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Short Communication

Prevalence of drug use in French seamen

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ABSTRACT

The main objective of the present study is to determine the prevalence of lifetime use and use in the past 30 days of narcotics in French seamen and to assess factors correlated with positive urine test in seamen as a whole. A stratified survey conducted in 19 French ports collected 1,928 self-administered questionnaires on cigarette, alcohol and narcotics consumption. Seafarers were randomly selected and interviewed during their annual seafaring aptitude consultation. Only the 1847 male respondents were included in analysis. Nearly half of the seamen had tried cannabis at some point in their life, and 16% were users in the past 30 days. Lifetime use of certain other illegal drugs (cocaine, heroin, hallucinogenic mushrooms, poppers and ecstasy) was non-negligible, but cocaine and heroin were the only ones showing exceptional prevalence of consumption over the previous 30 days. Lifetime use of drugs was non-negligible among seamen. Prevalence of recent cannabis use was elevated. Recent consumption as indicated by positive urine test correlated with age group, family situation, occupational category, geographical area, young age of first alcohol consumption and experimentation with other drugs.

1. Introduction

Cannabis is the most widely used illegal drug in France (Costes, Beck, Legleye, & Palle, 2005). Lifetime prevalence of drug use among 18–44 year-olds doubled between 1992 and 2005, although prevalence of recent (last 30 days) use has been constant since 2000 (Beck et al., 2006). Cannabis is mainly used by young people, in particular in France (Beck, Legleye, & Spilka, 2007); regular use is very rare in over-45 year-olds (Beck, Legleye, & Spilka, 2008).

Lifetime use and use in the past 30 days of hard drugs are also on the rise in France, as seen from surveys of partygoers and of sub-populations with greater psychotrope use than the equivalent age-group as a whole (Cadet-Taïrou, Gandilhon, Toufik, & Evrard, 2008). Also, mean age at first drug use is falling (Legleye, Spilka, Le Nézet, & Laffiteau, 2009).

Drug use for some users concerns a quest for enhanced physical or intellectual performance. Consumption is also associated with relaxation after work (Gay, Houdoyer, & Rouzaud, 2008). The harmful effects of the use of cannabis have been described in the literature (Hall & Solowij, 1998): impact on mental and physical health and associated risk of accidents; 15% to 20% of fatal accidents involve alcohol, psychotropes or narcotics (Nisse & Deveaux, 2002). Narcotics-related risk is also recognized in the working environment (Anger, 2002); screening for illegal substances at work is most common in the USA and remains a hotly debated subject in France (Crespin, 2004).

With the use of cannabis (and other drugs) becoming increasingly commonplace and given the possible repercussions in terms of health and safety, it is essential to assess the prevalence of consumption in certain occupational areas. In France, in 2007, the maritime health service set up an epidemiological survey to assess the prevalence of the main legal and illegal psychoactive substances in the civilian seafaring population. The main objective was to assess lifetime prevalence of drug use and prevalence of drug use in the past 30 days in French seamen. Determining factors for cannabis use in the past 30 days as shown by positive urine test (exploration for cannabis metabolites) were analyzed as a secondary objective. Finally, predictive factors for lifetime drugs use (except cannabis) were analyzed.

2. Methods

2.1. Population

A stratified survey was set up in 2007 over 19 French ports with Maritime Health Service centers. Seafarers were randomly selected by the occupational physicians and nurses of the Maritime Health Service, during their annual seafaring aptitude consultation, when the questionnaires were self-administered. Methodology of the study has been detailed previously (Fort, Massardier-Pilonchéry, & Bergeret, 2009). Finally, 1928 of the 2022 seafarers filled out the

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questionnaire (response rate = 95.4%); only the 1847 male respondents' (nearly the entire sample: 96%) were analyzed.

2.2. Questionnaire

The first part of the questionnaire focused on demographic and occupational aspects. The geographical area variable grouped ports together in 5 large sections of the French coast: Normandy and North Sea, Brittany, Pays de la Loire, Poitou-Charentes and Aquitaine, and Mediterranean. The second part assessed lifetime cannabis use, use in the last year and use in the last 30 days. Ten other illegal narcotic consumptions were evaluated. Current smoking status and alcohol consumption (weekly frequency and degree of drinking by measuring consumption in glasses on a quantity/frequency questionnaire) were also assessed.

2.3. Statistical analysis

Lifetime prevalence of drug use and prevalence of use in the past 30 days were assessed by the surveyfreq procedure and means of quantitative variables by the surveymeans procedure of the SAS software package. These two procedures produce estimators without bias and 95% confidence intervals (95% CI) taking the survey design into account (Cassell, 2006).

Concordance between declared 30-day consumption of cannabis and the urine test results was assessed on the kappa test.

Determining factors for cannabis use in the past 30 days (according to the urine test) were analyzed by multiple logistic regression (survey-logistic procedure) with descending stepwise selection of explanatory variables (introduction of variables as of a 20% threshold on univariate analysis).Finally, a multiple logistic regression was performed to analyze factors correlating with lifetime drug use (except cannabis). SAS version 9.2 software was used for all analyses.

3. Results

3.1. General description

Mean age was 38.5 years (95% CI, 38–39). More than half (57%) of the respondents were married, 34% were single and 9% were divorced/separated or widowed. Two-thirds had children.

57% worked in the merchant marine, 37% in fisheries and 6% in both. Skippers, crewmen and officers were equally represented (respectively, 26%, 28% and 27%), with sailors being less numerous. Mean seniority was 16.7 years (95% CI, 16.2–17.3).

44% of respondents were current smokers, 20% were ex-smokers, 27% had never smoked and in 9% smoking status could not be determined; 11% consumed alcohol every day, 41% often, 38% sometimes and 9% never.

3.2. Cannabis consumption

About 45% of the seamen reported having tried cannabis at least once in their lives (lifetime use). 22% had used cannabis during the previous 12 months, and 16% during the previous 30 days: 4% frequently (between 10 times and every day) and 12% less frequently (1 to 9 times) (Table 1).

14% had a positive urine test, showing recent consumption (95% CI, 12–16); 52 seamen (2.8%) refused to undergo the test.

Concordance between reported use during the previous 30 days and the urine test results was good (Kappa = 0.75; $p<10^{-4}$): 83% of test-positive respondents reported using cannabis and 17% denied this; most (96%) test-negative respondents reported no use, 4% declaring past month use while their urine test result was negative. “Reporting of cannabis use in the past 30 days” showed 75.5% sensitivity and 97.2% specificity.

The prevalence of cannabis use in the past 30 days adjusted on the urine test results (cf. Fendrich for this calculation (Fendrich, Johnson, Wislar, Hubbell, & Spiehler, 2004)) was 19.8% (95% CI, 17.6–22.1).

3.3. Consumption of other narcotics

15% of the seamen had experimented with at least 1 other narcotic. Hallucinogenic mushrooms, cocaine and poppers were the most frequent (Table 1). Use in the past 30 days of drugs other than cannabis was very low (1%) and mainly involved cocaine (14 seamen: 0.8%) and heroin (7: 0.4%). Most respondents who had experimented with other narcotics had already used cannabis (97% vs. 35%; $p \leq 0.0001$), and use of cannabis over the previous 30 days was also significantly associated.

3.4. Determining factors for positive urine test

Adjusted analysis found occupational category to correlate significantly with positive urine test result (Table 2): crewmen, skippers and sailors were significantly more likely to test positive than were officers. Marital status, age group and geographical area also correlated significantly with positive urine test. Being a smoker significantly increased the risk of positive urine test. And finally lifetime drug use with at least 1 other narcotic correlated significantly with cannabis use in the past 30 days as shown by positive urine test.

Table 1
Lifetime prevalence of illicit drug use and prevalence of illicit drug use in the past 30 days among French male seafarers.

	Cannabis	All drugs, except cannabis	Magic mushrooms	Poppers	Sniffing	Ecstasy	Amphetamines (speed)	Crack	Cocaine	LSD	Heroin
Lifetime drug use[a]											
n (missing data)	801 (47)	259 (96)	125 (75)	116 (77)	47 (78)	82 (76)	37 (80)	7 (77)	124 (79)	55 (74)	40 (74)
%	45.6	15.5	7.6	6.8	2.7	5.1	2.2	0.4	7.3	3.3	2.2
95% CI	43.2–47.9	13.7–17.3	6.3–8.9	5.6–8.0	1.9–3.5	4.0–6.2	1.5–2.9	0.1–0.8	6.0–8.6	2.4–4.1	1.5–2.9
Use in the past 30 days[b]											
n (missing data)	276 (53)	21 (59)	2 (66)	1 (67)	0 (66)	3 (68)	3 (67)	0 (66)	14 (65)	1 (68)	7 (66)
%	16.0	1.2	0.2	0.1	–	0.2	0.1	–	0.8	0.05	0.4
95% CI	14.2–17.8	0.7–1.8	0–0.4	0–0.2	–	0–0.4	0–0.3	–	0.4–1.2	0–0.1	0.1–0.7
Age at first use											
n	777	240	114	108	46	77	32	6	112	48	35
Mean	18.3	18.7	19.9	19.1	16.0	20.6	20.3	25.2	21.8	21.0	20.9
95% CI	18.0–18.6	18.4–19.1	19.2–20.6	18.6–19.6	15.2–16.8	19.7–21.4	19.3–21.3	–	21.0–22.5	19.8–22.3	19.9–22.0

[a] At least one consumption at some time of the life.
[b] Consumption during last 30 days until interview.