Working conditions and psychotropic drug use: Cross-sectional and prospective results from the French national SIP study

Marion Lassalle [a, b], Jean-François Chastang [a, b], Isabelle Niedhammer [a, b, *]

[a] INSERM, UMR_S 1136, Pierre Louis Institute of Epidemiology and Public Health, Department of Social Epidemiology, F-75013 Paris, France
[b] Sorbonne Universités, UPMC Univ Paris 06, UMR_S 1136, Pierre Louis Institute of Epidemiology and Public Health, Department of Social Epidemiology, F-75013 Paris, France

ARTICLE INFO

ABSTRACT

Prospective studies exploring the associations between a large range of occupational factors and psychotropic drug use among national samples of workers are seldom. This study investigates the cross-sectional and prospective associations between occupational factors, including a large set of psychosocial work factors, and psychotropic drug use in the national French working population. The study sample comprised 7542 workers for the cross-sectional analysis and 4213 workers followed up for a 4-year period for the prospective analysis. Psychotropic drug use was measured within the last 12 months and defined by the use of antidepressants, anxiolytics or hypnotics. Three groups of occupational factors were explored: classical and emergent psychosocial work factors, working time/hours and physical work exposures. Weighted Poisson regression analyses were performed to adjust for covariates. In the cross-sectional analysis, psychological demands, low social support and hiding emotions were associated with psychotropic drug use. Job insecurity for men and night work for women were associated with psychotropic drug use. In the prospective analysis, hiding emotions and physical exposure were predictive of psychotropic drug use. Dose-response associations were observed for the frequency/intensity of exposure and repeated exposure to occupational factors. This study underlines the role of psychosocial work factors, including emergent factors, in psychotropic drug use. Prevention policies oriented toward psychosocial work factors comprehensively may be useful to reduce this use.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

Psychotropic drugs are used to treat mental illness, such as anxiety, depression or sleep disorders. Within the last decades, the consumption has increased in Western countries. In Europe, the highest 12-month prevalence of psychotropic drug consumption was observed for France (19.2%). This prevalence was 15.5% in Spain and 13.7% in Italy (Alonso et al., 2004). In the US, the 1-month prevalence was 11.1% (Paulose-Ram et al., 2007). Psychotropic drugs may cause adverse reactions and their widespread use involves health consequences and costs. In particular, at the workplace, psychotropic drug use may reduce performance and cause accident (Palmer et al., 2014). Thus, reducing psychotropic drug

consumption has become a public health objective and improving knowledge on risk factors has become essential. Classical risk factors of psychotropic consumption include female gender (Alonso et al., 2004), older age (Alonso et al., 2004), low socioeconomic status (Hansen et al., 2004), living alone (Metsa-Simola and Martikainen, 2013) and stressful life events (Blanc and Marchand, 2010; Bourbonnais et al., 1996). In addition, it has been shown that working conditions play a role in psychotropic drug use.

The association between occupational factors and psychotropic drug use has been explored in several studies. Three groups of working conditions were considered: psychosocial work environment, working hours/time and physical environment. Psychosocial work conditions include classical factors, described by the job strain (Karasek et al., 1998) and effort-reward imbalance models (Siegrist, 1996). Karasek's model integrates three dimensions: psychological demands, decision latitude and social support. The combination of high psychological demands and low decision latitude generates job strain and iso-strain when associated with low social support. All these factors may cause deleterious health

* Corresponding author. INSERM UMRS 1136 — IPLESP, Team 7 (ERES), Faculté de Médecine Pierre et Marie Curie — pôle Saint-Antoine, 27 rue de Chaligny, F-75012 Paris, France.
 E-mail address: isabelle.niedhammer@inserm.fr (I. Niedhammer).

effects, in particular on mental health. Studies reported associations between Karasek's factors, especially psychological demands, low social support and/or job strain, and psychotropic drug use (Bonde et al., 2009; D'errico et al., 2011; Lavigne and Bourbonnais, 2010; Moisan et al., 1999; Pelfrene et al., 2002, 2004; Sinokki et al., 2009; Sinokki et al., 2010; Storr et al., 1999; Thielen et al., 2011; Virtanen et al., 2007). More recently, new psychosocial work factors were described as consequences of changes in labour market conditions. Some studies showed that workplace violence/bullying (Lallukka et al., 2012; Lavigne and Bourbonnais, 2010; Madsen et al., 2011; Niedhammer et al., 2011; Traweger et al., 2004; Vartia, 2001) increased the risk of psychotropic drug use. However, some psychosocial work factors have not yet been sufficiently studied, such as the factors related to emotional demands (Madsen et al., 2010, 2014; Magnusson Hanson et al., 2013), effort-reward imbalance model (Godin et al., 2005; Lavigne and Bourbonnais, 2010), job insecurity (Rugulies et al., 2010b) or work-life imbalance (Lallukka et al., 2013; Magnusson Hanson et al., 2014; Nylen et al., 2007). Other factors have been neglected in the literature like role stressors or tensions with the public. Factors related to working time/hours may also increase the risk of psychotropic drug use. Authors showed associations with shift and night work (D'errico et al., 2011; Niedhammer et al., 1995), but the role of other factors, such as unpredictable working hours or long working hours have little been explored in the literature and their role remains unclear (Blanc and Marchand, 2010; D'errico et al., 2011; Laaksonen et al., 2012; Marchand and Blanc, 2010; Verger et al., 2004). Few studies examined physical working conditions in association with psychotropic drugs. An association between chemical exposure and psychotropic drug use was found in a very specific sample of workers (Attia et al., 2006).

The objectives of this study were to examine the associations between occupational factors and psychotropic drug use in the French working population. Its innovative aspects included the study of a national sample of workers, a large set of psychosocial work factors and other occupational factors, cross-sectional and prospective data, and classical risk factors of psychotropic drug use as covariates.

2. Methods

2.1. Study sample

The study was based on the data of the national SIP survey (Santé et Itinéraire Professionnel), carried out by the French Ministries of Labour (DARES) and Health (DREES), the French Center for Employement Studies (CEE) and the French National Institute for Statistics and Economic Studies (INSEE). In 2006, households were randomly selected from the 1999 census, that was updated for new housings, and one individual aged between 20 and 74 years was randomly selected to be interviewed in each household. Finally, 13,648 men and women from the French general population were interviewed by a trained interviewer at respondent's home. The response rate was 76%. Four years later, in 2010, they were contacted again for the second wave of the survey, and 11,016 individuals participated (i.e. a follow-up rate of 81%). The present study was restricted to people who were working. Among the total sample of 13,648 people of the general population interviewed in 2006, 7542 subjects were working and included in the cross-sectional analysis. Among them, in 2010, 1288 were lost to follow-up, 1175 were psychotropic drug users in 2006, and 866 were not working any longer in 2010, leading to a sample size of 4213 for the prospective analysis. Four previous studies by our team have already been published on other topics using these data (Malard et al., 2015; Murcia et al., 2013, 2015; Niedhammer and

Chastang, 2014). The SIP survey was approved by the French Ethics Committees (CNIL and CNIS).

2.2. Psychotropic drug use

Psychotropic drug intake was recorded separately for anxiolytics, antidepressants and hypnotics. Three lists of brand and generic name products (Appendix 1), covering all the drugs present on the market at the time of the survey, including both prescription and nonprescription drugs, were presented to the participants. Subjects were asked whether they used such drugs within the last twelve months in 2006 and 2010. In the study, psychotropic drug consumption was defined by the use of antidepressants, regardless of frequency, or the use of anxiolytics or hypnotics at least once per week.

2.3. Occupational factors (Appendix 2)

Occupational factors were measured in 2006 and 2010. Psychosocial work conditions included classical factors: psychological demands, decision latitude and social support from colleagues. These three factors were used as proxies of the dimensions of Karasek's model. Reward was used as a proxy for the effort-reward imbalance model dimension. Emerging psychosocial working conditions were also studied: hiding emotions, role conflict, ethical conflict, tensions with the public, job insecurity and work-life imbalance. Four variables were used to measure working time/hours: long working hours, night work, shift work and unpredictable working hours. Physical working conditions included biomechanical exposure, physical exposure and chemical exposure.

All the items related to occupational factors were coded using 4 response categories (never/rarely/often/always). Variables or scores were dichotomised at the median of the distribution of the total sample. Four groups of exposure to occupational factors were also constructed to define repeated exposure: exposed in neither 2006 nor 2010, exposed in 2006 and non-exposed in 2010, non-exposed in 2006 and exposed in 2010, and exposed in both 2006 and 2010. Consequently, three measures of exposure were used: binary variable, frequency variable, and repeated exposure variable.

2.4. Covariates

The following classical risk factors of psychotropic drug use, measured in 2006, were considered: age, occupational groups (using the French classification of occupations), marital status, dependent child under 3 years old, social support outside work (4 items: having someone to rely on to discuss personal issues or take a difficult decision-besides partner-, having someone to help on daily tasks, like do-it-yourself or child care, or to borrow some objects, and for each of these two items, need more help than help received), life events before 18 years old (12 items: disability, long illness, serious health problems or death of close family member, etc.), and life events between 2002 and 2006 (4 items: separation, death or care of close family member, strong deterioration in living conditions).

2.5. Statistical methods

To be representative of the French working population of 2006, weights were calculated using marginal calibration and inverse probability weighting to control for the potential biases due to non-response in 2006 and attrition in 2010 (De Riccardis, 2012). A marginal calibration on age, work status (working/unemployed/non-working) × age, urban area, size of household, occupation and economic activity was performed on the sample in 2006.