Sick-Leave due to Psychiatric Disorder: Higher Incidence among Women and Longer Duration for Men

GUNNEL HENSING, KRISTINA ALEXANDERSON, PETER ALLEBECK and PER BJURULF

**Background.** Women take sick-leave more often than men, both in general and because of psychiatric disorders. The aim of the present study was to introduce the new dimension of sick-leave duration in the analysis of gender differences in minor psychiatric disorders.

**Method.** A population-based register was used, which included all sick-leave spells exceeding seven consecutive days, 1985–1987, in a Swedish county.

**Results.** Sick-leave duration was longer for men. The greatest gender differences were found in the youngest and oldest age-groups. Women had higher incidence also in the longest spells. An increase in duration over the three years was found among women, leading to decreased gender differences.

**Conclusions.** Contrary to other studies on minor psychiatric disorders, small gender differences were found. It is suggested that sick-leave duration can be used as a quantitative measure of health-related working capacity.

The incidence of sick-leave, either in general or because of psychiatric disorder, is higher among women than men (Alexanderson et al, 1994; Hensing et al, 1995; Stansfeld et al, 1995). Several studies have also shown that women have more absence days than men in sick-leave due to any cause (Kristensen, 1991; Vogel et al, 1992; North et al, 1993). It was, therefore, unexpected when, in an earlier study on sick-leave (in spells of more than seven consecutive days) due to minor psychiatric morbidity, we found that the mean number of sick-leave days was higher among men than among women (Hensing et al, 1995).

The higher incidence of sick-leave due to psychiatric disorder among women corresponds with the well-documented epidemiological finding that women have higher morbidity rates in psychiatric disorders than men (Jenkins, 1985; Nolen-Hoeksema, 1987; Weissman & Klerman, 1992). In those studies the occurrence of psychiatric disorder was measured as either incidence or prevalence. Few epidemiological studies have focused on the consequences of psychiatric disorder for women and men with regard to working capacity. This can be analysed by studying the duration of sick-leave. Although sick-leave is multifactorial, several studies have shown an association between ill-health and sickness absence, especially in longer spells (Vogel et al, 1992; Marmot et al, 1995; Hensing et al, 1996). Marmot et al (1995) have suggested that sick-leave data can be used as integrated measures of health and functioning among working populations. The aim of the present study was to analyse the duration of sick-leave, with a special focus on gender differences. Are the social consequences of psychiatric disorder, in terms of longer sick-leave spells and the consequent risk of marginalisation, higher for men than for women? Can sick-leave data, as integrated measures of health and functioning, provide a different angle to, and a new conceptualisation of, gender differences in psychiatric disorder?

**Method**

The present study is based on a database of all new sick-leave spells exceeding seven consecutive days, 1985–1987, in the county of Östergötland, Sweden. The population of Östergötland was approximately 400,000 (5% of the Swedish population) during the study period. The region is characterised by both rural and urban areas, including two of the larger Swedish cities, Linköping and Norrköping. The labour market is differentiated, comprising industries of varied dimensions: commercial, administrative, hospital, university and farming.

**Sickness insurance legislation**

Every Swedish resident from the age of 16 with an income above 6000 SKR (in 1985 equivalent to 687 US$) is covered by a national sickness insurance. In
1985–1987, sickness benefit was at least 90% of lost income. Absence due to work incapacity related to disease and injury was covered by the insurance. For the first seven days of a sick-leave spell, self-certification was accepted. Sick-leave exceeding seven days had to be certified by a physician. There was no maximum duration of a spell during the period studied (Vogel et al., 1992).

**The sick-leave registration project**

The database includes all new sick-leave spells during 1985, 1986 and 1987, sick-leave diagnosis and a number of demographic variables. Each spell was followed until its end or, at the longest, until 1 September the year after its beginning, and was recorded at the local National Health Insurance offices. Medical diagnoses were coded according to the Code-List for Diagnoses used in Ambulatory Care (Nordic Medico-Statistical Committee, 1977). A study of the validity of the diagnoses showed that there were few sickness certificate diagnoses substituted because of the stigma of having a psychiatric disorder on the certificate (Ljungdahl & Bjurulf, 1991). Psychiatric diagnoses on sickness certifications have been shown, in a British study, to correspond with psychiatric illness (Stansfeld et al., 1995). occupations were coded according to the Nordic Classification of Occupations on a two-digit level and grouped into 31 categories (Arbetsmarknadsstyrelsen, 1983). This classification is based upon occupations rather than employer category. For example, secretaries working in the metal industry or in hospitals are all categorised as secretaries. A non-systematic drop-out rate estimated at 14.8% in 1985, 11.8% in 1986 and 15.1% in 1987 was due to the fact that some staff members at the local National Health Insurance offices did not report all spells of sick-leave. The details of the methodological procedures have been reported elsewhere (Alexanderson et al., 1994).

**Sick-leave measures**

For the present study, data on sick-leave, age, gender and sick-leave diagnosis for all employed individuals, aged 16–64, with at least one sick-leave spell exceeding seven days due to psychiatric disorder in one year were extracted from the database. The diagnoses included are presented in Table 1 (Nordic Medico-Statistical Committee, 1977). Standardisation for age and gender was made through direct standardisation with the total employed population of Östergötland (Official Population Statistics and Residence Investigation, Sweden 1985).

There are three entities in the study of sick-leave: persons, spells and days. They reflect different aspects of the phenomenon and are often combined in studies of sick-leave. Four different measures of sick-leave are presented in the present study:

1. the mean number of absence days per person (of each gender), stratified by age;
2. the mean number of absence days per sick-leave spell stratified by length of the sick-leave spell (8—30, 31—90 and >90 days);
3. cumulative incidence of the three strata of sick-leave spell (8—30, 31—90 and >90 days). Cumulative incidence (hereafter incidence) is defined as the number of employed persons in a category with at least one sick-leave spell of a certain length due to psychiatric disorder, divided by the total number of employed persons in the category. Individuals with

| Diagnostic groups, diagnoses and numbers according to the code list Nordic Medico-Statistical Committee (1977) |
|---|---|---|
| **Minor psychiatric disorder** | **Major psychiatric disorder** | **Alcohol and drug abuse** |
| 300, psychoneurosis (including anxiety reaction, depressive reaction) | 290 senile and presenile dementia (including psychosis with cerebral arteriosclerosis) | 303, alcoholism |
| 305, physical disorders of presumably psychogenic origin (including cardiovascular neurosis and globus hystericus) | 295, schizophrenia | 304, drug dependence |
| 306A, disorders of sleep | 296, manic-depressive psychosis (including endogenous depression) |  |
| 306B, tension headache, 307, transient situational disturbances (acute stress, grief, psychic shock) | 298R, other and unspecified psychoses and states of confusions (the remainder of 290–299) |  |
| 316B, other specified, non-psychotic disorders | 7821, palpitation |  |
| 781, headache of unknown origin |  |  |
several sick-leave spells of different lengths were classified according to their longest spell; and

(4) the mean number of absence days per sick-leave spell stratified by diagnosis.

For all three years data from the official census of 1985 were used to obtain information on the employed population (Statistics Sweden, 1985).

Results

The frequency of sick-leave due to psychiatric disorder is presented in Table 2. Each of the analyses presented in the study were performed both for minor psychiatric disorder and for all psychiatric disorder. The inclusion of all psychiatric disorders did not alter the results significantly; therefore, those analyses are not tabulated here. Separate analyses have been performed for each year. The results for 1986 are not tabulated here, but are discussed when they are divergent from the other data or are otherwise of interest.

Sick-leave days

Men had a greater mean number of sick-leave days than women (Table 3). The greatest gender differences were found in the oldest and youngest age-groups. The pattern was similar throughout the three years; however, the difference between women and men decreased from 20 to four days if 1985 and 1987 are compared. The mean number of absence days increased among the oldest and the youngest women and among the youngest men. In contrast, there was a decrease in absence days among men in the oldest age-group. Finally, in almost all age-groups, except for those aged 25–34 years in 1986 and 35–44 in 1987, men had a higher or the same number of absence days as women.

The distribution of sick-leave days is very skewed, with a few individuals having the longest spells. An analysis of the mean number of absence days according to length of sick-leave spell was therefore performed. This analysis showed that there were only very small differences between women and men when the mean number of absence days was stratified by duration of sick-leave spell (Table 4). In spells lasting >90 days in 1985 and 1986, the ratios (women/men) were 0.88 and 0.93, and these were the largest gender differences found. For each year and for each type of sick-leave spell there were more women than men listed as sick, and thus the total number of absence days was higher for women.

Incidence in spells of different length

The incidence of sick-leave spells lasting 8–30 days due to minor psychiatric disorders was significantly higher for women than for men throughout the three years (Table 5). The results are similar for sick-leave spells lasting 31–90 days. For the longest spells (>90 days) the gender differences were smaller in 1985 and 1986, whereas in 1987 the differences increased.
Mean number of absence days per sick-leave spell

Table 4 shows sick-leave at a detailed diagnostic level. The proportion of psychoneurosis among males was higher than among females. In the three largest diagnostic categories men had a higher or an equal mean number of absence days compared with women. The distribution of sick-leave spells by diagnosis was almost unchanged throughout the three years. However, the number of sick-leave spells due to psychoneurosis decreased and the number due to transient situational disturbances increased somewhat.

Discussion

Few epidemiological studies have, to our knowledge, focused on gender differences in the duration of illness. Incidence and prevalence measures are more appropriate when the focus is the etiology of a disease. However, in relation to sick-leave there is a risk of overestimating the female morbidity and underestimating the male when those measures are used, because of differences in the help-seeking process. Duration of sick-leave may be used as a complementary quantitative measure of health-related working capacity, defined for employed individuals as the relationship between the individual's coping ability and the adjustment of physical and psychosocial work environment.

The pattern we found was that more women than men were listed as sick with psychiatric disorders, but that men have longer sick-leave spells. Thus the choice of measure is important from a gender perspective.

Mean number of absence days per sick-leave spell

Table 6 shows sick-leave at a detailed diagnostic level. The proportion of psychoneurosis among males was higher than among females. In the three largest diagnostic categories men had a higher or an equal mean number of absence days compared with women. The distribution of sick-leave spells by diagnosis was almost unchanged throughout the three years. However, the number of sick-leave spells due to psychoneurosis decreased and the number due to transient situational disturbances increased somewhat.

Table 4

<table>
<thead>
<tr>
<th>Year</th>
<th>Length of sick-leave spells (days)</th>
<th>No. of sick-leave spells</th>
<th>Mean no. of absence days per sick-leave spell (95% CI)</th>
<th>Ratio of women/men (95% Cl)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>Men</td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>8–30</td>
<td>1206</td>
<td>881</td>
<td>17 (16–17)</td>
</tr>
<tr>
<td></td>
<td>31–90</td>
<td>499</td>
<td>391</td>
<td>50 (47–54)</td>
</tr>
<tr>
<td></td>
<td>&gt;90</td>
<td>285</td>
<td>277</td>
<td>231 (190–272)</td>
</tr>
<tr>
<td>1987</td>
<td>8–30</td>
<td>1181</td>
<td>807</td>
<td>17 (16–18)</td>
</tr>
<tr>
<td></td>
<td>31–90</td>
<td>572</td>
<td>327</td>
<td>50 (46–53)</td>
</tr>
<tr>
<td></td>
<td>&gt;90</td>
<td>398</td>
<td>256</td>
<td>254 (219–289)</td>
</tr>
</tbody>
</table>

Table 5

<table>
<thead>
<tr>
<th>Year</th>
<th>Length of sick-leave spells (days)</th>
<th>No. of women listed as sick</th>
<th>No. of men listed as sick</th>
<th>Cumulative incidence among women (95% CI)</th>
<th>Cumulative incidence among men (95% CI)</th>
<th>Ratio of women/men (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>8–30</td>
<td>991</td>
<td>663</td>
<td>1.2 (1.1–1.2)</td>
<td>0.7 (0.6–0.7)</td>
<td>1.7 (1.7–1.7)</td>
</tr>
<tr>
<td></td>
<td>31–90</td>
<td>436</td>
<td>325</td>
<td>0.5 (0.5–0.6)</td>
<td>0.3 (0.3–0.4)</td>
<td>1.5 (1.5–1.5)</td>
</tr>
<tr>
<td></td>
<td>&gt;90</td>
<td>281</td>
<td>264</td>
<td>0.3 (0.3–0.4)</td>
<td>0.3 (0.3–0.4)</td>
<td>1.2 (1.2–1.2)</td>
</tr>
<tr>
<td>1987</td>
<td>8–30</td>
<td>971</td>
<td>627</td>
<td>1.1 (1.1–1.2)</td>
<td>0.6 (0.6–0.7)</td>
<td>1.8 (1.8–1.8)</td>
</tr>
<tr>
<td></td>
<td>31–90</td>
<td>506</td>
<td>230</td>
<td>0.8 (0.5–0.6)</td>
<td>0.3 (0.3–0.3)</td>
<td>2.0 (2.0–2.0)</td>
</tr>
<tr>
<td></td>
<td>&gt;90</td>
<td>372</td>
<td>249</td>
<td>0.4 (0.4–0.5)</td>
<td>0.3 (0.2–0.3)</td>
<td>1.7 (1.7–1.7)</td>
</tr>
</tbody>
</table>

1. Cumulative incidence calculated using the number of individuals listed as sick as the numerator and the number of employed individuals (85289 women, 97394 men) as the denominator.

Men have longer sick-leave spells

Gender differences in the mean number of psychiatric sick-leave days were small and showed generally that men had more absence days than women. One explanation for this difference can be the diagnostic pattern within the group "minor
Distribution of diagnoses and mean number of absence days per sick-leave spell due to minor psychiatric disorder among the employed population, aged 16–64 years

<table>
<thead>
<tr>
<th>Year</th>
<th>Diagnosis (code)</th>
<th>No. of sick-leave spells</th>
<th>Percentage of total no. of spells</th>
<th>Mean no. of absence days per sick-leave spell (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>1985</td>
<td>Psychoneurosis (300)</td>
<td>1576</td>
<td>1345</td>
<td>79.1*</td>
</tr>
<tr>
<td></td>
<td>Physical disorders of psychogenic origin (305)</td>
<td>13</td>
<td>13</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>Disorders of sleep (3064)</td>
<td>16</td>
<td>10</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>Tension headache (3068)</td>
<td>34</td>
<td>11</td>
<td>1.7*</td>
</tr>
<tr>
<td></td>
<td>Transient situational disturbances (307)</td>
<td>161</td>
<td>73</td>
<td>8.1*</td>
</tr>
<tr>
<td></td>
<td>Palpitation (7821)</td>
<td>19</td>
<td>9</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Headache of unknown origin (791)</td>
<td>171</td>
<td>88</td>
<td>8.6*</td>
</tr>
<tr>
<td>1987</td>
<td>Psychoneurosis (300)</td>
<td>1595</td>
<td>1114</td>
<td>74.4*</td>
</tr>
<tr>
<td></td>
<td>Physical disorders of psychogenic origin (305)</td>
<td>8</td>
<td>9</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>Disorders of sleep (3064)</td>
<td>25</td>
<td>23</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Tension headache (3068)</td>
<td>51</td>
<td>15</td>
<td>2.4*</td>
</tr>
<tr>
<td></td>
<td>Transient situational disturbances (307)</td>
<td>236</td>
<td>120</td>
<td>11*</td>
</tr>
<tr>
<td></td>
<td>Palpitation (7821)</td>
<td>29</td>
<td>4</td>
<td>1.4*</td>
</tr>
<tr>
<td></td>
<td>Headache of unknown origin (791)</td>
<td>197</td>
<td>106</td>
<td>9.2</td>
</tr>
</tbody>
</table>

*P<0.05.

Alcohol consumption, for example, has been shown to increase sickness absence, and alcohol dependence is more common among men than among women (Jenkins, 1986; Marmot et al., 1993; Hensing et al., 1995). However, the inclusion of the diagnostic group “alcohol and drug abuse” did not change the gender differences in sick-leave. Each year there were, on average, 80 individuals listed as having an alcohol-related diagnosis on the sickness certificate. The influence of alcohol problems is probably underestimated when sickness certification is used as the source of information. Such problems might be hidden behind several different diagnoses. However, a study performed as a comparison at an individual level of sick-leave diagnosis and the medical record (Ljungdahl & Bjurulf, 1991) did not find alcohol-related diagnoses in medical records that were not also on the sickness certificates.

Another explanation is that the social consequences of having a psychiatric disorder might be worse for men than for women. The cultural norm for male behaviour is to be strong, active and less emotional; qualities that usually are not characteristic of psychiatric symptoms (Broverman et al., 1970). This norm can lead both to under-reporting of men, and to men seeking health-care in a poorer condition and, therefore, needing a longer period of sick-leave (Kessler et al., 1981; Leaf & Livingstone-Bruce, 1987). It has also been suggested that depressive symptoms among men in several cases are atypical in relation to accepted diagnostic criteria, which can strengthen the above-mentioned reasons for the longer sick-leave duration among men (Rutz et al., 1995).

A stable finding was that men in the youngest age-group had more days sick-leave than women in the same age-group. This might be explained by different age of onset of psychiatric disorders (Fargone et al., 1994). Generally, it has been shown that affective disorders have become more common in younger birth cohorts and that gender differences have decreased in those age-groups (Weissman & Klerman, 1992). To what extent such changes in the epidemiology of a certain diagnosis also influences sick-leave is of great interest for further studies. Longer time-periods for follow-up are needed. We also found an increase in absence days among the youngest women and men. Apart from changes in the occurrence of psychiatric disorder in certain birth cohorts, this increase might also reflect the very favourable labour market in Sweden during the years studied, leading to more individuals with health problems entering the labour force.

Changes in the composition of the labour force

We have analysed data for three different years. Gender differences were smallest in 1987. For men, the number of absence days taken for minor psychiatric illness remained quite constant, whereas
it increased for women. The increase in the number of absence days among women could be explained by the fact that during the 1980s the number of women in the Swedish labour force increased. It has been suggested that the general increase in sickness absence for women during this period can be explained largely by this (Vogel et al, 1992). During the same period, the number of older men in the labour force decreased (Vogel et al, 1992). The effects of such changes on sick-leave duration is most apparent in the older age-groups, since the length of a sick-leave spell increases with increasing age. The present results actually support this, since a large part of the increase was among women aged 55–64.

Higher incidence among women, also for the longest spells

Women had a higher incidence of sick-leave for minor psychiatric illness irrespective of the length of the sick-leave spell. We had expected that the incidence of sick-leave spells of 8–30 days duration should be higher for women, and that the gender differences would be smaller for longer spells. The results for the years 1985 and 1986 were in line with our expectations, but, again, the results from 1987 differed. The previously mentioned changes in labour force composition can probably explain the results to some extent. However, the results should be interpreted with caution. A longer follow-up is needed before conclusions can be drawn regarding whether the findings reflect a true change in incidence or merely random fluctuations. Other factors that need to be considered are possible gender differences concerning treatment, rehabilitation and early-retirement pension.

Gender differences in psychiatric disorder

The analysis of separate diagnoses in the group "minor psychiatric disorders" did not show that differences in diagnostic pattern could explain the gender differences found in sick-leave. There was a significant difference in the diagnosis "psychoneurosis". This is the largest category of diagnosis, composed of several disorders, but it was not possible to perform a more detailed analysis. Further studies need to be done before more definite conclusions can be made, especially since the reliability of more specified psychiatric diagnoses on sickness certificates might be low.

To what extent can sick-leave data provide a different angle on and a new conceptualisation of gender differences in psychiatric disorders? There has been a growing interest in functional status for individuals with different diseases. Psychiatric disorder has an important influence on both the functioning and well-being of individuals and their families. Length of sick-leave can be considered as a quantitative measure of functioning, at least in relation to work capacity. The risk of being permanently excluded from work increases with longer sick-leave spells and leads, in most cases, to worsened personal or family economy. Psychiatric disorders, at least in certain diagnoses, are connected with social withdrawal behaviour. Being listed as sick might strengthen such behaviour and, consequently, the symptoms of psychiatric illness. The practice of listing people as sick must therefore be used with care and in an individualised manner.

Illness behaviour

The process of seeking help within the health-care system can be described in several steps (Greenley & Mullen, 1990). These steps are, in brief, the recognition of symptoms, the interpretation of those as problematic and the decision to actually seek help for them. It has been shown that women report more psychiatric symptoms, more easily interpret symptoms as psychiatric and visit a physician more often than men do (Kessler et al, 1981; Leaf & Livingstone-Bruce, 1987; Greenley & Mullen, 1990). There are several factors in this process that can lead to the higher incidence for women: both the patient and the physician might, for example, expect a concrete result from the consultation, such as sick-leave or prescriptions of drugs.

There might also be differences in how women and men cope with their psychiatric disorder. Only employed persons were included in this study and the longer sick-leave spells found for men might reflect a lower ability to get support from workmates. The process of marginalisation might be more definitive and rapid for men. Alternatively, the gender differences in long sick-leave spells might reflect a tendency to give women early-retirement pension to a larger extent and earlier in the rehabilitation process than for men. This will be controlled for in a follow-up study of the individuals listed as sick and included in the present study.
Clinical implications
- Late detection due to stypical depressive symptoms among men might prolong sick-leave episodes and reduce the effectiveness of therapy and rehabilitation.
- The consequences of sick-listing for recovery and rehabilitation in psychiatric disorders need to be studied.
- Gender differences in psychiatric morbidity are overestimated if only the most common epidemiological measures, incidence and prevalence, are used; measures of duration need to be included.

Limitations
- Short follow-up for interpretation of changing trends.
- Data on gender differences in rehabilitation and disability pensions were not available when this study was performed.
- Presence of alcohol dependence and abuse, which could explain some of the gender differences found, was underestimated.

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