

Health Service Research

GP consultations for common mental disorders and subsequent sickness certification: register-based study of the employed population in Norway

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Abstract

Background. Challenges related to work are in focus when employed people with common mental disorders (CMDs) consult their GPs. Many become sickness certified and remain on sick leave over time.**Objectives.** To investigate the frequency of new CMD episodes among employed patients in Norwegian general practice and subsequent sickness certification.**Methods.** Using a national claims register, employed persons with a new episode of CMD were included. Sickness certification, sick leave over 16 days and length of absences were identified. Patient- and GP-related predictors for the different outcomes were assessed by means of logistic regression.**Results.** During 1 year 2.6% of employed men and 4.2% of employed women consulted their GP with a new episode of CMD. Forty-five percent were sickness certified, and 24 percent were absent over 16 days. Thirty-eight percent had depression and 19% acute stress reaction, which carried the highest risk for initial sickness certification, 75%, though not for prolonged absence. Men and older patients had lower risk for sickness certification, but higher risk for long-term absence.**Conclusion.** Better knowledge of factors at the workplace detrimental to mental health, and better treatment for depression and stress reactions might contribute to timely return of sickness absentees.**Key words:** doctor–patient relationship, family health, health economics, mental health, occupational/environmental medicine, primary care.

Introduction

Common mental disorders (CMDs) or ‘mild-moderate mental disorders’ (1,2) are not uniformly defined, but anxiety, depression and substance use disorders are always included. Different classification systems are used in the sickness absence literature. Norwegian studies on sickness absence use the International Classification of Primary Care (ICPC) (3), while the International Classification of Diseases (ICD) is used for studies on disability pensions (4). In the UK, Read codes are used, in Sweden (5) ICD is the usual classification also in

primary care. In the Netherlands, ICPC is used in primary care, but ICD is mostly used in the sickness absence literature (6).

Annually, nearly 20% of the adult population worldwide experience a CMD (7,8). Depression affects 7–8% of women, and slightly more for anxiety. The male prevalence is 4–5% for both conditions; however, more men have substance-use disorders. CMD-related sickness absence are longer than average (9,10) and more than 30% of disability pensioners in Norway are certified with a mental disorder, and even more in other countries (11,12). Mental health related

disability often affects young people, leading to immense societal costs (4,12). Much research has investigated long-term cases and transition into permanent disability or loss of work (9,13,14).

A recent review of CMD-related absences (15) included studies from the Netherlands, Finland, Norway, Canada and Brazil. In the substantial Dutch literature, CMDs are divided into 'psychiatric' (depression and anxiety) and 'stress-related' cases (6). In a recent Swedish study, more than 50% of mental health cases were also labelled as stress-related (ICD10 F43) (5). However, in a Finnish study, also based on ICD10, 68% of episodes were caused by depression, 7% by anxiety and only 7% by stress reactions and adjustment disorders combined (16). A Danish study of sickness absence over three weeks, classified 50% of the mental health cases as stress/burnout and 35% as depression (17). Recent UK studies have found that 30–40% of CMD-related fit notes were caused by depression, highest for men and 25–30% by stress (2,18). Episodes certified with depression were at average longer (18).

In countries with a gatekeeper model for health services, GPs are normally the first point of care for CMDs (19,20). When employed adults seek help for CMDs, issues related to work ability are often in focus, and sickness certificates are frequently issued (21).

The aim of this study was to assess the incidence of CMDs among employed patients consulting Norwegian GPs, the frequency of sickness certification and the length of sick leave. We also investigated how patient- and GP-related variables impacted sickness certification and the length of absence: risk factors that GPs should consider in negotiating with patients in such consultations.

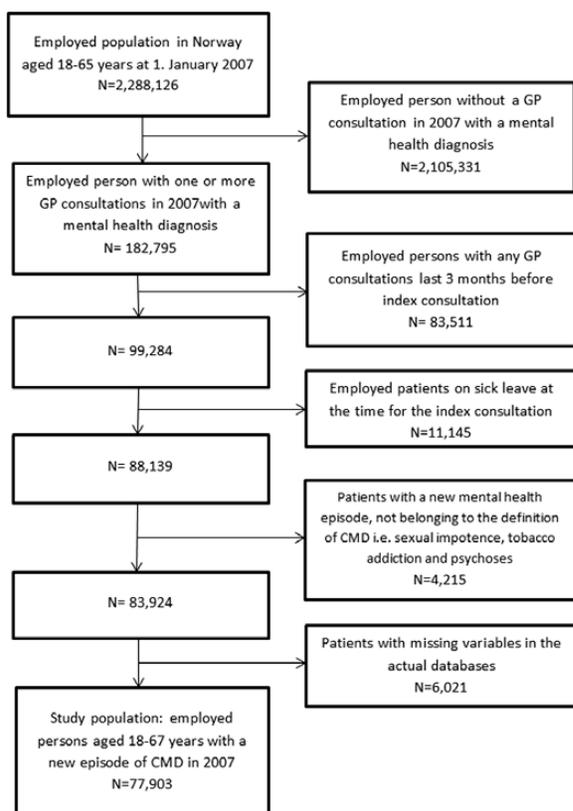


Figure 1. Flow chart showing base population (employed person in Norway), inclusion and exclusion criteria, ending with the study population, $N = 77\,903$ patients with a new episode of common mental disorder in general practice during 2007.

The research questions were:

- How many employed individuals consult a GP with a new or recurrent CMD episode in Norway during 1 year?
- Which diagnoses were made?
- What proportion of the patients was sickness certified and what proportion remained on sick leave over 16 days and 12 weeks?
- What was the length of absences?
- What were the predictors of initial sickness certification and long-term sickness absence?

Methods

Design

The study was a cross sectional study of employed persons aged 18–67 years in Norway consulting a GP during 2007, with a new episode of CMD and 1-year follow-up.

Data and explanatory variables

The Norwegian regular GP scheme is based on capitation (list size) combined with fee for service. For each consultation, the regular general practitioners (RGPs) send an invoice to the Health Economics Administration, including the patient's personal ID number, a diagnosis based on ICPC and tariffs indicating procedures used in the consultation. The diagnosis is formulated at the end of the consultation indicating the medical content of the consultation. Issuing of a sickness certificate is shown by a specific code, which was used in this study. Data from GP invoices are included in a national claims database (KUHR). With permission from the Data Inspectorate all consultation data from 2007 was merged with individual patient data from

Table 1. Distribution of diagnoses, based on ICPC, used by Norwegian GPs in 77 903 new episodes of common mental health disorders (CMDs) in 2007, patient and GP characteristics

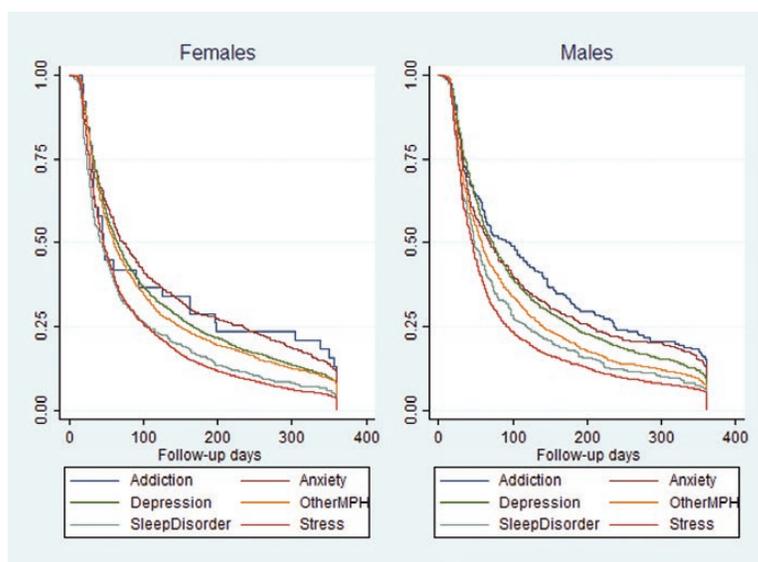
Proportion of consultations according to grouping of ICPC codes	
Depression (P03, P73, P76)	38%
Anxiety (P01, P74, P79, P82)	12%
Stress related (P02, P25)	19%
Insomnia (P06)	11%
Substance use disorders (P15, P16, P19, P20)	3%
Other mental (P29, P75, P78, P81, P99)	17%
Patient characteristics	
Patient age, mean(SD)	40.7 (11.6)
Patient male	42%
Patient education level	
Basic education only	22%
Upper secondary education	43%
Higher education	35%
Labour income in 10 000 NOK*, mean (SD)	32.7 (19.1)
Civil status	
Unmarried	40%
Married	39%
Divorced or widow(er)	20%
Number of years on the regular GP's list, mean (SD)	5.1 (1.3)
GP characteristics	
GP male	72%
GP age, mean (SD)	48.8 (9.1)
GP specialist in family medicine	67%
List size, mean (SD)	1350 (390)

* 10,000 NOK = 1,226 EUR.

Table 2. New episodes of common mental disorders among employed patients aged 18–67 years in Norwegian general practice in 2007, the proportion sickness certified and proportion staying on sick leave over 16 days and over 12 weeks

	Depression	Anxiety	Stress	Sleep	Addiction	Other MHP	All
Consultations							
Women	17 629 (39%)	5190 (11%)	9304 (20%)	4 717 (10%)	478 (1%)	8081 (18%)	45 399 (100%)
Men	11 668 (36%)	4255 (13%)	5522 (17%)	3765 (12%)	1652 (5%)	5642 (17%)	32 504 (100%)
All	29 297 (38%)	9445 (12%)	14 826 (19%)	8482 (11%)	2130 (3%)	13 723 (18%)	77 903 (100%)
Sickness certified, frequency given consultation and diagnosis							
Women	43%	23%	75%	24%	17%	53%	47%
Men	42%	21%	75%	23%	22%	46%	43%
All	43%	22%	75%	24%	21%	50%	45%
Sick leave (>16 days), frequency given consultation and diagnosis							
Women	25%	12%	37%	12%	8%	32%	26%
Men	24%	11%	32%	8%	11%	25%	21%
All	25%	12%	35%	10%	10%	29%	24%
Sick leave (>12 weeks), frequency given consultation and diagnosis							
Women	11%	6%	11%	3%	3%	13%	10%
Men	11%	5%	9%	3%	5%	10%	8%
All	11%	5%	10%	3%	4%	11%	9%

N = 77 903 employed patients.

**Figure 2.** Return to work (proportion still on sick leave) during 1-year follow-up according to diagnostics groups. N = 35 056 employed patients with common mental disorders, entering state benefits at 16 days sick leave.

Statistics Norway: age, gender, educational level, income, marital status and data on sickness benefits paid by the Social Insurance Services (absences over 16 days). The following variables on each regular GP were obtained from the national GP database: age, gender, whether or not the GP is a specialist in family medicine, and the number of patients on the GP's list. This dataset is the frame of the study.

It should be noted that 33% of Norwegian regular GPs are not specialists in family medicine, a 5-year postgraduate program with re-certification every 5 years. However, many non-specialists are young GPs currently in the program.

Participants and inclusion

Only employed persons who had not consulted a regular GP during the previous three months were included. This approach was chosen to study new episodes of CMD (first episodes or remissions). Only the first episode was included for each patient. Individuals on sick leave, cases diagnosed with sexual impotence, tobacco addiction,

and diagnoses with less than 100 observations, including all psychotic disorders, were excluded, shown in Figure 1 (flow chart).

Diagnoses

The cases were grouped into *depression, anxiety, acute stress reaction, alcohol/substance disorders, sleep disorders and other*.

Outcome variables

- Initial sickness certification
- Sickness absence over 16 days, that is the start of payment of sickness absence benefits by the National Insurance, before that employers are responsible
- Sickness absence over 12 weeks, used as a limit for 'long-term absence', in previous studies (1,2)
- Length of each absence episode, maximum 365 days, the limit for state-funded sickness benefits in Norway

Statistics

Logistic regression analyses were carried out separately for men and women in three models with diagnoses, patient and GP characteristics as explanatory variables (Table 3). Similar analyses were performed for depression and stress reactions separately (Table 4). Only associations with $P < 0.01$ were considered significant.

Results

We identified 99 284 new episodes of a mental health problem in the year 2007 among employed persons aged 18–66 years. After exclusion of 4215 cases with diagnoses specified previously, 45 399 women and 32 504 men with a CMD remained, corresponding to 4.2% of all employed women and 2.7% of employed men aged 18–66 years. Characteristics of the patients and the participating GPs are shown in Table 1.

Over all results

Table 2 shows the distribution of the included consultations for men and women, the proportion for which a sickness certification was issued, and the proportions lasting over 16 days and over 12 weeks, by diagnostic subgroup. *Depression* was the largest category, 39% for women and 36% for men; Acute stress reaction 20% for women versus 17% for men, Sleep disturbances 10% versus 12% and Anxiety 11% versus 13%. Among women 47% of the consultations resulted in a sickness certificate and 43% for men. When diagnosed with acute stress reaction, 75% of both women and men were sickness certified, whereas depression led to sickness certification in 43% of cases. Nevertheless, depression remained the largest cause of CMD-related sickness certification (35% of cases), followed by acute stress reaction (30%). Twenty-four percent of the patients were sickness certified for more than 16 days, 25% of those with depression and 35% for the acute stress reaction group. Eleven

Table 3. Risk of sickness certification, sick leave over 16 days and over 12 weeks in a new episode of common mental disorders in Norwegian general practice, by gender. Odds ratio with 95% confidence intervals in brackets

	Males (N = 32 504)			Females (N = 45 399)		
	Sickness certificate	Sick leave > 16 days	Sick leave > 12 weeks	Sickness certificate	Sick leave > 16 days	Sick leave > 12 weeks
Patient characteristics						
Patient age/10	0.96** [0.93, 0.98]	1.16*** [1.12, 1.19]	1.31*** [1.25, 1.36]	0.90*** [0.88, 0.92]	1.03** [1.01, 1.06]	1.11*** [1.07, 1.15]
Labour income	1.00*** [1.00, 1.00]	1.00*** [1.00, 1.00]	1.00 [1.00, 1.00]	1.02*** [1.02, 1.02]	1.02*** [1.01, 1.02]	1.01*** [1.00, 1.01]
Education: low education reference						
Medium education	0.95 [0.90, 1.01]	0.97 [0.91, 1.04]	0.87** [0.78, 0.96]	0.90*** [0.85, 0.95]	1.00 [0.94, 1.06]	0.94 [0.86, 1.02]
High education	0.72*** [0.67, 0.78]	0.83*** [0.77, 0.90]	0.77*** [0.69, 0.87]	0.79*** [0.75, 0.84]	0.97 [0.91, 1.04]	0.98 [0.90, 1.08]
Civil status: unmarried reference						
Married	1.21*** [1.13, 1.29]	1.23*** [1.15, 1.33]	1.17** [1.05, 1.31]	1.14*** [1.08, 1.20]	1.25*** [1.18, 1.32]	1.35*** [1.24, 1.47]
Divorced	1.19*** [1.10, 1.28]	1.16*** [1.07, 1.27]	1.04 [0.91, 1.18]	1.17*** [1.10, 1.24]	1.24*** [1.16, 1.33]	1.33*** [1.21, 1.47]
Diagnosis, depression reference						
Anxiety	0.36*** [0.33, 0.39]	0.40*** [0.36, 0.44]	0.42*** [0.36, 0.49]	0.38*** [0.35, 0.41]	0.43*** [0.39, 0.47]	0.54*** [0.47, 0.61]
Sleep	0.39*** [0.36, 0.43]	0.27*** [0.24, 0.31]	0.22*** [0.18, 0.27]	0.39*** [0.36, 0.43]	0.35*** [0.31, 0.39]	0.26*** [0.22, 0.31]
Stress-related	3.94*** [3.63, 4.28]	1.50*** [1.39, 1.62]	0.80*** [0.71, 0.90]	3.63*** [3.39, 3.89]	1.64*** [1.55, 1.74]	1.00 [0.92, 1.08]
Addiction	0.37*** [0.33, 0.43]	0.38*** [0.32, 0.45]	0.46** [0.37, 0.57]	0.27*** [0.21, 0.36]	0.26*** [0.18, 0.37]	0.29*** [0.18, 0.48]
Other mental	1.15*** [1.06, 1.24]	1.08 [0.99, 1.17]	0.91 [0.81, 1.02]	1.44*** [1.34, 1.54]	1.34*** [1.25, 1.43]	1.20*** [1.11, 1.31]
Year on GP list	1.01 [1.00, 1.02]	1.01 [0.99, 1.02]	0.82*** [0.74, 0.90]	1.02*** [1.01, 1.03]	1.02** [1.01, 1.03]	1.02* [1.00, 1.03]
GP characteristics						
GP specialist	0.90** [0.83, 0.97]	0.87*** [0.81, 0.93]	0.85* [0.73, 0.99]	0.92** [0.86, 0.98]	0.88*** [0.83, 0.93]	0.92* [0.85, 0.99]
GP male	1.00 [0.92, 1.07]	0.91* [0.85, 0.98]	0.87 [0.74, 1.02]	1.08** [1.02, 1.15]	0.96 [0.91, 1.01]	0.92* [0.86, 0.99]
GP age/10	0.96* [0.93, 1.00]	0.99 [0.95, 1.02]	0.96 [0.88, 1.04]	0.96* [0.93, 1.00]	0.99 [0.96, 1.03]	0.97 [0.93, 1.02]
List length	0.99 [0.99, 1.00]	0.99** [0.98, 1.00]	1.00 [0.98, 1.01]	0.99 [0.99, 1.00]	0.99*** [0.98, 0.99]	0.97*** [0.97, 0.98]
N	32 504	32 504	32 504	45 399	45 399	45 399

N = 77 903 employed patients aged 18–67.

Multiple logistic regression analysis: * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

percent of women diagnosed with depression and 11% with acute stress reaction remained on sick leave for more than 12 weeks, compared to 11% and 9% for men.

Length of absence episodes

Figure 2 shows the rate of return to work according to diagnoses (Kaplan–Meiers plots) for men and women. Mean length of absence was 120 days for depression (median 67 days) and 86 days (median 46) for acute stress reaction. However, the longest absences were for substance use and anxiety.

Predictors of sickness certification and sickness absence

Male gender significantly decreased the risk for sickness certification (OR 0.83), sickness absence over 16 days (OR 0.80) and absence over 12 weeks (OR 0.88), when adjusted for all other variables (data not shown in tables).

Table 3 shows the results of the logistic regression analyses separately for women and men.

Patient variables

Increasing age, higher education and being ‘unmarried’ decreased the risk for initial sickness certification. For absences over 16 days and over 12 weeks, higher education had no effect for women but

remained ‘protective’ for men. Age increased the risk for absence longer than 16 days and 12 weeks for both men (OR 1.16 and 1.31) and women (OR 1.03 and 1.11). For men, years on the same GP’s list significantly decreased the risk of long-term absence.

GP variables

If the GP was a specialist, the risks for sickness certification and sick leave over 16 days were reduced for both genders. A larger patient list was associated with fewer absences over 16 days and over 12 weeks for women. Having a male GP also increased the risk for initial sickness certification for women.

Difference between diagnoses

Table 3 shows an increased risk for sickness certification with acute stress reaction for both men and women (OR 3.94 and 3.63 with depression as reference). Also *other* had increased risk for sickness certification (OR 1.15 and 1.44), whereas *sleep problems* and *anxiety* had lower risk, for both men and women. The risk for absences over 16 days also increased with *acute stress reaction* for both genders. Risk for absence over 12 weeks was lower for *acute stress reaction* compared to *depression* (OR 0.80), only for men.

Table 4 shows the results of logistic regression separately for cases with depression and acute stress reactions. Among depressed

Table 4. Risk of sickness certification, sick leave over 16 days and over 12 weeks in a new episode of common mental disorder in Norwegian general practice, separately for depression and acute stress reaction Odds ratios with 95% confidence intervals in brackets

	Depression			Stress related		
	Sickness certificate	Sick leave> 16 days	Sick leave> 12 weeks	Sickness certificate	Sick leave> 16 days	Sick leave> 12 weeks
Patient characteristics						
Male	0.84*** [0.79, 0.88]	0.83*** [0.78, 0.88]	0.99 [0.91, 1.14]	0.90* [0.82, 0.98]	0.84*** [0.77, 0.90]	0.84*** [0.74, 0.95]
Age/10	0.87*** [0.85, 0.90]	0.99 [0.96, 1.02]	1.09*** [1.05, 1.14]	0.94** [0.90, 0.98]	1.17*** [1.13, 1.22]	1.29*** [1.22, 1.36]
Labour income	1.01*** [1.01, 1.01]	1.01*** [1.01, 1.01]	1.01*** [1.00, 1.01]	1.01*** [1.00, 1.01]	1.00* [1.00, 1.00]	1.00 [1.00, 1.00]
Education: low education reference						
Medium education	0.86*** [0.81, 0.92]	0.93* [0.87, 1.00]	0.93 [0.85, 1.03]	0.94 [0.85, 1.04]	1.02 [0.93, 1.12]	0.93 [0.81, 1.18]
High education	0.68*** [0.64, 0.73]	0.81*** [0.75, 0.87]	0.89* [0.80, 0.99]	0.81*** [0.73, 0.91]	1.07 [0.97, 1.19]	1.08 [0.92, 1.26]
Civil status: unmarried reference						
Married	1.16*** [1.09, 1.24]	1.26*** [1.17, 1.36]	1.23*** [1.11, 1.36]	1.09 [0.99, 1.20]	1.16** [1.06, 1.26]	1.27*** [1.10, 1.47]
Divorced	1.28*** [1.20, 1.38]	1.28*** [1.17, 1.39]	1.18** [1.05, 1.33]	0.93 [0.84, 1.04]	1.14* [1.02, 1.26]	1.30*** [1.10, 1.54]
Year on GP list	1.02** [1.01, 1.03]	1.02** [1.01, 1.04]	1.01 [0.99, 1.03]	1.01 [0.99, 1.03]	1.00 [0.99, 1.02]	1.00 [0.98, 1.03]
GP characteristics						
Specialist	0.94 [0.87, 1.01]	0.91* [0.84, 0.98]	0.93 [0.85, 1.02]	0.93 [0.82, 1.04]	0.88** [0.81, 0.96]	0.85* [0.75, 0.96]
Male	1.11** [1.03, 1.19]	1.02 [0.95, 1.10]	0.92 [0.84, 1.01]	1.12* [1.00, 1.26]	0.88** [0.81, 0.96]	0.87* [0.77, 0.98]
Age/10	1.09*** [1.05, 1.14]	1.05* [1.00, 1.09]	1.00 [0.95, 1.05]	0.80*** [0.75, 0.85]	0.97 [0.93, 1.02]	0.99 [0.92, 1.07]
List length	1.00 [0.99, 1.01]	0.99 [0.98, 1.00]	0.98** [0.97, 0.99]	0.99 [0.98, 1.01]	0.99* [0.98, 1.00]	0.98** [0.97, 1.00]
N	29 297	29 297	29 297	14 826	14 826	14 826

N = 77 903 employed patients 18–67 years. Exponentiated coefficients; 95% confidence intervals in brackets.

*P < 0.05, **P < 0.01, ***P < 0.001.

patients male gender, higher age, high education and being unmarried reduced the risk for sickness certification, whereas years on the GP's list, having a male or an older GP increased it. GP variables had no effect on sick leave. In acute stress male gender reduced the risk for sick leave, whereas age and being married increased it. Older GPs sickness certified less initially, whereas male GPs and specialists had less patients on prolonged sick leave over 16 days.

Discussion

Main findings

This is the first study of new episodes of CMD and related sickness certification in general practice. However, a previous UK study, also including follow-up consultations (21), and two recent UK studies following episodes of fit note certified absences for 12 weeks (1,18) are largely comparable.

During 1 year in Norway, 4.1% of employed women and 2.7% of employed men consulted a GP for a new or recurrent CMD and 35% were diagnosed with depression. Forty-six percent of the women and 43% of the men were sickness certified. Respectively, 27 versus 22% remained on sick leave over 16 days, and 10% and 9% over 12 weeks.

The main predictors for sickness certification were female gender, younger age, low education and a diagnosis of *acute stress reaction*. A diagnosis of acute stress reaction increased the risk for sick leave over 16 days, but decreased the risk for sick leave over 12 weeks for men. Except for other, depression had the highest risk for sick leave over 12 weeks. Having a specialist GP reduced the risk for sickness certification and prolonged sick leave, whereas belonging to a longer list reduced the risk of sick leave.

Comparison with previous studies

Generally, 10–20% of GP consultations have a mental health problem as the main issue. The diagnostic distribution of CMDs found in this study is similar to previous GP studies (21,22) and epidemiological surveys (7,8). A recent Belgian study found an annual incidence of new or recurrent depressive episodes presenting in general practice of 14.4/1000 for women and 7.2/1000 for men (23), close to the results of the present study (15.8/1000 and 9.7/1000, respectively).

In a study from 14 general practices in England assessing sickness certification rates among all patients consulting for CMDs, 55% of the women and 58% of the men were diagnosed with depression or anxiety, 33% and 27% with stress-related problems or bereavement, and 2% versus 10% with drug or alcohol problems (21). Among women 36% of consultations resulted in a sickness certificate versus 33% for men.

In another UK study, specifically looking at patients sickness certified by GPs (18) stress-related cases was the largest group, making up 39% of new episodes, compared to 28% for depression and 8% of mixed anxiety and depression. In keeping with our findings stress-related episodes were shorter, only 12% lasted over 12 weeks, compared to 21% for depression.

Differences between GPs

Much attention has been directed towards the role of GPs in sickness certification (24). The 'dual role' as advocate for the patient and gatekeeper for the social security system has been the focus of many—mostly qualitative—studies (25–28). However, two empirical studies from the UK (1,14) and two from Norway (29,30) found no significant variations in sickness certification between GPs, though low socioeconomic status of the practice population predicted more sickness certification, adjusted for individual variables (1,14,30).

The present study found that GPs with longer lists certified less. Longer lists might imply a busier GP, or simply indicate better health of the patients and less use of their GP. Specialist GPs certified less, after adjustment for the GP's age.

Gender differences

CMDs are more frequent among women than men (7,8). In countries with high female employment, women also take sick leave more often than men (13). In keeping with epidemiological findings, the current study showed that more employed women sought help for CMDs, whereas the rates of sickness certification were similar. After 12 weeks, the same proportion was off work. This might confirm that men with CMD have longer sick leaves and high risk for permanent disability pension (9,10).

Methodological considerations

The study was based on complete national data on GP consultations in a clearly defined employed population, which is its main strength. We used ICPC, a detailed and consistent diagnostic classification used by all Norwegian GPs and the National Insurance Services since 1992 (3).

However, the GPs' diagnoses are not formulated for research purposes, and only one diagnosis is entered into the registers. We used the initial diagnosis, and studies have shown that few diagnoses are changed during episodes and least when a mental diagnosis is given initially (2,31).

The most severe cases of CMDs have direct access to secondary care, including subsequent sickness certification, which can also be obtained from private specialists. Thus, CMD-related sickness absence is underestimated in this study.

The design excludes some 'frequent attenders', a group with high mental morbidity (32) known to contribute heavily to sickness certification (14).

Our explanatory variables were limited to patient- and GP characteristics. Contextual variables like location of practices and socio-economic status of practice populations have been used in some previous studies (1,30) and would have given a broader perspective. The study used data from 2007. The authors have applied for newer data, which can be used in future studies. However, official statistics show that the sickness absence situation in Norway have been stable since 2000.

Depression and acute stress are the main challenges

Depression often leads to reduced working ability. A UK study assessed why GPs sickness-certify patients with depression (33). Sickness certification was called a *powerful intervention* and a therapeutic measure to support patients and shield them from stress. Contrary to the current mantra that 'work is good for mental health', our study showed that more than 40% of employed patients seeking help for depression received a sickness certificate. Unfortunately, we had no information on graded sickness absences.

Acute stress reaction was the second largest group (19%) with the highest frequency of sickness certification initially, but only 10% stayed on sick leave over 12 weeks. According to the ICPC this diagnosis corresponds to ICD10 codes F43.0, F43.2, F43.8, F43.9, adjustment disorder, culture shock, feeling stressed, grief, immediate post-traumatic stress and shock (psychic). The patients may rightly consider the condition as self-limiting or dependent on the solution of specific problems, and only consult the GP when a sickness certificate is needed, or if they know that the GP may offer relevant advice.

Some cases are related to conflicts or other challenges at work or privately, like bereavement (21).

Conclusion

In many countries, GPs have the main role in the care of patients with CMDs (20,22) and in sickness certification (24,34). By means of complete national data, we gained new knowledge especially relating to *acute stress reactions*, a challenge that warrants further investigation, and more effective interventions. *Depression* and *acute stress reactions* interact with workplace factors. Better insight by GPs might lead to improved treatment and more timely return of those on sickness absence with CMDs (34). This should be included in post-graduate education.

Declaration

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Ethical approval: Studies based on anonymous register data do not require ethical approval. Deliverance and use of register data were approved by the Norwegian Data Inspectorate 24.1.2006 Ref 05/01674.

Conflict of interest: none.

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