

Full Length Research Paper

Prevalence and factors associated with psychoactive drugs use among employees in 2019 in two companies in Cotonou, Benin

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The use of psychoactive drugs remains a public health and social issue in Benin and impacts health, medical and social life at working place. The study aims to determine the prevalence and the factors associated with psychoactive drugs use in 2019 in two companies based in Cotonou, Benin. A cross-sectional survey was carried out from 09 to 31 December 2019. The study involved 455 workers aged 22 to 60 in two companies, selected by using a stratified survey technique. Data were collected using a questionnaire providing the socio-demographic and occupational factors, individual characteristics and labor conditions of workers. Associated factors were determined by a univariate and multivariate analysis. Alcohol was the substance most consumed with an abuse prevalence of 7.7% followed by tobacco with a prevalence of 5.5% and drugs at 4.6% and finally cannabis at 1.3%. After adjusting for the other variables: sick leave decreased with alcohol consumption, OR=0.31 [0.10-0.95]; regular leave increased with alcohol consumption OR=16.90 [1.96-145.75]; and overinvestment decreased with alcohol consumption OR=0.33 [0.14-0.78]. The use of PAD is a public health problem in the workplace. Awareness-raising for workers and training actions towards medical staff are required in the workplace in order to improve working conditions and the reduce drugs consumption.

Key words: Psychoactive drugs, workplace, alcohol, tobacco, drugs, Benin.

INTRODUCTION

The consumption of alcohol, tobacco or other illicit drugs is a public health, safety and social issue (Peacock et al.,

2018; Durand et al., 2008). The consumption of psychoactive drugs (PAD) can have various causes

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(personal, family, social or related to one's work situation). It can have negative impacts for the user's as well as his professional performance like health problems, absenteeism, labour conflicts, work accidents, performance decreasing, damage to equipment or products, and company image problems (Gillet et al., 2016; UNODC, 2018).

According to the estimation of the United Nations Office on Drugs and Crimes (UNODC) in the 2018 World Drug Report, 275 million people worldwide aged 15 to 64, used drugs in 2016 (UNODC, 2018). A total of 207,400 drug-related deaths, or 43.5% of deaths per million inhabitants were recorded in this same population (UNODC, 2016). PAD also contributes to morbidity and mortality through accidents and injuries, violence, homicide and suicide. The most widely used substances are tobacco, alcohol, heroin, cocaine and others. About 2.7% of the world's population and 3.9% of people aged 15 and over have used cannabis at least once.

According to the International Labor Office (ILO), people aged 15 and over constitute the productive part of the population. They are able-bodied and healthy hands who work every day (OIT, 1996). The global burden attributable to the use of PAD is significant, accounting for about 8.9% of productive life years lost due to disability and premature death.

In the workplace, data are particularly rare. In France, according to the National Institute of Prevention and Education for Health (INPES), a survey carried out in 2006 in businesses among Human Resources Directors (HRDs) and employees highlighted that drug addiction issues in their area become worrying by more than 65% of HRDs of companies with more than 50 employees, 71% of companies' managers with less than 50 employees and 50% of employees (Cartegnie and Lapointe, 2014). If the phenomenon seems known and distressing for governments and health professionals in general, it remains a taboo in the workplace (Bondéelle et al., 2007; Gayet, 2010). Work environment can therefore be a major risk factor.

According to various studies, drugs commonly used in the workplace were cannabis, cocaine, and ecstasy (Bondéelle et al., 2007; Durand et al., 2004; Gillet et al., 2013). The state of euphoria, the loss of contact with reality, the loss of motivation, decrease in vigilance, modification of perceptions and reduction of the field of vision, reduction of memory capacities and deteriorating relationships or working climates are examples of side effects of these types of drugs.

In Benin, epidemiological characteristics of drug addiction was described however, drugs consumption in workplace is poor documented (Gansou et al., 2014). In this research, we have tested the hypothesis that socio-demographic and occupational factors, work-related factors and individual characteristics were likely to increase the use of PAD use in two companies in

Cotonou, Benin. To confirm this hypothesis, the current study aimed to determine the prevalence of PAD use among company workers and the associated factors in Benin.

Study area

According to data from the National Social Security Fund (CNSS), 47,276 companies are recorded in Benin with a workforce of 400,318 workers on December 31, 2019. The Chamber of Commerce and Industry provided a list of the 20 largest companies based in Benin. Large enterprises are defined as those i) declared to the public treasury, to the Chamber of Commerce and Industry, and to the CNSS, ii) had more than one million XOF and, iii) had more than 25 employees according to the general tax code (Ministère des Finances, Bénin, 2019).

MATERIALS AND METHODS

Study design

A cross-sectional survey was carried out from 9th to 31st December 2019.

Study population

Workers from largest companies located in Cotonou were involved. Included employees were: i) workers in one of the two companies for at least one year; ii) workers present on the day of the survey, and iii) workers which consent and available to participate in the study.

Sampling

A simple random survey was done by using a list of the twenty largest companies based in Benin. The reasoned choice of three companies based at Cotonou was made. The research was finally done in two companies, because one of the third had not accepted our request despite our various reminders. The electricity and water company had 1821 employees. The port handling company has 4490 employees.

The number of employees in the first company represented 77% and the number of employees in the second company represented 23% of the total workforce. A stratified sampling taking into account the size of each company was done. The first worker of each company was chosen at random between 1 and the step. The others were determined at regular intervals corresponding to the step.

The minimum sample size was calculated by using the Schwartz formula: $n = (\epsilon^2 * p * q * k) / i^2$ considering: n is a minimum the sample size, ϵ is the standard normal deviate (1.96 for 95% confidence level) and $i = 0.05$ is the absolute precision. p is the prevalence rate of addictive substance use in Benin and was estimated from the results of the "STEPS SURVEY in 2015" in Benin and the 2016 World Drug Report: i) the "STEPS 2015" survey in Benin provided the following prevalence of addictive behavior: alcohol misuse

(26.5%), smoking (5.0%) (Houinato et al., 2016); ii) the use of illicit substances / psychotropic drugs in West Africa provided by the World Drug Report 2016 (UNODC, 2016): 3.49% (cannabis 12.4%, opioids 0.44%, opiates 0.43%, cocaine 0.7%). From these prevalence rates for each addictive substance identified, we estimated a prevalence p of consumption of PAD using the prevalence which gave the highest sample ($p=26.5\%$). By applying the cluster effect k is equal to 1.5. Finally, the minimum size of the respondents to recruit was 444 participants.

Study variable

The dependent variable "PSA consumption" was made up by combined the variables: i) alcohol consumption, tobacco consumption, and iii) other drugs consumption. The misuse of alcohol is defined as the excessive consumption of alcohol. The independent variables were: i) socio-demographic factors (age, sex, marital status, level of education, number of children), professional factors (length of service, type of contract, level of responsibility, salary level); factors linked to working conditions (sector of activity, working hours, night work, risky position, regularity of leave, occurrence of work accident, sick leave, feeling, overinvestment, type of fatigue felt and behavior facing stress) and individual factors (financial, professional, family and emotional difficulties).

Data collection techniques and tools

An individual questionnaire survey was administered at the workplace. Before proceeding with the data collection, we carried out a pretest by administering the questionnaire to five workers. This allowed us to assess the relevance of the questions, their precision, and their understanding by the respondents. On the basis of the results, we have made the amendments to the data collection tools and thus improved their quality.

Recruitment, training of investigators, and data collection

Five graduate nursing were recruited as enumerators. They have been trained in data collection. Supervision was provided by a senior specialist in occupational health. The data collection in the field lasted twenty-two days.

Data processing and analysis

The analysis was performed using IBM SPSS Statistics version 22 software. The mean and standard deviation of age, and sex and proportions of qualitative variables were calculated. The Siegrist questionnaire (Houinato et al., 2016; Krippner and Kittel, 2011) made it possible to calculate the ratio between the extrinsic efforts linked to work (constraints, etc.) and the rewards felt (corresponding to the fact of not being confronted with situations). The related scores were calculated. The ratio between Effort and Reward was also calculated by using the current formula: $\text{Ratio} = \frac{11}{6} * (\text{Effort Score}) / (66 - \text{Reward Score})$. A ratio > 1 defines employees exposed to an imbalance between effort and reward. The misuse of alcohol was determined on the basis of the World Health Organization (WHO) Audit tool (Babor et al., 2001): a standard glass measure is equal to 10 g of alcohol. The allowed doses of alcohol per day for women are 20 g (two standard drinks) and 30 g for men (three standard drinks). The Fagerström test was used to determine the tobacco dependence score (Heatherton et al., 1991). The number

of packs / year of cigarettes consumed was calculated. The link between the use of PAD and the various assumed risk factors was highlighted by using the univariate analysis. All independent variables with a degree of significance less than or equal to 20% on univariate analysis were introduced into a multivariate model. Step-by-step, modeling was performed to determine statistically significant variables associated with tobacco, alcohol, and another drugs use. The strength of the association between dependent variables and independent variables was measured using the odds ratio (OR). The association is considered significant if the p -value < 0.05 .

Ethical considerations

The research authorization was obtained at the Faculty of Health Sciences in the University of Abomey-Calavi. During data collection free consent of the participants was obtained. Confidentiality of the information collected was also guaranteed.

RESULTS

A total of 455 workers in two companies based in Cotonou operating in the material handling and electricity fields participated in the survey. The overall response rate was 93.04%.

Descriptive characteristics of the study population

Socio-demographic characteristics

Of the workforces, 91.2% was men and a sex ratio M/F equal to 10.4. The mean age was 42.38 ± 7.53 years with a minimum of 22 years, and a maximum of 60 years. 87.7% of the respondents were married. 72.3% had between two and five children and 8.4% had more than six. Primary and secondary education levels were the most represented with 31.6 and 40.9% of the respondents respectively (Table 1).

Professional profile

The average tenure in the company was 12.70 ± 7.55 years. The minimum length of service was one and the maximum was 38 years. Of the respondents, 85.7% were operative's agents while only 9.0% were managers. Of 451 respondents, the monthly income of the majority of workers (67.2%) was between 40,001 to 100,000 XOF while only 12.8% had a salary level over 200,000 (Table 1).

Working conditions

78.9% of the respondents were material handling agents while 21.1% worked in the electricity sector. 75.2% of

Table 1. Socio-demographic characteristics of the subjects surveyed in the workplace in two companies in Cotonou, 2019 Benin (n = 455).

Variable	n	Percentage
Sex		
Male	415	91.2
Female	40	8.8
Age (years)		
20-34	76	16.7
35-44	187	41.1
≥45	192	42.2
Matrimonial status		
Married	399	87.7
Single	52	11.4
Widower	1	0.2
Divorcee	3	0.7
Level of education		
Not educated	27	5.9
Primary school	144	31.6
Secondary	186	40.9
Higher	98	21.6
Number of dependent children		
0-1	88	19.3
2-5	329	72.3
≥ 6	38	8.4
Seniority (years)		
0-10	180	39.6
11-20	207	45.5
≥21	68	14.9
Type of contract		
Fixed-term contract	34	7.5
Permanent contract	128	28.1
Temporary and others	293	64.4
Responsibility level		
Executing agents	390	85.7
Supervisors	24	5.3
Executives	41	9.0
Salary level*		
<40,000	0	0.0
40,001–100,000	303	67.2
100,001–200,000	90	20.0
>200,000	58	12.8

*For the "salary level" variable, only 451 participants had responded.

Table 2. Distribution of subjects surveyed according to sector of activity, working hours, night work, risky work and the frequency of holidays in two companies in Cotonou in 2019, Benin (n = 455).

Variable	n	Percentage
Sector of activity		
Electricity	96	21.1
Material handling	359	78.9
Working hours		
8 hours	376	82.6
More than 8 h	79	17.4
Night work		
Yes	342	75.2
No	113	24.8
Risky work		
Yes	343	75.4
No	79	17.4
Do not know	33	7.2
Holiday frequency		
Rarely	37	8.1
Often	373	82.0
Never	45	9.9

workers declared that their jobs were at risk (Table 2). 21.8% of respondents declared having been victims of a work accident in their career. About 5.3% of the workers declared having had at least one sick leave during their employment, of which 2.0, 1.5, 0.2 and 1.5% respectively one, two, three and four sick leaves.

Effort/reward ratio, over-investment in work and type of fatigue experienced by the employee

Of the respondents, 83.7% had a rather favourable situation (score less than 1). A balance between effort and rewards was observed for almost 7.9% of workers. Finally, 8.4% of people had an unfavourable effort/reward ratio. 43.1% of the subjects reported overinvestment in their work. About 53.2% of those responding to the survey thought that their work was nervously tiring and 82.6% found it physically tiring.

Employees' stress behaviour and individual difficulties in their lives

Those questioned about the behaviour used to manage stress (work-related or not) said that 25.3% often eat less

than usual and 13.6% often avoid company. In addition, they express other types of behaviour such as the consumption of PSA: often alcohol (4.8%) and drugs (2.6%). Only 10.5% of the respondent said that they had no difficulty. Among people who have difficulties (n=407), financial difficulties were the most frequent (89.4%).

Consumption of psychoactive drugs

Approximately 38% of the respondents reported having taken at least one PAD in the past month.

Alcohol misuse

32.5% of the respondents consumed alcohol at least once in the preceding month, of which 7.7% had excessive consumption and 24.8% had moderate consumption. Among alcohol consumer (n=148), 13.5% consumed it every day. Of employees, 39.2% who consumed alcohol took it several times in a month. 9.4% of them drank it at lunchtime during the break, 37.2% after work, and 25.7% during the holidays. 25.0% drank alcohol to forget problems and 93.2% drank it for pleasure. The number of alcohol glasses consumed per

Table 3. Distribution of alcohol consumers according frequency of consumption.

Variable	n	Percentage
Frequency of consumption		
Every day	20	13.5
Several times a week	21	14.2
Several times a month	58	39.2
Once a month	49	33.1
Occasion of consumption*		
Lunch	26	17.6
Leaving work	55	37.2
At parties	38	25.7
Work time	1	0.7
Evening meal	100	67.6
Negative effects of consumption*		
Family life	3	2.0
Life as a couple	4	2.7
Your work	0	0.0
No negative effects	141	95.3
Desired effects*		
Pleasure	138	93.2
Forget about problems	37	25.0
Stimulate	3	2.0
Posing the problem of alcohol consumption to someone		
Yes	49	33.1
No	99	66.9
Person to whom the problems of alcoholism are posed		
Attending physician	29	19.6
Occupational physician	18	12.2
Colleague	20	13.5
Employer	2	1.4
Family member	32	21.6
Other relative	1	0.7

Occasion of consumption, negative effect of consumption and person to whom the problem was addressed. n=148. *The total was higher than 100% because several responses were possible for the same variables.

Source: Cotonou. 2019

day ranged from half a glass to 12.5 glasses, with an average of 4.6 ± 2.7 standard glasses per day (Table 3).

Tobacco consumption

Among the 455 respondents, 5.5% declared having smoked tobacco in the past month. Among the 25 people who smoked: 15/25 persons smoked every day, 21/25

smoked to forget their problems, 6/25 smoked to stimulate themselves at work, 7/25 consumed more than 20 packs/year.

Medication consumption

Almost 5% (21/455) of the respondents had taken medication (to sleep, to relax the nerves, to stimulate

Table 4. Factors associated with the misuse of alcohol in the workplace in two companies located in Cotonou. univariate analysis. 2019.

Variable	Misuse of alcohol			p-value
	Yes n (%)	No n (%)	OR [IC95%]	
Salary level (XOF)				0.012
0–100,000	18 (5.9)	285 (94.1)	1	
100,001–200,000	7 (7.8)	83 (92.2)	0.96 [0.40-2.26]	0.920
>200,000	10 (17.2)	48 (82.8)	3.10 [1.4-6.85]	0.003
Sector of activity				
Electricity	15 (15.6)	81 (84.4)	3.13 [1.54-6.40]	<0.001
Material handling	20 (5.6)	339 (94.4)	1	
Sick leave				<0.001
Yes	6 (25.0)	18 (75.0)	4.62 [1.70-12.53]	
No	29 (6.7)	402 (93.3)	1	
Regular leave				< 0.001
Often	25 (6.7)	348 (93.3)	1	
Rarely	9 (24.3)	28 (75.7)	4.85 [2.07-11.33]	<0.001
Never	1 (2.2)	44 (97.8)	0.25 [0.03-1.88]	0.147
Over-investment				0.004
Yes	7 (3.6)	189 (96.4)	0.31 [0.13-0.72]	
No	28 (10.8)	231 (89.2)	1	

*For the "salary level" variable, only 451 participants had responded.

labor, etc.) during the month before the survey. Among them, 9.5% consumed the medications every day. 47.6% of employees who consumed drugs took them several times a month and 38.1% consumed the drugs in the workplace. 76.2% consumed it to forget the problems and 33.3% consumed it to stimulate labor. 57.1% were willing to confide in someone if the medication use caused at work.

Use of cannabis, cocaine and other drugs

Only 1.3% of respondents reported having consumed cannabis during the past month. None reported having used cocaine or other drugs.

Factors associated with the consumption of psychoactive drugs by workers

Alcohol misuse

At the univariate analysis involving 455 participants, the socio-demographic factors of respondents: age, sex,

school level, marital status, number of children were not significantly associated to the alcohol misuse.

The occupational characteristics (type of contract, seniority, and level of responsibility were not significantly associated with the alcohol misuse except monthly incomes. Employees with the salary over 200,000 XOF were 3.10 times more likely to have excessive alcohol use compared to employees who earn less than 100,000 (p=0.012) (Table 4).

The feeling, the nervously tiring work, and the physically tiring work were not significantly associated with alcohol misuse. Electricity workers were 3.13 times more likely to drink excessively than material handlers (p<0.001). Those who worked more than eight hours a day were 2.04 times more likely to drink alcohol than those who worked less than eight hours a day. Workers who had sick leave were 4.62 times more likely to drink excessively than those who did not (p<0.001). Those who rarely took time off had drunk 4.85 times than other subjects in the same group (p<0.001). Workers who did not have an overinvestment at work had 3.23 times excessive alcohol use compared to employees who had an overinvestment (p=0.004), (Table 4).

Table 5. Socio-demographic factors of the surveyed associated with medication consumption in the workplace in two companies in Cotonou. univariate analysis. 2019 (n = 455).

Variable	Medication consumption			p-value
	Yes n (%)	No n (%)	OR [CI95%]	
Sex				0.013
Male	16 (3.9)	399 (96.1)	1	
Female	5 (12.5)	35 (87.5)	3.56 [1.23-10.30]	
Education level				0.019
Not educated	0 (0.0)	27 (100)	-	
Primary	6 (4.2)	138 (95.8)	1	
Secondary	5 (2.7)	181 (97.3)	0.44 [0.15-1.21]	0.103
Higher	10 (10.2)	88 (89.8)	3.57 [1.47-8.68]	0.003
Responsibility level				0.003
Executing agents	13 (3.3)	377 (96.7)	1	
Supervisors	4 (16.7)	20 (83.3)	4.87 [1.50-15.82]	0.003
Senior manager	4 (9.8)	37 (90.2)	2.52 [0.81-7.89]	0.100

Tobacco consumption

At univariate analysis involving 455 participants, there was no significantly association between tobacco consumption and socio-demographic variables. There was no significantly association between tobacco use and seniority, level of responsibility, and monthly income. Only the workers with an interim contract consumed 4.30 times more than the other workers OR = 4.30 [1.27-14.60], (p=0.035). There was no significantly link between working conditions and tobacco use. There was no significantly association between tobacco use and individual characteristics of the respondents (absence of difficulties, family difficulties, emotional difficulties, financial difficulties and professional difficulties).

Medication consumption

At univariate analysis involving 455 participants, there was no significantly association between drug use and age, marital status, and number of children. Only female employees and highest education employees were respectively 3.56 and 3.57 times more likely to consume drugs compared to other employees (Table 5). There was no significantly association between drug use, type of contract, seniority, and level of responsibility, and monthly income. Only level of responsibility was statistically linked to drug consumption. In fact, the supervisors consumed 4.87 times more than workers performing tasks (p=0.003), (Table 5). There was no significantly link between drug use and working conditions (sector of activity, working hours, night work,

risky position, occurrence of work accident, sick leave, regular leave, felt, overinvestment, nervously tiring work, physically tiring work). There was no statistically significant association between drug consumption and the individual characteristics of the subjects surveyed (no difficulties, family difficulties, emotional difficulties, financial difficulties, professional difficulties).

Multivariate analysis was performed only for factors associated with alcohol misuse, as no variables were significantly associated with tobacco and drugs. After adjusting for the other variables, three variables were significantly associated with alcohol misuse: sick leave decreased with alcohol consumption, OR=0.31 [0.10-0.95]; regular leave increased with alcohol consumption OR=16.90 [1.96-145.75]; and overinvestment decreased with alcohol consumption OR=0.33 [0.14-0.78].

DISCUSSION

The study aimed to define the prevalence and factors associated with the use of psychoactive drugs in two companies in Cotonou, southern Benin. 7.7% of the respondents heavy drank alcohol, and 4.6% consumed tobacco of which 28% smoked more than 20 packets / year. 5.5 and 1.3% consumed medication and cannabis respectively. Multivariate analysis showed a significant association between alcohol misuse with "sick leave", "regular leave" and "overinvestment"(Table 6).

Psychoactive drugs consumption

The prevalence of alcohol consumption (32.5%) and

Table 6. Factors associated with alcohol misuse. multivariate analysis.

Variable	Alcohol misuse	
	OR [CI95%]	p-value
Sick leave		0.041
Yes	OR=0.31 [0.10-0.95]	
No	1	
Regular leave		0.010
Often	1	
Rarely	16.90 [1.96-145.75]	
Never	0.25 [0.03-1.88]	
Over-investment		0.012
Yes	0.33 [0.14-0.78]	
No	1	

heavy drinking (7.7%) are similar to those of the 2015 STEPS survey in Benin (26.5 and 7.6%) in population survey (Houinato et al., 2016). A contrarily, in the Ouidah-Kpomasse-Tori Bossito (OKT) health district in southern Benin in 2015, the prevalence of alcohol consumption and heavy drinking was 74.66 and 30.08% respectively (Kpozehouen et al., 2015). The difference can be explained by the targeted respondents 22 to 60 years old in the current study, while Kpozehouen et al. (2015), included teenagers aged 10 to 19 years old and was carried out in the rural area.

The prevalence of tobacco consumption was similar with those of the 2015 STEPS survey in Benin (4.9%) (Houinato et al., 2016) even though STEPS survey was carried out in the general population. No woman said they smoked during the interviewed. This may be linked to smoking underreporting and can be explained by socio-cultural considerations and social stereotypes existing in African societies concerning drug consumption by women. In Africa, women who takes alcohol in public places or smokes is often considered to be of trivial moral values and therefore less respected. Female smoking and alcoholism are culturally very poorly tolerated and accepted by African societies (Dassa et al., 2009). Of 4.6% of respondents had taken medication in order to sleep, relax the nerves and stimulate work for example during the preceding month the survey. This result is lower than (16.5%) found in France in 2014 (Eloy et al., 2014), could be indicative of stressful situations that employees would experience in their work environment.

Cannabis use is very low compared to other countries in the world and no subject was reported using other prohibited substances like cocaine. In 2014, in the world, cannabis consumption was 3.8% of which 14% was consumed in Africa and 5% in Europe. Cocaine use

varied between 0.3 and 0.4% of the population aged 15 to 64 (UNODC, 2016). Several reasons could explain these differences. The raising of prohibited drug penalty underway in Benin seemed to rise the respondents' suspicion. In addition, workers may fear losing their jobs if they admitted to drinking at workplace.

Factors associated with the consumption of psychoactive drugs

Several sectors of activity are affected by the consumption of PAD. In France a similar trend was observed (Orset et al., 2007), but some sectors were more affected than others. In the current research, the electricity sector was more significantly associated with alcohol misuse than that of material handling (OR=3.13, 95% CI [1.54-6.40]). The permanent contract and the low monthly income increase excessive alcohol use. This observation was against a protective effect of work, compared to the job searching situation described by Hache in France (Hache, 2015), which would be a risk factor for the consumption of PAD. It should therefore be noted that beyond the sectors of activity, differences in consumption exist according to socio-professional categories (Touvier et al., 2013).

The scientific literature has identified the imbalance between effort and reward according to Siegrist as a risk factor for alcohol dependence as well as for mental disorders that may require drug treatment (Siegrist et al., 2004; Niedhammer et al., 2000).

Our study showed that the following variables which are potentially stress inducers were associated with alcohol misuse: long working hours, scarcity of leave and professional difficulties. These results joined those

published in France in 2015 (Hache, 2015). But with the exception of overinvestment (OR = 0.31 95% CI [0.13-0.72]) which was associated with a reduction in alcohol, the risks were different from those of Krippeler who oriented his research on safety posts, in particular the relationship with the workstation and stress at work (Krippeler and Kittel, 2011).

Alcohol consumption can increase work absence through the acute effects of excessive drinking (Babor et al., 2010; Lund et al., 2019). A review study showed that there was an association between alcohol consumption and absence from work, with a stronger effect for short-term than for long-term absence (Schou and Moan, 2016). But these studies highlighting the association between alcohol consumption and sickness absence have focused on self-reported absences specifically attributed to alcohol consumption (Buvik et al., 2018; Edvardsen et al., 2015). Our work focused on self-reported too and showed that heavy alcohol consumption led to a decrease in work absence. It seems that the heavy drinkers self-reported a minimum of work absence.

The vast majority of associations observed in the literature (Thørrisen et al., 2019) indicate a positive relationship between alcohol consumption and impaired work performance. According to them, higher levels of alcohol consumption could be associated with higher levels of performance impairment and then the decrease of overinvestment.

Regarding tobacco, even if the proportion of smokers in Benin was significantly lower than French smoker's, our results showed that some suffering related to working conditions was significantly associated with tobacco consumption and it is similar to Krippeler findings in France about drug addiction in the workplace (Krippeler and Kittel, 2011). The increase of tobacco consumption was associated with the temporary contract (OR=4.30 [1.27-14.60]). Employees who work in difficult conditions are sometimes called upon to take medication either to sleep, to forget worries or to stimulate work. This correlated with found that workplace drug use for the above reasons was associated with female gender, university education, and supervisors. These results are similar to those found in 1998 in France (Laure and Allouche, 2015).

Limitations of the study

The main limitation of this work was it is not possible to determine the real prevalence of PAD consumption because biological diagnosis was not done. Another limitation is linked to the very sensitive nature of the issues relating to the use of PAD in the workplace and self-reported of work absence. Despite the anonymous nature of the questionnaire, there could be information bias related to the accuracy of the respondents'

statements.

Conclusion

The burden consumption of PAD is determined in two companies located in Cotonou in Benin and the associated factors highlighted. Overinvestment decreased with alcohol misuse. It was surprising that sick leave also decreased with alcohol misuse. Given the consequences of the use of PAD on health and safety in the workplace, it is necessary to implement a prevention approach that involves raising awareness and training towards the employers, workers and health workers. Actions aimed at improving working conditions should also be considered. Subsequent prospective studies could make it possible to assess the costs and harms of the use of PAD in the companies in Benin.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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