Work status after workers’ compensation claims for upper limb musculoskeletal disorders

Y Roquelare, S Cren, F Rousseau, A Tournachet, C Dano, S Fanello, D Penneau-Fontbonne

Aim: To provide information on employment status after workers’ compensation (WC) claims for musculoskeletal disorders of the limbs (MSDs).

Methods: Two-year follow up of the workers who filed a WC claim for MSDs in 1996 in the Pays de la Loire region. Of the 701 eligible workers, 514 workers (70%) participated. Information was requested by means of a mailed questionnaire about the characteristics of the MSDs and job status at the time of the WC claim and two years later.

Results: Two years after the WC claim, 65% of the claimants had returned to work in the same company, often without any ergonomic improvement, 12% had retired or had left employment voluntarily, and 18% had been dismissed. The risk of dismissal was associated with three factors: being older than 45 years, having two or more MSDs at claim, and working in the cleaning services sector.

Results

Upper limb musculoskeletal disorders (MSDs) include peripheral nerve entrapments, mainly carpal tunnel syndrome (CTS), and peripheral enthesopathies, mainly shoulder tendinitis, lateral epicondylitis, and hand-wrist tendinitis. As in other industrialised countries, workers’ compensation (WC) claims for MSDs in France are increasing in a wide range of occupational groups. The disorders frequently result in prolonged disability and delayed return to work, and remain a difficult and costly problem for health care providers and industry. However, few studies are available to assess the work and social prognosis of MSDs which might differ between countries with different workers’ compensation systems. A two-year follow up study was therefore undertaken of workers who filed claims for WC for MSDs in 1996 in the Pays de la Loire region in the west of France.

Methods

Data collection

A short self-completed questionnaire was directly mailed to the 701 workers who filed a claim for WC for limb MSD in 1996 in the Pays de la Loire region. Information was requested concerning age, gender, characteristics of the MSDs (main disorder, associated disorder, treatment), and the claimant’s job at the time of the WC claim. The workers were also asked to specify their work status two years after the WC claim.

Population

A total of 514 workers (73%; 293 women and 221 men; mean age at claim 44.5 (SD 9.1) years) participated in the study. Claimants were classified by their first accepted diagnostic condition: CTS (46.7%), shoulder tendinitis (20.2%), lateral epicondylitis (17.3%), and hand-wrist tendinitis (8.4%). Workers suffered from one (46.1%), two (34.8%), or three or more (19.1%) disorders in 1996. All were working at the time of the claim, mainly in the following sectors: food industry (n = 98), shoe industry (n = 83), construction (n = 61), sales (n = 39), metallurgy industry (n = 22), health and homecare services excluding private households and hospitals (n = 19), automobile industry (n = 17), garment industry (n = 16), industrial cleaning services (n = 14), plastics and rubber industry (n = 13), and electronics equipment industry (n = 13).

Statistical analysis

The relations between work status after claims and demographic and economic variables were studied by analysis of variance for continuous variables and by the $\chi^2$ statistic for categorical variables. All categorical variables associated with work status with a p value less than 0.20 were then included in backward stepwise multivariate logistic regression models to estimate their association with work status. Statistical analysis was performed on the SPSS 10.0 software.

Results

Since about 26% of the workers who filed a claim for MSDs in 1996 were not followed up in 1998, the possible effect of selection of the workers followed up in 1998 was studied. No significant differences in age (42.4 (9.2) years vs. 41.9 (10.0) years; p = 0.6) and gender (57% vs. 54% female workers, p = 0.7) were observed between the workers who were followed up and those who were not. Moreover, the distribution of the types of MSDs and the distribution of the main economic sectors did not significantly differ between the two groups.

Two years after the WC claim, 65% of the claimants had returned to work in the same company, without differences between males and females (63% vs. 65%, p = 0.5). Workers returned to the same job, either without (38%) or with ergonomic enhancement (9%), while 18.3% were assigned to a different position in the company specifically as a result of their impairment. The most striking result was that 18% of the workers had been dismissed two years after the submission of a WC claim. Only 8% had left employment voluntarily, while 3% of the workers had retired and 2% followed vocational retraining. Voluntary reassignment was more frequent among younger workers, whereas only workers older than 58 had the right to choose retirement as an option.

In the majority of cases of dismissal (53%), a certificate of unfitness to work was delivered by the occupational physician at the time of the WC claim. The risk of dismissal did not differ with the type of MSD: shoulder tendinitis (20%), lateral and medial epicondylitis (18%), hand-wrist tendinitis (23%), and CTS (17%). However, the risk of...
Main messages

- Upper limb MSDs have significant social consequences.
- The majority of the claimants for MSDs returned to work without any ergonomic improvement.
- The risk of dismissal after WC claims for upper limb MSDs is higher in older workers and in those with two or more disorders.

Policy implications

- Management of the return to work process after WC for upper limb MSDs must be improved.
- Special attention should be given to the return to work process of older workers and those suffering from more than one disorder.

dismissal was higher when workers suffered from two or more disorders (22% v 14%; p=0.02). Workers who had been dismissed were older than those who remained at work (47.4 (10) years v 44.0 (9.0) years; p<0.001), but no difference was observed between genders (18.6% for males and 17.3% for females, p = 0.7). The risk of dismissal varied widely between economic sectors (p = 0.09). The highest rate was observed in the industrial cleaning sector (60%) followed by health and home care workers (33%), sales (24%), the plastics and rubber industry (23%), and the food industry (19%), while the risk was lower in industrial sectors, especially the garment industry (7%) and the electronic and equipment industries (9%). Logistic regression analysis showed that the risk of dismissal was significantly associated with three factors: being older than 45 years (OR 2.5, 95% CI 1.5 to 4.1), having two or more MSDs (OR 1.7, 95% CI 1.0 to 2.7), and working in the industrial cleaning services sector (OR 3.6, 95% CI 1.2 to 10.9) (table 1).

DISCUSSION

MSDs were the major cause of occupational diseases (75%) for which compensation was paid in the Pays de la Loire region in 1996. Claimants often had two or more upper limb disorders, which is in accordance with other studies of the employment prognosis of workers after WC claims for such conditions.

The study showed that the majority of claimants returned to work at an unmodified workstation. Although this could be due to the success of the treatment of the disorders, it was more probably due to the difficulty experienced by companies in managing the return to work process. Relatively few workers returned to work at a modified workstation, but the methodology used did not allow us to specify the ergonomic improvement of workstations. The percentage of workers out of work in the present study was close to those reported after WC claims for upper limb MSDs in the USA. Few workers voluntarily left employment or retired. None received a disability pension. The most striking finding was the very high level of dismissal of workers two years after WC claims for MSDs. Termination of employment can be due to health status but also to the economic factors which occurred during the two-year period following the WC claim. The fact that a certificate of unfitness to work was delivered by the company’s occupational physician at the time of the claim for 53% of the cases of dismissal suggests that, at least in these cases, the dismissal process was directly related to the health status. For the other dismissed workers, economic factors could have played a role since about 11% of the general working population of the Pays de la Loire region was unemployed during the two-year follow up period. However, the mean risk of dismissal could be estimated at 1–2% per year during this period in the general working population, and therefore the risk of dismissal was five to nine times greater after filing a claim than for the general working population. This suggests that unfitness to work related to MSDs had a greater influence on the dismissal process after WC claims than economic factors. As observed in other studies, the risk of dismissal was not dependent on the type of MSD diagnosed. However, age and association of two or more MSDs reduced the chances of returning to work, probably because of lower functional status at the time of the claim. The percentage of dismissed workers was higher in economic sectors characterised by small sized companies (industrial cleaning, health and home care, sales) than in industrial sectors. This was particularly true for industrial cleaning companies, which employed numerous temporary workers and often worked as subcontractors for large companies. Although the short questionnaire gave no specific information on the companies’ health and safety programmes, it could be hypothesised that the high level of dismissal in these companies could be due to the difficulty of implementing workplace modifications despite legal obligations after WC claims. On the other hand, the lower risk of dismissal observed in industrial companies could be explained by greater possibilities of enhancing the ergonomic characteristics of workstations or of assigning workers to less stressful workstations in large or

Table 1  Risk factors for dismissal two years after WC claims for upper limb musculoskeletal disorders, according to the logistic model

<table>
<thead>
<tr>
<th>Factors</th>
<th>Dismissal (%)</th>
<th>OR (95% CI)</th>
<th>p value†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working in cleaning services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>17</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>42</td>
<td>3.6 (1.2 to 10.9)</td>
<td>0.026</td>
</tr>
<tr>
<td>Age&lt;45 years</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>No</td>
<td>11</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>24</td>
<td>2.5 (1.5 to 4.1)</td>
<td>0.001</td>
</tr>
<tr>
<td>Having two or more MSDs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>1.7 (1.0 to 2.7)</td>
<td>0.048</td>
</tr>
</tbody>
</table>

Number of cases of dismissal: 92 of 513 workers.

†χ² test: χ² = 27.5, df = 3, p < 0.001.
medium sized companies. To conclude, the high social impact of MSDS observed in this regional survey must be confirmed by a larger survey of the return to work process after workers’ compensation claims for upper limb MSDs.

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REFERENCES

Women also need farm safety training

Further evidence of high injury rates among women working on farms comes from a survey of farmers and their spouses in Colorado. After controlling for the amount of time spent on different activities around the farm, women and men were found to be equally at risk while handling animals or farm materials. Men were at higher risk of injury during farm maintenance, crop production and transportation, but women were at much higher risk than men during other farm work.

The farms were randomly selected from eight counties in Colorado, and the farm operators and their spouses interviewed between 1993 and 1997. They were asked about injuries in the previous 12 months that required medical treatment, not just first aid, and that prevented them from working. The study looked at the hours exposed to the activity and also the actual tasks performed.

A total of 301 women and 459 men participated. Overall high injury rates were found in men involved in farm maintenance and women involved in “other” farm work; further work is needed to identify within this category those tasks women are doing that increase their risk of injury.

Although the response rate was relatively low and the injuries were self reported, the study nevertheless shows that injury prevention programmes need to address jobs carried out by both men and women on farms.