

## Factors Related to Temporal Incapacity in Patients With Fibromyalgia

Marina Salido,<sup>a</sup> Pilar Navarro,<sup>a</sup> Enrique Judez,<sup>a</sup> and Rosa Hortal<sup>b</sup>

<sup>a</sup>Departamento de Reumatología, CLINISAS, Madrid, Spain

<sup>b</sup>Sección de Reumatología, Hospital Universitario Dr. Peset, Valencia, Spain

**Objective:** To know the sociodemographic, clinical and working conditions characteristics related with temporary disability (TWD) in patients with fibromyalgia syndrome (FS).

**Patients and method:** Patients diagnosed with FS who met the American College of Rheumatology's criteria, attending an outpatient clinic for at least 3 months prior were included. We performed a standard clinical protocol with sociodemographic, clinical and working conditions, dates and number of TWD during the last year. All patients were asked to complete a questionnaire with 40 items (Fibromyalgia Impact Questionnaire [FIQ] inclusive).

**Results:** The participants were 51 women with FS, 32 of whom needed one or more TWD during the last year. The mean TWD was 83.73 days (SD, 98). There was not a statistically significant relationship between the TWD and sociodemographic characteristics in a bivariate analysis. There is a significant trend with hard physical work and with the presence of triggering factors. There was evidence of a significant statistical relationship between TWD with a lack of response to selective serotonin re-uptake inhibitors (SSRIs). We noticed that the highest marks in the FIQ have a direct relationship with patients in a TWD situation.

**Conclusions:** The lack of response to SSRIs was related with TWD process. The patients in TWD situation scored the highest FIQ. There is a trend towards an increase in the TWD with jobs that required physical effort.

**Key words:** Fibromyalgia. Work disability. Physical effort. Pain.

### Factores relacionados con la incapacidad temporal en pacientes con fibromialgia

**Objetivo:** Conocer las variables sociodemográficas, clínicas y laborales que se relacionan con procesos de incapacidad temporal (IT) en pacientes con fibromialgia (FM).

**Pacientes y método:** Se incluyó a los pacientes diagnosticados de FM, según los criterios de ACR, que acudieron a consulta durante un período de 3 meses. Se realizó un protocolo clínico estándar con datos sociodemográficos, clínicos y laborales y los procesos de IT del último año. Todos los pacientes completaron un cuestionario con 40 ítems (cuestionario de impacto de la FM [FIQ] incluido).

**Resultados:** Participaron 51 mujeres con FM, 32 de ellas necesitaron en una o más ocasiones baja laboral durante el último año. La duración media  $\pm$  desviación estándar (DE) fue de  $83,73 \pm 98$  días. En el estudio bivariable no encontramos asociación entre IT y las características sociodemográficas, pero sí una tendencia no significativa con profesiones que requieren esfuerzo físico y presencia de factores desencadenantes. Hay relación estadísticamente significativa entre IT y ausencia de respuesta a inhibidores selectivos de la recaptación de serotonina (ISRS). Observamos que los valores de FIQ más altos mantenían una relación directa con pacientes en situación de IT.

**Conclusiones:** La ausencia de respuesta a ISRS se relaciona con procesos de IT. Las personas en situación de IT tienen FIQ más altos. Parece que hay una tendencia al incremento de IT en profesiones que requieren esfuerzo físico.

**Palabras clave:** Fibromialgia. Discapacidad laboral. Esfuerzo físico. Dolor.

Correspondence: Dra. M. Salido.  
Departamento de Reumatología. CLINISAS.  
Castelló, 58. 28001 Madrid. España.  
E-mail: msalidolivares@yahoo.es

Manuscript received December 23, 2005; accepted for publication January 8, 2007.

### Introduction

Fibromyalgia (FM) is a rheumatic disease that is characterized by chronic diffuse osteomuscular pain that generally affects women between the third and fifth

decades of life. It has a high prevalence, approximately 2% of the population<sup>1</sup> and in Spain, according to the EPISER study,<sup>2</sup> it is 2.4%. There is a significant increment in the prevalence of psychological alterations in patients with FM, that in many cases precede the start of symptoms, though in the majority of patients there is no psychiatric illness.<sup>3</sup> The patient perceives his illness with a high degree of disability and a quality of life that is far inferior to that of patients with other diseases such as rheumatoid arthritis, osteoarthritis, or other connective tissue diseases.<sup>4</sup> The majority of existing studies develop aspects related with pain, functional disability, and psychological profiles, but few relate to work activities. In the case of FM resulting from a previous process (traumatic, medical, surgical, emotional...) the rate of disability compensation<sup>5</sup> can reach 34%. The labor disability data or loss of jobs vary considerably between 6% and 70% according to the studied population<sup>6</sup>; the majority of studies put it between 25% and 50%.<sup>7,8</sup> FM represents a high direct non-medical cost and the loss of work productivity is higher than in disease such as chronic lumbar pain or ankylosing spondylitis,<sup>9</sup> and these costs are increased even more if it is associated with depression.<sup>10</sup> Given its economic and social impact, we set the objective of determining the possible relationship between sociodemographic, clinical, and labor-related variables with the process of temporal work incapacity (TI) in patients with FM.

## Material and Methods

A transversal study that included all patients diagnosed with FM in a consecutive manner, classified according to the criteria of the American College of Rheumatology (ACR),<sup>11</sup> who attended the outpatient rheumatology clinic, was carried out. All patients were bearers or beneficiaries of the Collaboration regiment of the Comunidad de Madrid, with an area of influence that accounted for patients of the capital and in the province. The patients could attend our clinic if sent by a general practitioner or another specialist, or by their own choice. The offspring as well as the spouse and the parents under the bearers care were considered beneficiaries, so some homemakers were followed by the clinic with the same clinical criteria. A work link consisted in fixed and discontinuous contracts. We considered the loss of a job as the main variable or TI at the time of the study. The legal definition of TI is a situation in which it is temporarily impossible for the worker to carry out his or her work and receives assistance by the Social Security; the primary care physician assesses such a situation (and can be based on the evaluation of the corresponding specialist). The physician certifies this by extending a document. The TI evaluation is determined by two fundamental aspects: the health

status of the worker and the job requirements the worker has. The TI situation is maintained until the completion of an improvement that is sufficient to permit the realization of the workers habitual work. All the patients were evaluated by one of the 3 member of the assistance team.

All patients with FM who wanted to participate were included; they were previously informed of the objective of the study and only one patient declined participation. The exclusion criteria were: patients younger than 18 and older than 65 years of age, patients that did not wish to participate and a job situation of absolute and permanent disability of retirement. In the outpatient clinic, all patients were provided with a 40 item questionnaire that collected sociodemographic data, family history of mental health illness or FM, age at diagnosis, if there was a temporal relationship with previous triggering factors (trauma, surgery, stress, infection...), a clinical history, physical exploration, associated illnesses, medical treatments (including alternative therapies or rehabilitation), functional capacity through the FIQ (Fibromyalgia Impact Questionnaire), number of previous TI in the past year, if at the moment the patient was on TI, if some degree of incapacity or handicap had been determined and the work characteristics according to the job done by the patient. We considered the following jobs as those that require an important physical effort: laundry, nursing, nurses' auxiliary, and control auxiliary. Professions that require less physical activity: homemaker, professor, and cleaning and administrative work. The majority of patients also came to the psychiatry consult, which carried out a follow-up and treatment of the underlying illness, so we did not carry out a psycho-emotional evaluation and where guided by the observations of these specialists and their notes regarding response to treatment. Special emphasis was put into information that could show evidence of previous psychological trauma, such as the death of a family member, marital problems or current or previous physical or psychological abuse. One last question on the measures needed, according to the patients criteria, to improve their working conditions and the degree of satisfaction in their life and job environments. In the questionnaire a series of questions were added, regarding those aspects that are most requested by patients: a reduction in the daily working hours, the lack of physical effort or if they were satisfied or not with their life and work.

The statistical study consisted in an initial descriptive analysis of all the variables, a bivariate analysis that related the main value (being on TI) with every one of others, using the  $\chi^2$  test for the qualitative variables and Student *t* test for the quantitative variables. Lastly, the multivariable study cross-referenced all of the variables and, through logistical regression, evaluated independent variables.

## Results

Fifty-one patients with FM were included, all of them women, with a mean age  $\pm$  standard deviation (SD) of 46.5 years  $\pm$  6.8 (mean at the time of diagnosis of 43 years) and a mean time since onset of disease of 62.64 months. In Tables 1 and 2, characteristics of the patients according to the TI situation are described, and Figure 1 shows the distribution according to the job type. Thirty-five (68.63%) patients had jobs that required physical effort, 19.61% had incapacity to work but no patients had permanent or total incapacity. In the previous year, 32 patients needed one or more periods of TI with a mean duration of 83.73 days  $\pm$  98 (Table 1). At the moment of the study, 19 patients were on TI. In 73.68% of our cases the duration of TI was  $>120$  days. The value of the FIQ was  $>50$  in 39 (76%) of cases and  $>70$  in 23 (45%), with a general mean of 61.6 $\pm$ 20.54.

Thirty-three percent of patients referred a previous triggering factor (4 surgery, 14 emotional trauma, 3 work-related conflicts, and 1 infection; Figure 2). In 90% of the TI there were comorbidities. The degree of work dissatisfaction was high, around 62.75% of the patients considered that their working conditions were not adequate for the illness, also reflecting a high degree of rejection and work-related stress in their workplace due to their

affection. In spite of this, in 56.8% of the cases they were satisfied with their lifestyle, 50% underwent psychotherapy, 37.25%, alternative therapies, and 6 patients went to pain units to receive treatment. When asked on what aspects could improve their working conditions, 30.43% considered the absence of physical effort, 15.22% a reduction in the number of working hours, and 23.91% a reduction in work-related stress.

In the bivariable study we found no association between the TI and the sociodemographic and clinical characteristics. There is a non significant tendency with the presence of a triggering factor, professions that require a physical effort the response to tricyclic antidepressants (TCA) and elevated FIQ scores (FIQ $>50$  and FIQ $>70$ ). We found a statistically significant association between being on TI and the absence of response to selective serotonin uptake inhibitors (SSUI) ( $P<.05$ ) evaluated according to the clinical criteria of a psychiatrist. In the multivariable study, this association was maintained, with an odds ratio (OR) =0.1 (95% confidence interval [CI], 0.01-0.75). Therefore, in the TI processes of the previous year there was less frequent response to SSUI. There is a tendency to an increase in TI in those patients whose chief symptom is fatigue and in jobs that require a larger physical effort. We observed lower FIQ scores in patients that were satisfied with their jobs (OR=13.18; 95% CI, -22.89 to -3.46) and higher in patients on TI (OR=12.3; 95% CI, 2.51-22.23).

**TABLE 1. Description of the Patient Characteristics With or Without TI\***

	TI (n=19)	No TI (n=32)
Gender, women	19	32
Age, mean	45.11	47.5
Age at diagnosis, y	40	45
Triggering factor, %	9 (47.4)	18 (56.3)
Comorbidities, %	17 (90)	27 (85)
FIQ $>50$ , %	18 (95)	21 (66)
Lifestyle satisfaction, %	10 (52.6)	19 (59.4)
Job satisfaction, %	7 (36.8)	25 (78)
Job related physical effort, %	15 (79)	20 (62.5)
Alternative therapies, %	7 (36.8)	12 (37.5)
Psychotherapy (%)	10 (52.6)	16 (50)
Treatments (%)		
Analgesic/NSAID	15 (79)	25 (78)
Tramadol	7 (36.8)	12 (37.5)
Fentanyl	1	0
TCA	16 (84.2)	28 (87.5)
SSUI	18 (95)	26 (81.3)

\*NSAID indicates non-steroidal anti-inflammatory drugs; TCA, tricyclic antidepressants; FIQ, FM impact questionnaire; SSUI, selective serotonin uptake inhibitor; TI, temporal incapacity.

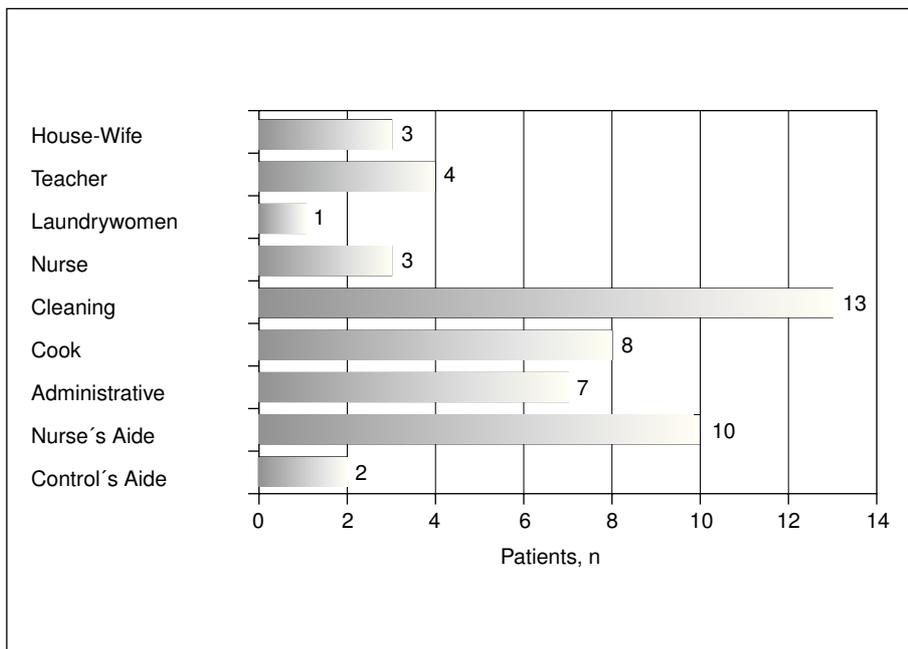
## Discussion

The clinical characteristics of FM fluctuate with time and the therapeutic effectiveness is variable and limited. Patients with a normal psychological profile respond better than the rest.<sup>12</sup> Treatments do not influence the duration of dyscapacity, but we have found a statistical relationship

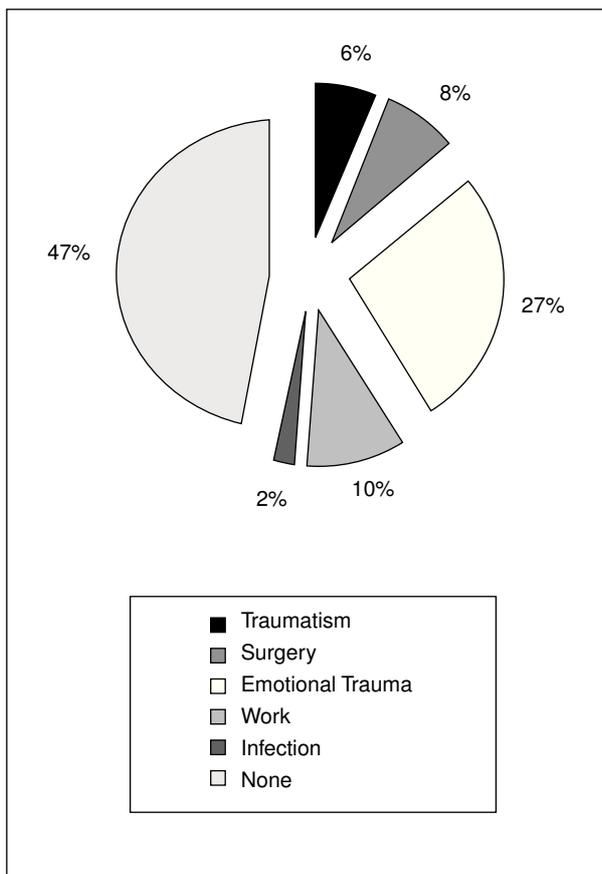
**TABLE 2. Description of the Clinical, Job Related, and Patient Dyscapacity Characteristics\***

Patients with job related physical effort, n (%)	35 (68.63)
Patients with job incapacity, n (%)	10 (19.61)
Patients with $\geq 1$ TI in the previous year, n (%)	32 (62.75)
Duration of TI (days), mean $\pm$ SD	83.73 $\pm$ 98
Patients with TI $>120$ days, %	73.68
FIQ (%), mean $\pm$ SD	61.67 (mean $\pm$ 20.54)
Patients with FIQ $>50$ , n (%)	39 (76)
Patients with FIQ $>70$ , n (%)	23 (45)

\*SD indicates standard deviation; FIQ, FM impact questionnaire; FM, fibromyalgia; TI, temporal incapacity.



**Figure 1.** Description of the jobs held by the patients with fibromyalgia in the study.



**Figure 2.** Triggering factors associated to fibromyalgia.

between the absence of response to SSUI and the TI situation in these patients, indicating that the response to therapy with SSUI in some way improves the capacity of the patients to perform their jobs. Nonetheless, this data is non-conclusive, because the response to antidepressants has not been evaluated using any validated test, but through the opinion of an expert (psychiatrist). Several factors contribute to dyscapacity: a high prevalence, age, gender, previous physically demanding jobs, the perception of a serious functional limitation, pain, fatigue, defenselessness, psychological stress, chronic affections and bad health in general, job status and low education, and socioeconomic levels.<sup>13-15</sup> Among the variables that predict dyscapacity are FIQ, unsatisfying sleep, and previous hard physical labor. The value of FIQ can be influenced by the number of symptoms, the patients auto evaluation, trigger points and the level of education.<sup>16</sup> Even if such a value is not a continuous scale, it is a very useful tool, used frequently, simple and easy to apply, that measure variables that can influence the disease. It gives an idea of the degree of personal affection according to the obtained value. Values over 50 indicate important affection and severe if over 70. We have been able to demonstrate that elevated values on FIQ correlate with a very negative perception of the evaluated parameters, job dissatisfaction and, in many cases, TI. The lowest values are found in patients that are satisfied with their jobs and perceive their personal and social situation as less critical. A limitation of FIQ is that it is based on a self-evaluation by the patients of their function and symptoms; therefore, the evaluation of the job capacity relies on this subjective perception. The evaluation of dyscapacity in FM is controversial due to

various reasons: lack of acceptance of the diagnosis, psychological problems, difficulty in measuring dyscapacity due to the lack of objective instruments, treatment inefficacy, and the physicians own capacity. Some studies point to the possibility of using trigger points as a measure of function or dyscapacity,<sup>17</sup> others propose a job evaluation that is specific for each kind of work.<sup>18</sup> Currently there is no validated measure of job incapacity and the health status; FIQ and HAQ seem to be valid instruments for its measurement<sup>19,20</sup> and could be employed as predictors of dyscapacity.<sup>20</sup>

We described middle aged women, the majority of them with job positions that required physical effort, a low educational level and, in general, an elevated degree of job dissatisfaction (62.75%), many of them were on temporary jobs, something that favored an increment in the duration of total TI and its reappearance. One possible explanation is that the less favored social levels are forced into the jobs they can find, and in they have no choice. In a high percentage, jobs that require repeated movements and/or the lifting of weight, non-vocational jobs for the most part, increase dissatisfaction and lack of work motivation. Besides, they do not understand the cause or the reason why their symptoms do not improve with treatment.

There is currently no ethyopathogeny defined for the disease, though some anxiety disorders, sexual abuses, and childhood traumas can act as predisposing factors, as well as certain infections and, overall, physical and/or psychological stress act as triggering factors. We evaluated the possible triggering factors (Figure 2), and found that 53% of our patients had this trigger, being emotional trauma the most frequent one (27% of all cases). The interval between the traumatic process and the appearance of symptoms can be weeks or months.<sup>21</sup>

Patients considered pain as the most incapacitating symptom, followed by fatigue and, in a lesser manner, the rest of the symptoms. In the reviewed literature, we have found no evidence to support that pain improves after multiple treatments, but a general increase in the satisfaction over quality of life can be appreciated. Our data is redundant with the persistence of pain, but are satisfied with our life in 56.25%. Also, these patients were the lowest scores on the FIQ. It is estimated that FM causes a reduction in the working capacity of about 25%-30%. We have seen that women with a paying job or job autonomy have a better perception on health status, fatigue and the HAQm punctuation.<sup>22</sup> We asked the patients what measures they considered important to improve their job environment. Hopelessness affected 30.43%, because they considered that no measure could improve their work situation; 15.22% thought that a reduction in their working hours would be the solution; 23.91% asked to suppress the stressful factors; and 30.43% asked to suppress the physical efforts. The capacity to influence the labor, psychosocial and physical environment is the determining

factor in maintaining the job role.<sup>23,24</sup> We have been able to ascertain that patients with the worse scores on the FIQ and a larger number of comorbidities or triggering symptoms have a worse evolution and a greater tendency for job loss, leading to a general increase in cost.

The perception of severe dyscapacity has a high associated percentage of patients that request an economic compensation due to the dyscapacity and juries rule favorable in more than 16%, compared to 2.2% of the general population and 28.9% of patients with RA.<sup>9</sup> In other countries it is one of the most frequent causes of dyscapacity<sup>25-28</sup> and fluctuates between 9% and 15%. In our case, patients with permanent absolute incapacity (PI) loose the services of UPAM, as happens when they reach retirement. Because of this we can only extract data from patients in a TI or total PI situation (they have the possibility of a change in their job position). Because the design of the study is transversal with a 3 month duration, we can only evaluate the TI process. An adequate program with physical therapy, pain treatment, and patient reeducation can favor their reincorporation to the job market.<sup>29</sup> We believe it is important to search for simple tools that help us in the daily clinical practice to objectify the degree of dyscapacity. We consider that a validated system for its measurement would be a great help.

## References

1. Vancouver Fibromyalgia Consensus Group and the Physical Medicine Research Foundation. The Fibromyalgia syndrome: a consensus report on fibromyalgia and disability. *J Rheumatol.* 1996;23:534-9.
2. Carmona L, Ballina J, Gabriel R, Laffon A. The burden of musculoskeletal diseases in the general population of Spain: results from a national survey. *Ann Rheum Dis.* 2001;60:1040-5.
3. Mufson M, Regestein QR. The spectrum of fibromyalgia disorders. *Arthritis Rheum.* 1993;26:647-50.
4. Burkhardt CS, Clark SR, Bennett RM. Fibromyalgia and quality of life. A comparative analysis. *J Rheumatol.* 1993;20:475-9.
5. Greenfield S, Fitzcharles M, Esdaile JM. Reactive fibromyalgia syndrome. *Arthritis Rheum.* 1992;35:678-81.
6. Wolfe F, Anderson J, Harkness RM, Bennett RM, Carp XJ, Goldenberg DL, et al. Health status and disease severity in fibromyalgia: results of a six-center longitudinal study. *Arthritis Rheum.* 1997;40:1571-9.
7. Turk DC, Okifuji A, Sinclair JD, Starz TW. Pain, disability and functioning in subgroups of patients with fibromyalgia. *J Rheumatol.* 1996;23:1255-62.
8. Henriksson C, Liedberg G. Factors of importance for work disability in women with fibromyalgia. *J Rheumatol.* 2000;27:1271-6.
9. Boonen A, van den Heuvel R, van Tubergen A, Goossens M, Severens JL, van der Heijde D, et al. Large differences in cost of illness and wellbeing between patients with fibromyalgia, chronic low back pain, or ankylosing spondylitis. *Ann Rheum Dis.* 2005;64:396-402.
10. Robinson RL, Birnbaum HG, Morley MA, Sisitsky T, Greenberg PE, Wolfe F. Depression and fibromyalgia: treatment and cost when diagnosed separately or concurrently. *J Rheumatol.* 2004;31:1621-9.
11. Wolfe F, Smythe HA, Yunus MB, Bennett RM, Bombardier C, Goldenberg DL, et al. The American College of Rheumatology 1990 criteria for classification of fibromyalgia. *Arthritis Rheum.* 1990;33:160-72.
12. Carette S, Bell MJ, Reynolds WS, Haraoui B, McCain GA, Bykerk VP, et al. Comparison of amitriptyline, cyclobenzaprine, and placebo in the treatment of fibromyalgia. A randomised double-blinded clinical trial. *Arthritis Rheum.* 1994;37:32-40.
13. Crook J, Moldofsky H, Shannon H. Determinants of disability after a work related musculoskeletal injury. *J Rheumatol.* 1998;25:1570-7.
14. Teasell RW, Merskey H. Chronic pain disability in the work place. *Pain Forum.* 1997;6:228-38.
15. Teasell RW, Finestone HM. Socioeconomic factors and work disability: clues to managing chronic pain disorders. *Pain Res Manage.* 1999;4:89-92.

16. Goldenberg DG, Morssey CJ, Schmid CH. A model to assess severity and impact of fibromyalgia. *J Rheumatol.* 1995;22:2313-8.
17. Bennett RM. Disabling fibromyalgia: Appearance versus reality. *J Rheumatol.* 1993;20:1821-4.
18. Rodgers SH. A functional job analysis technique. *Occup Med.* 1992;7:679-711.
19. Buskila D, Neumann L. Assessing functional disability and health status of women with fibromyalgia: validation of a Hebrew version of the Fibromyalgia Impact Questionnaire. *J Rheumatol.* 1996;23:903-6.
20. Friedman PJ. Predictors of work disability in work-related upper-extremity disorders. *J Occup Med.* 1997;39:339-43.
21. Buskila D, Neumann L, Vaisberg G, Alkalay D, Wolfe F. Increased rates of fibromyalgia following cervical injury: a controlled study of 161 cases of traumatic injury. *Arthritis Rheum.* 1997;40:446-52.
22. Ross C, Mirowsky J. Does employment affect health? *J Health Soc Behav.* 1995;36:230-43.
23. Henriksson CM, Liedberg GM, Gerdle B. Women with fibromyalgia: work and rehabilitation. *Disab Rehab.* 2005;27:685-94.
24. Gunilla M, Henriksson L, Henriksson C. Factors of importance for work disability in women with fibromyalgia: An interview study. *Arthritis Rheum.* 2002;47:266-74.
25. Cathey MA, Wolfe F, Roberts FK, et al. Demographic, work disability, service utilization and treatment characteristics of 620 fibromyalgia patients in rheumatologic practice [resumen]. *Arthritis Rheum.* 1990;33 Suppl:S10.
26. McCain GA, Cameron R, Kennedy JC. The problem of long term term disability payments and litigation in primary fibromyalgia: the Canadian perspective. *J Rheumatol.* 1989;168:174-6.
27. Bruusgaard D, Evensen AR, Bjerkedal T. Fibromyalgia—A new cause for disability pension. *Scand J Soc Med.* 1993;21:116-9.
28. White KP, Harth M, Teasell RW. Work disability evaluation and the fibromyalgia syndrome. *Semin Arthritis Rheum.* 1995;24:371-81.
29. Mannerkorpi K, Ahlmen M, Ekdahl C. Six- and 24-month follow-up of pool exercise therapy and education for patients with fibromyalgia. *Scand J Rheumatol.* 2002;31:306-10.