

# Management of work-related common mental disorders in general practice: a cross-sectional study

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## Research article

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# Abstract

**Background:** General practitioners (GPs) often manage individuals with work-related common mental disorders (CMD: depressive disorders, anxiety and alcohol abuse). However, little is known about the management characteristics. The aim of this study is to analyze GPs' management and patterns of referral to other health professionals of patient with work-related CMD and associated factors. **Method:** We used data from a cross-sectional study of 2 027 working patients of 121 GPs in the Nord – Pas-de-Calais region in France (April – August 2014). Statistical analyses focused on patients with work-related CMD detected by the GP. Descriptive analyses were used to characterize GPs' management of the patients' symptoms. Associations between patient, work, GP and contextual characteristics and GPs' management were explored using modified Poisson regression models with robust variance. **Results:** Among the 533 patients with work-related CMD in the study, the GPs provided psychosocial support to 88.0%, 82.4% were prescribed psychotropic treatment and 50.7% were on sick leave. Referral rates to mental health specialists and occupational physicians were respectively 39.8% and 26.1%. Several factors including patients' characteristics (occupational and sociodemographic), GPs' characteristics and environmental data were associated with the different type of management used by the GP. **Conclusion:** Our study emphasizes the major and often lonesome role of the GP in the management of patients with work-related CMDs. Better knowledge of the way GPs manage those patients could help GPs in their practice, improve patients care and be a starting point to implement a more collaborative care approach.

## Background

What do we know about work-related mental health conditions?

Work-related diseases have been defined by the WHO in 1985 as “multifactorial diseases which may frequently be work-related but also occurring among the general population. They may be partially caused by adverse working conditions, aggravated, accelerated or exacerbated by work-place exposures or they can impair work ability”. The definition is vague as adverse work condition could be a consequence and not a cause of this work related-diseases. Among work-related diseases, musculoskeletal disorders represent the more frequent group and mental health disorders, composed of common mental disorders (CMD): depressive disorders, anxious disorders or substance use disorders represent the second group but they are the first cause of work-related sickness absence (1–3). work-related Common mental disorders have been described in occupational medicine literature (2–6) and although in primary care (7–10).

What health system is available to patients with work-related CMD and what do we know about how GPs provide care through this system?

We do not know what health system patients with work-related mental health disorders use. It could be anticipated that the general practitioner (GP) is central. As described before, the GP usually is the first contacted professional for patients, suffering from mental health problems. In many cases the GP is the

only contacted professional (7,11–15). It corresponds to WHO's Service Organization Pyramid for an Optimal Mix of Services for Mental Health. Every family should have a family doctor, with access to a spectrum of specialist services, both in community and hospital settings. The position of GPs varies considerably in different countries and different health care systems, as patients' expectations and GPs' task performance. In some countries as in the Netherlands, Spain and the UK, the GP is a gatekeeper; a patient cannot consult a medical specialist directly. It has been described that GPs in such system are more inclined to consider the treatment of patients with psycho-social problems primarily as a task for the GP. In others countries as in France, Belgium, Germany and Switzerland, patients may decide for themselves what kind of care to look for. In such cases visiting the GP is just one option, alongside consulting a psychotherapist, psychologist or psychiatrists, for a patient who feels emotionally distressed (7,11–15). In France, visiting a GP is however the most frequent option decided because of the place of GP and because primary care is more available and reimbursed. The prevalence of mental disorders in primary care settings has been researched extensively in a range of different countries. Over the years, the prevalence among adults has been documented to range between 10% and 60%; mainly depression (ranging from 5% to 20%), generalized anxiety disorder (4% to 15%), harmful alcohol use and dependence (5% to 15%), and somatization disorders (0.5% to 11%). In France, primary care is available and reimbursed by the French National Health Insurance. Patients receive drug therapy: antidepressants, anxiolytics or hypnotics (16–18). Another widespread treatment is the use of psychological treatment (19). GPs give advice, counselling and support to patients with CMD (20,21). In France, 2/3 GPs offer psychological support to patients who are depressed (22). The NICE guidelines recommend that patients with mental health disorders (depression and anxiety) be referred to other specialists (psychologist/psychotherapist) for psychological therapy (23), which is the case of approximately 20% of patients consulting a GP in different European countries (24,25). The most important obstacles to referral are the cost of psychotherapy because private psychologists are not reimbursed, delay to have appointment with psychiatrists, reluctance of patients to undergo psychotherapy and lack of cooperation with psychological medical centers (17–20). Patients usually consult their GP at first and could be referred afterwards to other specialist with a letter from the GP. They can also directly consult specialists without referral letter from the GP but the reimbursement rate from the French National Health Insurance is lower.

What don't we know about how GPs provided care through this system?

As already said, we do not have systematic data about management of work-related CMD in primary care. We could anticipate a particular challenge of sick leave and collaboration between general practice and occupational medicine. We do not know how often psychological support in these situation can be provided as it has been described that psychological support in work-related mental health disorders may facilitate return to work (26). In the particular case of work-related mental health disorders, the prevalence of relationships with occupational medicine services should be measured. Occupational medicine services mainly aims to reintegrate the patient in the company, measure their disability and prevent a worsened situation (27). General data reports low referral rates to occupational physician (OP) (28) and little knowledge and collaboration about occupational medicine services (29).

The aims of this study are thus:

1) to report the management of patients with work-related CMD in daily clinical practice. We want to estimate the prevalence of different managements available for CMD: psychotropic prescription, referral to psychologist/psychiatrist and sick leaves and referral to OP, and

2) to study whether patient, work, contextual or GPs characteristics are associated with those managements.

## Methods

### a) Design and study population

The Heracles cross-sectional study was conducted from April to August 2014 among working individuals consulting a GP in the Nord - Pas-de-Calais region (10). Participating GPs were asked to include working patients (at least 6 months of full-time employment during the preceding 12 months) aged from 18 to 65 years they saw during the study period, whatever the reason of appointment. GPs were selected in a way that was proportional to the distribution of GPs in each of 15 areas of the Nord and Pas-de-Calais departments that were studied. The study was proposed to approximately a quarter of GPs in the Nord - Pas-de-Calais region (n=1000).

At the start of the study, a schedule was provided to each GP indicating the number of patient to include per time slots. This allows having a representative panel of patients. GPs gave each patient an information form and asked them if they wanted to participate or not, if yes the patient signed an inform consent and was included in the study. More details about the recruitment process have been described in the first article of the Heracles study (10).

This study was conducted by the Sentinelles network, part of the INSERM-Paris Sorbonne University research unit UMR-S 1136 (30).

### b) Data source

After their regular appointment, GPs interviewed participating patients for the purposes of the study. Only patients who have been diagnosed by the GP with a work-related CMD in the last 12 months or at the time of the consultation (depressive disorder, anxiety disorder or alcohol abuse) and the GP estimates that the CMD is at least partly work-related were included in the analyses. Collected data were:

Management of these patients in the last 6 months or at the time of the consultation (field by the GP without the patient):

- Psychological support;
- Psychotropic prescription (antidepressants, anxiolytics and hypnotics);
- Referral to a psychologist/psychiatrist;

- Sick leaves prescription;
- Referral to OP.

#### Patient's characteristics

- Sociodemographic (age, gender, family status, family income, level of education);
- Psychiatric and somatic history
- Suicidal risk identified by the MINI (31);
- Occupational grade (32), classified in three groups: blue (farmer/manual worker), pink (technician/associate professional/clerk/service worker) and white collar workers (manager/professional) (33);
- Company size;
- Job instability assessed based on the type of contract (temporary vs. permanent)
- Reason for medical appointment (somatic, psychological, chronic disease management).

#### GP's characteristics

- Sociodemographic (age, gender);
- GP's opportunity to collaborate with mental health specialists.

#### Work characteristics

We used 20 questions evaluating psychosocial work characteristics, based on the international scientific literature and proposed by experts in the field (34). These questions explored 6 dimensions of psychosocial work characteristics: work intensity (5 items), emotional demand (6 items), autonomy (2 items), social work relations (3 items), conflict of values (2 items) and job insecurity (2 items).

We also retrieved data concerning contextual characteristics (26,27): social deprivation (loneliness, single parenthood, widowhood/divorce) and material deprivation (unemployment, income, level of not graduated).

#### c) Statistical analysis

First, we described the management of work-related CMDs.

Then we considered the association between different types of management and explanatory variables: patient, work, GP and contextual characteristics. The dependent variables were the different types of management: psychotropic prescription; sick leaves; referral with OP; referral with psychologist/psychiatrist. We used a modified Poisson regression with robust variance models (35): first, in bivariate models all variables were tested (n=29), then in multivariate models with a stepwise backward elimination procedure (all characteristics with  $p \geq 0.2$  in the bivariate analysis [n = 7 to 10 variables depending on the outcome] were included in the multivariate models). Analyses were at first

stratified by gender; we didn't observe differences because of limited statistical power, so we decided to adjust all model on gender and also on patient's age.

All analyses were performed using GNU R software version 3.1.1

#### d) Ethical approval

The study benefit from a standing authorization from the French independent administrative authority protecting privacy and personal data (CNIL), n°471 393 to conduct research among GPs and their patients.

## Results

#### a) Sample description

121 GPs completed the study and included 2,027 patients. Among them, 533 had a work-related CMD and were included in the analysis. Among them, GPs reported depression for 46.0% (n=239), anxiety for 75.2% (n=391) and alcohol issues for 8.8% (n=46). Patients were mostly female (57.8%) and almost half of them were aged between 36 to 50 years. All the patients', GPs' work and contextual characteristics are described in table 1.

#### b) Description of the GP's management (Table 2)

Among the 533 patients, 88.0% (n=469) received psychological support from the GP and 82.4% (n=439) a psychotropic medication. The most prescribed psychotropic medications were anxiolytics (62.1%), antidepressants (41.8%) and hypnotics (23.1%).

39.8% of patients have been referred to a psychologist or psychiatrist.

Sick leaves were prescribed for 50.7% (n=270) of the patients, with an average length of 5.36 weeks.

26.1% of patients have been referred to an occupational physician.

#### c) Associated factors with GP's management

##### **Psychotropic prescription**

There was a higher rate of prescription of psychotropic medication for patients with depressive disorders (RR=1.08 [1.01 – 1.16]) and patients who saw their physician for psychological purposes (RR=1.25 [1.14 – 1.36]). We observed a higher level of prescription of psychotropic medication for older participants (51 to 65 years) compared to those who were 18 to 35 years old (RR=1.14 [1.03 – 1.27]) (Table 6).

Psychotropic prescription was not associated with any psychosocial work factors.

##### **Referral to psychologist or psychiatrist**

There was a higher rate of referral to a psychologist or psychiatrist for patients with depressive disorders compared to patients with other CMD (RR=1.71 [1.34 – 2.18]), patients who consulted for psychological purposes (RR=1.32 [1.06 – 1.65]) and those with a suicidal risk (RR=1.49 [1.22 – 1.82]). Patients with somatic or psychiatric history were more likely to be addressed to a psychologist or psychiatrist with a RR of respectively 1.24 and 1.26. There was a higher rate of referral for patients for whom the GP had higher opportunity to work with mental health specialist (RR= 1.32 [1.05 – 1.66]). Patients living in area with high material deprivation were more likely to be addressed to psychologist or psychiatrist (RR=1.32 [1.08 – 1.62]) (Table 5). Referral to a psychologist or psychiatrist was not associated with any psychosocial work factors.

### **Sick leaves**

Patient with depressive disorders had a higher rate of sick leave (RR=1.18 [1.01 – 1.39]) compared to patients with other CMD as did patients who saw their physician for psychological reasons (RR=1.83 [1.49 – 2.24]). For patients working in a big company the relative risk (RR) of sick leave was higher compared to patient working in smaller companies. Psychosocial work factors such as high emotional demands and high social relationships at work were significantly associated with sick leave prescription; RR were respectively 1.33 and 0.65 (Table 3).

### **Referral to occupational physician**

The rate of referral to an OP was higher for patients with depressive disorders compared to patients with other CMD (RR=1.34 [1.00 – 1.79]). White collar workers had a lower rate of referral compared to blue collar workers (RR=0.51 [0.31 – 0.88]). High work intensity was significantly associated with OP referral (RR=1.41 [1.06 – 1.88]) (Table 4).

## **Discussion**

### **a) Summary**

Our study reports the management of patients with work-related CMD in primary care. GPs provided psychological support to nearly 90% of patients; they prescribed psychotropic medication to more than 80% of patients. They referred 39.8% of patients to psychologist or psychiatrist. Sick leaves were prescribed to more than a half of the patients, with an average length of 5.36 weeks. 26.1% of patients were referred to OP. Low referral rates to psychologists, psychiatrists and OPs indicate that GPs are often alone in the management of those patients. This could be a choice from GPs that have enough skills in this area and can therefore manage these patients alone but, for other GPs the lack of cooperation with other specialists could generate difficult situations in which the GP can sometimes be helpless to deal with those patients.

No work-related factors were associated with psychotropic medication and referral to psychologist or psychiatrist. Work-related factors were associated with sick leave prescription and referral to an OP.

Higher rates of sick leave were related with suicidal risk, bigger company, emotional demands and social relationships at work. Referral to an OP was more frequent for patients with depressive disorders and high work intensity, while it was lower for white collar workers.

b) Comparison with existing literature

### **GP's management of patients with work-related CMD**

Our results are consistent with previous studies on GP's management of patients with CMD, indicating that there is little special management in case of work-related CMD, compared to CMD without the context of work.

Rate of psychotropic prescription and their pharmacological class in case of work-related CMD are indeed consistent with previous studies in CMD in primary care. In France, more than 90% of the GPs prescribed psychotropic to patients with depressive disorders (36). According to another study, 80% of patients receiving antidepressants or anxiolytics had a depressive or anxiety disorder diagnosed by the GP (16).

Rates of psychological support observed in our study in case of work-related CMD are also consistent with the scientific literature in CMD. In France, as in other countries, 2/3 of GPs propose their patients a psychotherapy, which is often associated with the prescription of psychotropic medication (20–22,37). Psychological support is particularly important for work-related issues, as it helps in the returning to work procedure (26).

Referral rates to psychiatrist or psychologist in case of work-related CMD are also consistent with previous studies in CMD (25,28). Low rates of referral could be related to difficulties to access to those specialists, to non-reimbursement of consultation with psychologist, patients' refusal or lack of training of the GP (22,36). This could be also a choice from GPs according to their psychological task (15).

Two results should be highlighted in the specific context of work-related CMD.

Our study measures a low rate of referral to OP that could be explained by suspicion about the impartiality of the physician. OP are often employed by the company and could be perceived as subject to their employer. The role of OP seems also to be not well known by GPs (28,38).

Rate of sick leaves in case of work-related CMD is consistent with a Norwegian study where 45% of patients with CMD have a sick leave prescribed by the GP (39). The average length of sick leaves is compatible with data of the French national health insurance, that shows that there is a high rate of long term sick leaves for individuals with CMD (40).

### **Factors associated with GP's management of patients with work-related CMD**

Our study highlights several factors associated with management for patients with work-related CMD. In literature very few studies explored factors associated with GPs' management of CMD and almost none for work-related issues and referral to OP by GP.

The increased prescription of psychotropic with the increase of age for patient with depression (41) and in case of psychologic complaints and more severe mental disorders (42) have already been described. We didn't find any association with work characteristics.

Referral to mental health specialist have been associated with psychiatric history, depressive symptoms, suicidal risk (43,44) and with the opportunity to work with mental health specialists (45). We didn't find any association with work characteristics.

For sick leaves, our results indicate that GP follow trends that have been highlighted in the worker population. Depressive disorders have been ranged as the first cause of sickness certification for CMD (46). It is interesting to note that GP takes account dimensions of work for sick leaves: they are more frequent in case of low social support at work and high psychological demands (47,48). The size of the company is also associated, indicating that it's easier to be absent from work when there are colleagues who can replace you. This has been highlighted in a Japanese study (49).

Our study explores for the first time referral to OP by GPs. We show that they are associated with work-characteristics. Fewer referrals to OP for white collar have to be explored further. They may be related with mistrust of the relationship between OP and the company, especially for managers. GP contact more the OP in case of higher work intensity, which makes sense when trying to adapt the working conditions.

### c) Strengths and limitations

As described in previous articles on the Héraclès study, some limitation have to be acknowledged (10,50,51). First, there is possible selection bias for GPs. Participating GPs could be especially interested in CMD because of personal interest or patients' rate of CMD. Therefore, participating GPs could have a better experience of managing those patients and thus a different practice towards them. However, physicians who participated were representative of the Nord – Pas-de-Calais region GPs, thus limiting this bias. Second, our study was conducted in the Nord - Pas-de-Calais, a region with a low density of medical health specialist (52). This could influence the GPs' practice especially for referral to other health professionals. Moreover low income in this area could led to a more frequent management of CMD by the GP. Another possible limitation is the absence of standard procedure for GPs to diagnose CMD. However, in France such procedure doesn't exist in primary care. Finally the definition of the link between work and CMD could be a limiting factor even if we relied ourselves on the WHO definition and scientific literature (1,53–55). Indeed, there is no validated and consensual definition to measure work relatedness that could be judge too subjective because it often lay on the physician judgment.

Despite these limitations, the results of this study are valuable, because to our knowledge, this is the first study in Europe to analyse management of patients with work-related CMD by the GP. Moreover, contrary to studies in occupation setting our study was conducted among primary care patients which include a large panel of workers in the labour force including worker who have a poor relation with occupational practice (independent workers, workers in small companies or workers who don't have an OP, etc.). An international study shows that the average occupational health services coverage of workers was 24.8%

(55). Finally, study questionnaires were filled by the GP who is often the referring physician of the patient and is well informed of the patient medical history and thus will be the best to assess if the disorders are related to work.

## **Conclusions**

Our study is one of the first to study the management of work-related CMD by the GP. Our results emphasize the major role of GPs in the management of those patients (psychological support, psychotropic use and sick leaves), with weak referrals to other mental health specialist or OP. There is little special management in case of work-related CMD, compared to CMD without the context of work, except for sick leaves and referral to OP. Factors associated with the different types of management could help to better understand the way GPs manage those patients and could be a starting point to implement collaborative care, especially with OP.

## **List Of Abbreviations**

CMD : common mental disorders

GP : general practitioner

OP: occupational physician

RR: relative risk

## **Declarations**

### **Ethical approval and consent to participate**

The Sentinelles network has a standing authorization from the French independent administrative authority protecting privacy and personal data (CNIL), n°471 393 to conduct research among GPs and their patients. A written consent to participate was obtained from the participant.

### **Consent for publication**

Not applicable

### **Availability of data and materials**

The datasets generated and/or analysed during the current study are not publicly available but are available from the corresponding author on reasonable request.

### **Competing interests**

The authors declare that they have no competing interests

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## Authors' contributions

Study concept and design: MR, NY, MM, AL, TB, LP, PL, TP. Data analysis and collection: MR, YT. Drafting of the manuscript: MR. Critical revision of the manuscript: NY, MM, AL, LP. All authors have approved the final manuscript.

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## Tables

**Table 1:** Description of study population. Héraclès study. Nord - Pas-de-Calais, France. 2014

	N	%
<b>Patient characteristics</b>		
Gender		
Male	225	42.2
Female	308	57.8
Age group		
[18-35]	123	23.1
[36-50]	249	46.8
[51-65]	160	30.1
Socio-professional category		
Blue collar	55	10.8
White collar	141	27.6
Pink collar	314	61.6
Educational level		
< High school degree	225	42.2
≥ High school degree	308	57.8
Family status		
Lives alone	151	28.4
Lives with a partner or parents	381	71.6
Family income		
[0-3,000]	154	34.7
3,000 +	290	65.3
Number of worker in the company		
1 to 9	106	20.5
10 +	410	79.5
Psychiatric history ( <i>yes vs no</i> )	95	18.3
Somatic history ( <i>yes vs no</i> )	136	26.1
Purpose of consultation with GP ( <i>yes vs no</i> )		
Somatic	249	46.7
Psychological	296	55.5
Chronic disease management	81	15.2
Common mental disorder ( <i>yes vs no</i> )		
Depression	239	46.0
Anxiety	391	75.2
Alcohol	46	8.8
Suicidal risk (MINI questionnaire)	138	25.9
Past unemployment ( <i>yes vs no</i> )	157	29.5
Job instability ( <i>yes vs no</i> )	198	38.4
<b>GPs characteristics</b>		
GP's gender		
Male	332	62.3
Female	201	37.7
GP's age		
[18-49]	194	36.4
50 +	339	63.6
Opportunity to work with mental health specialists		
High	291	56.4
Low	225	43.6

**Table 1:** (continued)

<b>Contextual characteristics</b>		
Social deprivation		
High	159	29.8
Low	374	70.2
Material deprivation		
High	266	49.9
Low	267	50.1
<b>Work characteristics</b>		
Work intensity		
High	202	37.9
Low	331	62.1
Emotional demands		
High	222	41.7
Low	311	58.3
Autonomy		
High	100	18.8
Low	433	81.2
Conflict of values		
High	288	54.0
Low	245	46.0
Social relationships at work		
High	67	12.6
Low	466	87.4
Job Insecurity		
High	209	39.2
Low	324	60.8

**Table 2:** Description of GP management for patient with work related common mental disorders. Héraclès study. Nord - Pas-de-Calais, France. 2014

	N	%
Psychological support ( <i>yes vs no</i> )	469	88.0
Psychotropic prescription ( <i>yes vs no</i> )	439	82.4
Antidepressants	223	41.8
Anxiolytics	331	62.1
Hypnotics	123	23.1
Sick leave prescription related to mental disorders ( <i>yes vs no</i> )	270	50.7
Average length of sick leave ( <i>in weeks</i> )		5.36
Referral		
Occupational physician	139	26.1
Psychologist/psychiatrist	212	39.8
Psychiatric emergency	16	3.0

**Table 3:** Sick leaves related factors. Héraclès study. Nord - Pas-de-Calais, France. 2014. Poisson regression models (n=502)

	RR*	CI 95%	p
Depression detected by GP	1.18	[1.01 - 1.39]	0.05
Psychological purpose of consultation	1.83	[1.49 - 2.24]	<0.01
Number of workers in the company			
1 to 9	1.00	-	0.04
10 +	1.26	[1.01 - 1.58]	
Emotional demands ( <i>high vs low</i> )	1.33	[1.13 - 1.56]	<0.01
Social relationships at work ( <i>high vs low</i> )	0.65	[0.46 - 0.92]	0.01

\* adjusted on age and gender

**Table 4:** Referral to occupational physician related factors. Héraclès study. Nord - Pas-de-Calais, France. 2014. Poisson regression models (n=485)

	RR*	CI 95%	p
Socio-professional category			
Blue collar	1.00	-	0.03
White collar	0.51	[0.31 - 0.88]	
Pink collar	0.91	[0.58 - 1.42]	
Depression detected by GP	1.34	[1.00 - 1.79]	0.05
Work intensity ( <i>high vs low</i> )	1.41	[1.06 - 1.88]	0.02

\* adjusted on age and gender

**Table 5:** Referral to psychologist / psychiatrist related factors. Héraclès study. Nord - Pas-de-Calais, France. 2014. Poisson regression models (n=475)

	RR*	CI 95%	p
Depression detected by GP	1.71	[1.34 - 2.18]	<0.01
Suicidal risk	1.49	[1.22 - 1.82]	<0.01
Psychological purpose of consultation	1.32	[1.06 - 1.65]	0.01
Psychiatric history	1.26	[1.01 - 1.57]	0.04
Somatic history	1.24	[1.02 - 1.52]	0.03
Opportunity to work with mental health specialists	1.32	[1.05 - 1.66]	0.02
Material deprivation	1.32	[1.08 - 1.62]	<0.01

\* adjusted on age and gender

**Table 6:** Psychotropic prescription related factors, Héraclès study, France, 2014. Poisson regression models (n=518)

	RR*	CI 95%	p
Age group			
[18-35]	1.00	-	0.56
[36-50]	1.03	[0.93 - 1.14]	
[51-65]	1.14	[1.03 - 1.27]	
Psychological purpose of consultation	1.25	[1.14 - 1.36]	<0.01
Depression detected by GP	1.08	[1.01 - 1.16]	0.04

\* adjusted on gender