. Patients were assigned to the group of disabled if one of the following conditions applied: *(i)* Formerly employed, currently receiving temporary or permanent disability pension, *(ii)* Employed full time or part time with a sick leave of at least four weeks (Sick leave applies to those with a paid job and refers to absence from work because of rheumatic disease), or *(iii)* unemployed and unable to do their usual activities for at least six weeks because of rheumatic illness. Work disability ratio and related factors were evaluated in both patient groups.

Statistical analysis

Data was analyzed using SPSS statistical software 11.0 version (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics were used for sociodemographic and clinical variables. The differences regarding the continuous data between groups according to their disease characteristics and working status was evaluated by using Student's t test or Mann Whitney U-test where appropriate. The degree of association between continuous variables was calculated using Spearman's correlation coefficient. The chi-square or Fisher's exact test were applied for categorical comparisons. Logistical regression analyses were performed to evaluate the variables most related to work disability. The backward likelihood ratio (LR) procedure was used to predict the most efficient independent variable for work disability. Odds ratios (OR) and 95% confidence intervals were computed. Statistical significance was set at p value <0.05.

RESULTS

The characteristics of the AS and RA patients are shown in Table 1. The mean age at onset of disease, education level and sex of the patients were different

Table 1. Demographic characteristics of patients with rheumatoid arthritis and ankylosing spondylitis

	Ankylosing spondylitis (n=54)				Rheumatoid arthritis (n=49)				*p*
	n	%	Mean±SD	Range	n	%	Mean±SD	Range	
Age (years)			35.9±9.2				46.6±12.6		<0.001
Sex									
Male	43				18				
Female	11				31				
Marital status									
Married	35	64.8			39	79.6			>0.05
Single	18	33.3			8	16.3			>0.05
Widow	1	1.9			2	4.1			>0.05
Age at onset of disease (years)			30.6±8.7				40.0±14.9		<0.001
Education (%)									
Illiterate	1	1.9			2	2			<0.05
Elementary	26	48.1			38	77.6			<0.05
High	20	37.1			6	12.3			<0.05
University	7	13			3	6.1			<0.05
Comorbidity (n)	14	26.9			26	53.2			<0.01
Surgery (n)	7	12.9			3	6.1			<0.05
Duration of disease (years)			10.5±7.7	1-37			9.7±8.4	1-36	>0.05
Extra-articular involvement (n)	7				4				>0.05
Employment status									
Working	25				11				<0.05
Not working	29				38				<0.05
- Retired	16				8				<0.05
- Housewives	10				24				<0.05
Job status									
Physically demanding	10				5				<0.05
Mentally demanding	5				1				<0.05
Physically and mentally demanding	8				2				<0.05
Sedentary	2				3				<0.05

SD: Standard deviation.

Table 2. Disease variables, depression, anxiety, life satisfaction and quality of life scores of the patients with ankylosing spondylitis and rheumatoid arthritis

	Ankylosing spondylitis (n=54)	Rheumatoid arthritis (n=49)
	Mean±SD	Mean±SD
Duration of disease (years)	10.5±7.7	9.7±8.4
Pain by visual analog scale	4.08±2.3	3.84±2.5
Swollen joint (n)	2.1±1.4	3.96±2.1
Erythrocyte sedimentation rate (mm/h)	35.9±25.1	32.6±18.3
C-reactive protein (mg/dl)*	35.1±34.2	14.2±12.2
Disease activity		
Bath Ankylosing Spondylitis Disease Activity Index	3.9±2.4	–
Disease Activity Score 28	–	4.2±1.8
Radiological assessment		
Bath Ankylosing Spondylitis Radiological Index	4±1.41	–
Larsen	–	51.5±34.4
Functional status		
Bath Ankylosing Spondylitis Functional Index	3.27±2.54	–
Health Assessment Questionnaire	–	1.79±1.19
Short form-36		
Physical	158.1±88.9	168.2±72.9
Mental	207±82.2	209±72.3
Life Satisfaction Index	7.04±4	8.76±4.8
Beck Depression Inventory	18.6±9.2	18.1±10.2
Hamilton Anxiety Scale*	41.02±9.8	48.6±9.1

SD: Standard deviation; *: p<0.05.

between the groups (p<0.05). Most AS patients were younger and had an elementary school education. The employment status and job status were statistically different between the groups. The difference between the other sociodemographic characteristics was not statistically significant. The comorbidity was higher in the RA group than in the AS group while the history of surgery was more common in patients with AS. Disease characteristics of the patients are shown in Table 2. Disease activity assessed by laboratory variables except CRP, pain, LSI and QoL levels assessed by SF-36 were not statistically significant between the groups (Table 2). On the other hand, the mean BDI scores were similar between the groups while the HAS scores were higher in the RA group indicating more anxiety in these patients.

The work status of the patients is shown in Table 3. The unemployed group was comprised of housewives and subjects who desired to work but could not find a job because of their illnesses. There were 10 (18.5%) and 24 (48.9%) housewives in the AS and RA female groups, respectively. Therefore, one patient in the AS and two patients in the RA groups were defined as unemployed due to their illness. Twenty-three (42.5%) of the AS and 16 (32.6%) of the RA patients had work disability. The work disability rate was higher in the AS group than in the RA group. 46.2% of AS and 22.4%

Table 3. Working status of the patients with ankylosing spondylitis and rheumatoid arthritis

	Ankylosing spondylitis (n=54)		Rheumatoid arthritis (n=49)	
	n	%	n	%
Unemployment*	11	20.4	26	53.1
Housewives	10	18.5	24	48.9
Unemployed due to illness	1	1.85	2	4.2
Having a paid job*	20	37	6	12.2
Partially work disabled and working	5	9.21	5	10.2
Partially work disabled and not working	4	7.4	5	10.2
Permanent work disabled/early retired*	13	24.1	4	8.1
Retired not related with disease	3	5.6	4	8.1

*: p<0.05.

of RA patients had paid employment. In the working group, four patients with AS (7.4%) and three patients with RA (10.2%) had to change their work due to their illnesses. 24.1% of AS and 10.2% of RA patients had early retirement. Patients in both groups, which were arranged according to sex, had working statuses that are similar, but the ratio of employment was higher in the AS group. The cumulative rate of work disability among the women in the two samples was high but more pronounced in AS patients.

The clinical activity parameters indicated by DAS28 and BASDAI were not found to be related in becoming disabled. Having a more active disease did not increase the risk of leaving the work force. In patients with AS, quality of life scores and scores of life satisfaction did not correlate with working status, but in the RA group, the mean SF-36 physical and mental subscale scores were correlated with working status ($p<0.05$, $r=0.41$). The mean scores of anxiety were found to be correlated with work status in AS patients ($p<0.05$, $r=0.39$).

When we compared the variables of the groups with regard to work disability condition, we observed statistically significant differences between the mean age at onset of disease, pain by VAS, the HAQ and CRP values of RA patients with and without work disability. In the AS group, the pain by VAS, and the BASRI and BASMI levels were statistically different between disabled and non-disabled patients (Table 4).

In determining the most predictive factor for work disability we have used backward regression analysis. Age, sex, age at onset, ESR, CRP, HAQ and pain by VAS variables were included in the analysis of the RA group. The HAQ was found to be the most predictive variable for work disability [OR=16.87 (95% CI: 3.05-93.39)]. For the AS group, BASRI, BASMI, SF-36 scores, BDI and pain by VAS levels were included in the model and BASMI was determined to be the most predictive factor for work disability [OR: 1.39 (95% CI: 1.07-1.82)].

DISCUSSION

Rheumatoid arthritis is characterized by chronic symmetric and erosive synovitis of peripheral joints which mostly affect the hands and feet and cause disability in mobility and hand functions. The onset of RA reaches a peak between the ages of 40 and 50, and it is more prevalent in women than in men.[5] In contrast, AS is three times more prevalent in men and associated with a relatively early age at onset compared with RA patients. Although demographic characteristics exist between these two conditions, pain, stiffness, fatigue and functional disability are common features for both AS and RA. This consequently affects their QoL.[5,12] In our study, although some of the sociodemographic properties were different between the groups, the pain and acute phase response parameters and QoL levels were similar between RA and AS patients. Rheumatoid arthritis patients were more likely to have comorbidity than AS patients, be women and be older. They also had attained lower educational standards which can be explained by the characteristics of the society in a developing country.

Work disability can be a major problem in patients with both RA and AS with a potentially negative effect on functional status and quality of life.[5,11,12] Work disability among persons with RA is estimated to occur in 22-44% of all cases.[11] Previous studies from developing countries have reported similar rates of work disability up to 13-67% in their RA patients.[1,10] Work disability was reported to be 51.7% higher in RA patients in the general population of a developing country which was more pronounced than in similar reports from Western countries.[10,26] Thirty-seven percent of RA patients were reported to have changed their working conditions, which was higher than in our data which indicated 10.2% of patients. This can be related to the availability of jobs in different countries.[26] Chorus et al.[4] investigated employment perspectives of patients with AS and reported a reduced participation in labor force which was related with sociodemographic factors, disease related factors and coping styles. On the other hand, Barlow et al.[27] identified 31% of AS patients as disabled with an additional 15% reporting changes in working conditions. Work disability was associated with age, longer disease duration, lower educational level, comorbidity, pain, fatigue, stiffness, anxiety and depression.[27] There are few studies that have comparatively investigated QoL and work in patients with AS and RA.[5,11,12] Previous studies comparing the consequences of RA and AS indicated that both groups of patients had similar amounts of disability and pain which is in accordance with our data. Previous reports indicated that 64% of AS and 35.7% of RA patients had paid employment which was slightly higher than our data with 46% and 22% of paid employment in AS and RA subjects, respectively.[5] In our study, about half of the patients reported arthritis-related work disability in both groups. 42.5% and 32.6% of AS and RA patients became work disabled, respectively. Partial work disability was less than full work disability in

Table 4. The clinical and laboratory disease variables of the work-disabled and non-work-disabled ankylosing spondylitis and rheumatoid arthritis patients

	Work-disabled	Non-work-disabled
	Mean±SD	Mean±SD
Age (years)		
Ankylosing spondylitis	36.2±11.8	35.7±7.9
Rheumatoid arthritis*	52.8±16.6	44.8±10.4
Duration of disease (yrs)		
Ankylosing spondylitis	10.9±8.7	10.3±7.3
Rheumatoid arthritis	10.2±9.33	9.86±7.9
Marital status (M/S)		
Ankylosing spondylitis (n)	6/10	29/8
Rheumatoid arthritis (n)	10/2	29/6
Age at onset (years)		
Ankylosing spondylitis	31.4±10.3	30.2±8
Rheumatoid arthritis	48.1±17.8	37.4±15.1
Swollen joint (n)		
Ankylosing spondylitis	1.25±1.1	2.1±0.4
Rheumatoid arthritis	4.3±2.4	3.7±2.42
Pain visual analog scale		
Ankylosing spondylitis*	5.94±2.48	4.54±2.2
Rheumatoid arthritis*	4.67±2.9	3.07±2.3
Erythrocyte sedimentation rate (mm/h)		
Ankylosing spondylitis	41.5±25.7	33.2±24.8
Rheumatoid arthritis	40.7±19.8	29.8±17.2
C-reactive protein (g/dl)		
Ankylosing spondylitis	17.2±12.05	18.1±2.2
Rheumatoid arthritis*	18.7±12.1	12.4±12
Health Assessment Questionnaire		
Rheumatoid arthritis*	10.2±9.75	10.6±9.84
Bath Ankylosing Spondylitis Functional Index		
Ankylosing spondylitis	4.49±2.96	2.70±2.15
Bath Ankylosing Spondylitis Radiological Index-V		
Ankylosing spondylitis*	6±0.1	5.88±1.7
Larsen		
Rheumatoid arthritis	45.5±24.2	35.3±33.5
Bath Ankylosing Spondylitis Metrological Index		
Ankylosing spondylitis*	10.2±5±2.59	8.06±2.6
Beck Depression Inventory		
Ankylosing spondylitis	21.2±10.2	17.4±8.6
Rheumatoid arthritis	20.6±12.1	17.3±9.6
Hamilton anxiety scale		
Ankylosing spondylitis	42±9.85	40.5±9.9
Rheumatoid arthritis	47.7±8.9	48.9±9.2
Short Form-36 physical		
Ankylosing spondylitis	136.9±83.7	167.8±90.6
Rheumatoid arthritis	165.5±76.7	169.8±72.07
Short Form-36 mental		
Ankylosing spondylitis	184.1±91.4	217.6±76.7
Rheumatoid arthritis	211.5±64.3	208.2±75.5

SD: Standard deviation; M/S: Married/single; *: $p<0.05$.

both groups and was similar between patients with AS and RA. Work disability rates were considerably higher in our AS patients than in the RA group which can be explained by the uneven distribution of the sexes in both diseases. Most of our RA patients were women and housewives. The sociocultural status and job opportunities in a developing country may also have a role in these results. The ratio of permanently disabled patients was also higher in the AS group. Our results were similar in accordance

with those of previous follow-up studies in patients with arthritis.[1,3,11,28] Some authors suggested very low work disability rates of up to 13-22% in their group of RA patients.[1,29-31] The differences in work disability rates between our study group and previous studies seem consistent with the results of a recent study of patients with AS in which considerable differences in work status were observed among different European countries.[12,28] The influence of physical function, clinical status measures and socioeconomic conditions on employment in rheumatic diseases may differ according to differences in sociocultural characteristics of each country.[28] The higher rates we observed may reflect the community-based nature of our sample. Work disability rates are difficult to compare across studies because of differences in the social context sample, differences in definitions of work disability, and age and sex distribution of the samples.[2]

Studies assessing the relationship between work and QoL found similar limitations in work and determined work to be an important, independent determinant of physical health-related QoL.[5,9,10,32] In our RA patients, the QoL scores were correlated with working status in working patients with higher QoL levels. In AS patients, a correlation was found between anxiety and working status indicating that working patients with AS had less anxiety than work-disabled patients. Work disability has substantial negative ramifications. Studies suggest that those who stop working due to health problems have reduced physical and psychosocial well-being, and they experience considerable loss of income.[31,33,34]

In this study we showed that high scores in the HAQ and BASMI levels were the most predictive factors for work disability in RA and AS groups, respectively. Studies indicating the predictive factors of work disability in developing countries emphasize lower education level, delay in onset of treatment and positive RF.[9,10,32] Few studies of RA-related work disability have measured the patients' psychosocial characteristics, and QoL and life satisfaction. The HAQ disability had been a correlation to permanent work disability in most of the studies.[32] With respect to the determinants of work disability, similar to previous studies, disease severity reflected by the BASMI was worse among our AS patients for whom the working status deteriorated than in those for whom the working status remained stable. In our study, the disassociation of other measures of disease activity or psychosoial functioning with changes in the working status can be explained by the small size and different levels of disease activity of our patients in both groups.

The results of this study are preliminary. The demographical differences in the samples and small sample size may limit the power of the study to detect small effects and interactions between covariates. Some variables about the structure of paid and family work or work demands were not analyzed as it was difficult to obtain information from official data. Previous studies have shown that psychosocial and work related factors have a larger impact on permanent work disability than factors involving the disease itself.[9,32] In our study, we did not assess the work related factors. Further improved assessment of work disability status by a more detailed valid questionnaire and environmental work variables for a large group of patients with rheumatic conditions is needed.

In conclusion, the results of our study indicate higher rates of work disability in RA and AS patients with it being more pronounced in patients with AS. The higher rate is also related to functional status and metrological limitations. We suggest recognizing work related problems in the earlier stages of the disease by the physicians, implementing workplace adaptations, and garnering the support of coworkers or employers in order to decrease work disability, maintain a paid job and increase productivity, especially in developing countries. We believe future studies will provide new insights into the assessment of work disability.

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