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Social vulnerabilities and health conditions of arrestees in the Greater Paris area, France, in 2013: a multicentre cross-sectional study

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Abstract

Objective To describe the health and social conditions of arrestees, as compared to the general population.

Methods We studied a sample of 600 adult arrestees in 3 locations in the Greater Paris area, prospectively included (February-May 2013). A descriptive analysis has been performed, then prevalence was estimated using an indirect standardisation according to age, based on data from a population-based, representative survey in the same area.

Results Arrestees had a median age of 31 yrs, 92% were males. As compared to the general population, arrestees had a lower level or education (8.6% vs. 7.6%, p<0.001), were more frequently unemployed (42.0% vs. 11.9%, p<0.001) and in a difficult financial situation (43% vs. 11%, p<0.001), and had less significant social support (48.1% vs. 87.9%, p<0.001). They reported also more frequently a chronic health condition (54% vs. 36%, p<0.001) and a limited health insurance coverage (36% vs. 15%, p<0.001).

Conclusion Comparative analysis of male arrestees and males from the general population showed that the former had worse social and health conditions. These results argue for widespread medical interventions on all arrestees. Medical examination during detention could act as a gateway to health care and social support.

Key words: police custody; social condition; health status; arrestee; medical examination

Introduction

Police custody is defined as detention in response to the suspicion of a crime or if the police have 'reasonable grounds' to suspect that someone aged 13 or older has committed an offense. According to French law, the person placed in custody may not be held for more than twenty-four hours [1]. The detention may be extended for a further period of up to twenty-four hours on the written authorisation of the district prosecutor. In rare cases defined by law (e.g. suspicion of terrorism attacks, drug dealing), the detention can last up to six days. The number of detainees held in police custody in France is now estimated to be approximately 700,000 per year [2]. French law states that any person placed in police custody may, at their request, be examined by a doctor. The medical examination can also be performed at the request of a police officer or the individual's family. The doctor states the fitness of the person to be held further in custody and notes any relevant findings [1]. Although there are no official statistics, it has been estimated that 50-75% police custody detainees have a medical examination [3].

Health issues among arrestees are a worldwide concern for which no international policies have been established [4-7]. Medical data regarding arrestees are scarce across countries [5,6,8,9]. International standards recommend that a detainee's right to medical care be equivalent to that available to the general community [6,10]. Social vulnerabilities can have both short- and long-term health consequences [11]. Mental health, somatic and addictive disorders have already been studied among arrestees [8,12-15]. A comparison of demographic and social data between arrestees and the general population in Amsterdam showed that most detainees were single young males, with a lower level of education and often unemployed [6]. Social characteristics of detainees in police custody have not been studied in most countries, including France. In the present article, we studied the demographic characteristics, medical conditions, and social situation of arrestees. Our aim was to describe their health and social characteristics, as compared to the general population of the same region.

Methods

Design and setting

We conducted a cross-sectional study based on a prospective sample of all the arrestees examined, at their own request or at the police's request, by four trained forensic physicians between February and May 2013. These physicians worked in 3 *départements* of the Greater Paris area: Paris city (a *département* by itself), Seine-Saint-Denis and Hauts-de-Seine (both in Paris close suburb: the former being the poorest of the Greater Paris area and the latter one of the wealthiest in France but with huge social disparities). These 3 *départements* are counting 5.4 million inhabitants, i.e. 77% of the total Greater Paris population.

A total of 200 arrestees were interviewed per location, between February and May 2013. The questions were asked by four trained forensic physicians.

Study population

We included all the consecutive arrestees aged 18 and over, who spoke French and gave their oral consent to participate. Since this research does not fall into the category of biomedical research as defined by the French law and did not collect any nominative date, a written consent was not required [16]. Arrestees with insufficient knowledge of French for the medical interview, in a delusional state, with aggressive or threatening behaviours, with abnormal vital signs and drug body-packers were excluded from the survey. The medical examination was performed and the survey questions were asked where they could not be seen or overheard by any third party to preserve the arrestee's dignity and the physician's duty of confidentiality. The project has been reviewed and approved by the Institutional Review Board (IRB 00001072) of Ile-de-France II (Paris, France).

Data in the general population came from a population-based, random sample of 3,000 French speaking adults interviewed in 2010 in the framework of the SIRS cohort survey. This survey and its sample design have been described elsewhere (SIRS). The comparison between the arrestees and the individuals from the SIRS study was based on 18 questions in common in the questionnaires used in the SIRS survey and in the present project.

Variables

The questionnaire was made of 34 questions, covering the following dimensions: (i) Demographics (gender, age, nationality, marital situation); (ii) Socioeconomic status (level of education, employment situation, perceived financial situation); (iii) Other social characteristics (living in social housing, social support, self-perception of loneliness, access to health care), as asked in the SIRS questionnaire; (iv) Health conditions: Minimum European Health Module [17,18], as well as a group a questions about medical history of somatic and mental health disorders, feeling of own medical situation, medical treatments, and addictive behaviours, using a DSM IV-based evaluation. This group of questions was based on the recommendations of a national consensus conference on health issues in police custody [19-22].

Social support was evaluated by the following question: "In case of need, could you count on someone, either members of your household or family, friends, colleagues or neighbours, to: help you in everyday life or give you a hand? (Yes/No); provide financial or material support (e.g., food, clothing)? (Yes/No); provide moral or emotional support? (Yes/No)?". The three items were combined to create a single score from 0 (absent social support) to 3 (excellent social support).

The questionnaire also included specific data on detainees' own experiences of police custody (whether or not it was their first time in custody), and reported assaults or observed injuries. Detainees' health insurance coverage was rated as full, partial, limited and absent.

Statistical Analyses

Analyses were performed with SPSS software (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY, USA). Tests of significance included chi-square tests and ANOVA, as appropriate. The differences were considered significant for p values below 0.05. First, data from the three centres were compared to each other. Then distributions of arrestees' characteristics were standardized according to the age distribution of the male population in the SIRS survey in order to compare both populations.

Results

Our sample consisted of 797 patients (M/F, 767/30; 96%/4%). Figure 1 shows a flow chart of inclusion. Inclusion rates were 84% in Paris, 82% in the Hauts-de-Seine and 84% in Seine-Saint-Denis. Exclusion from the survey was related to acute mental health disorders in 35 arrestees (4%).

Descriptive characteristics of arrestees

Table 1 presents the health and social characteristics of arrestees.

Demographics and social situations

Males accounted for a high proportion of arrestees (555/600, 92%). Median age was 31, with significant differences across the three *départements* surveyed. A total of 455 (76%) were French citizens, 209 (35%) were singles without romantic relationship, and 476 (79%) had been previously detained in police custody. Compared analysis across the three *départements* showed that arrestees in Paris were older and more often non-French citizens, with a lower educational level and/or a difficult financial situation. They felt also lonelier and had a lower social support. Social housing was more commonly reported by arrestees from the suburban *départements* than those from Paris city. Unemployment rates were similar in the three *départements*.

Health conditions

One third of arrestees (179/600, 30%) reported one (132/600, 22%) or more (47/600, 8%) somatic disorders. The most frequent medical conditions reported were asthma (10%), arterial hypertension (6%), and diabetes (5%). Mental health disorders were reported by 130 of 600 arrestees (22%), of whom 74 (57%) received ongoing care. A total of 91 of 600 arrestees (15%) received psychoactive treatment. One third of arrestees (33%) had a chronic health condition, 29% considered to be limited or severely limited in everyday activities, and 33% rated their overall health as average, bad or very bad.

Seventy percent of arrestees reported to be registered with a general practitioner (which is required in order to benefit from the best coverage of health care expenditures by the French health

insurance) and only 32% had full health insurance coverage. Fourteen percent had no access to health care services.
Compared analysis across the three *départements* showed that higher proportions of arrestees in Paris reported chronic health conditions or mental health disorders, rated their health as bad and had limited access to health care.

Addictive behaviours

A total of 74/600 individuals (12%) reported daily alcohol consumption, of which 44 (7%) reported to drink at least 5 glasses daily. Furthermore, 426/600 individuals (71%) reported daily tobacco consumption, including 301 (50%) who smoked 10 cigarettes or more. Half of the arrestees (259/600) reported cannabis consumption in the last week, including 207 (34%) who reported daily smoking. Cocaine or crack use was reported by 49 of 600 arrestees (8%) including 18 (3%) who reported a daily consumption, heroin use by 10 of 600 (2%) and an opioid replacement therapy by 40 (7%) individuals. Higher proportions of arrestees in Paris reported daily alcohol use, cocaine/crack or heroin use.

Comparative characteristics of male arrestees and males from the general population

Table 2 shows the age-standardized comparison of social and demographic characteristics of male arrestees and males from the general population [23]. The mean ages of male arrestees and males in the general population were 30.0 yrs and 45.5 yrs, respectively.

Demographics and social situations

Lower proportions of arrestees were French citizens, had a high social support, a high level of education and/or unlimited access to health care services (69% vs. 86%, 48% vs. 88%, 26% vs. 56% and 48% vs. 88%, respectively). Arrestees were also significantly more often single, unemployed, in a difficult financial situation and living in social housing (32% vs. 21%, 42% vs. 12%, 43% vs. 11%, and 36% vs. 23%, respectively).

Health conditions

The reported prevalence of chronic health conditions and limitations in everyday activities were significantly higher in male arrestees than in the general male population (54% vs. 36% and 48% vs. 18%, respectively). Accordingly, arrestees reported more frequently a deteriorated (average, bad, very bad) perceived health than the male general population (48% vs. 21%).

Discussion

In this study, we presented the demographic characteristics, social situations and health conditions of arrestees in the Greater Paris area. Arrestees were predominantly young males. One third perceived their health as deteriorated, 30% of them reported somatic disorders and 22% reported mental health disorders. As compared to the general population, higher proportions of arrestees had a low social support, were currently unemployed and in a difficult financial situation. These results are consistent with a study comparing arrestees and the general population in Amsterdam which found also that arrestees had a lower level of education and a higher rate of unemployment, and were more often single [6].
Only arrestees aged over 18 were included. In addition, the presented data related to examined individuals who had sufficient knowledge of French, which included most but not all detainees. These methodological options were related to the design of the SIRS survey, that was restricted to adult French-speaking individuals [23]. The proportions of individuals reporting chronic somatic disorders were higher in the present study (including in the centre in Seine-Saint-Denis) than in a previous local study among adult and adolescent arrestees in Seine-Saint-Denis, which showed 5% of arrestees with asthma, 2% with diabetes, 1% with epilepsy, and 2% with high blood pressure [8]. Arrestees in Paris reported a chronic health condition more often, possibly related to the older age of arrestees in Paris, but they also reported also more mental health disorders.
The finding of a worse perceived health status among arrestees than in the general population is in accordance with the Amsterdam study, which showed that arrestees were 1.6 times more likely to report a chronic health condition than the general population [6]. The proportions of arrestees

registered with a general practitioner were similar in our study and among arrestees from Amsterdam in 2009 (71% and 72%, respectively) and lower than in the French general population in 2008 (85%) [6,24].

The proportion of arrestees reporting mental health disorders in this study (22%) is close to the 24% observed among arrestees in London [9]. Exclusion of arrestees with delusional states, aggressiveness or threatening behaviours possibly lowered this proportion. Of arrestees reporting mental health issues in our study, 57% received current mental health care, accounting for 13% of all arrestees included in the study. In two previous studies among adult and adolescent arrestees in Seine-Saint-Denis (one of the *departments* presently studied) a history of mental health disorders was reported by only 5% and 6% of arrestees, respectively, of whom nearly a half had ongoing care but those proportions cannot be easily compared since both studies had included much younger people [3,8]. Few comparable data are available from other countries. In Victoria State, Australia, a survey conducted with 614 arrestees showed that 16% were currently receiving mental health care [13]. Screening for mental illness among a sample of arrestees in Amsterdam showed that 40% were screened positive for a serious mental condition [25]. In Victoria State and Amsterdam, previous contacts with the public mental health system were identified in 55% and 26% of arrestees, respectively [13,26].

Addictive behaviours were reported by most arrestees. Daily tobacco use and regular cannabis use accounted for 71% and 43% of arrestees, respectively, which are markedly higher proportions than in the French general population aged over 18 (29% and 3%, respectively) as well as in the male population over 18 (33% and 5%) [27]. The proportions of tobacco smokers were similar to previous studies among French arrestees and in Amsterdam and London police stations, that reported 62-77% of arrestees smoking tobacco [3,6,8,9,15]. The reported proportion of cannabis smokers was high, as compared with the 20-30% published previously [6,8,9,15]. The limitation of this study to adults could partly explain the observed difference with a previous study conducted among adults and adolescents arrested in Seine-Saint-Denis [8]. On the opposite, the prevalence of daily alcohol consumption observed in our study (12%) is close to those observed previously in arrestees in Seine-Saint-Denis [8] and in the French adult general population (10%) [27]. Compared analysis across centres showed higher proportions of cocaine/crack and heroin among arrestees detained in Paris city, which is in accordance with the unique position of Paris in French illicit drug market [28].

This study has several limitations. First, examined arrestees only included those who were examined at their request or at the request of their family or of the police. That examined arrestees were in a worse health condition than those who were not examined is a reasonable hypothesis. This might partly explain the differences observed with data from the SIRS cohort survey. In France, there are no official statistics on the frequency of medical examinations in police custody. In the Greater Paris area, the proportion of examined arrestees is estimated to be 50%-75%. In Seine-Saint-Denis, the proportion of detainees who had medical examinations is particularly high and was estimated to be approximately 75% in 2011 [3]. Such a high proportion could be explained by the availability of forensic physicians in that area. Second, the medical histories were mainly based on detainees' self-reports. However, the reliability of the data gathered from arrestees during a medical examination has been previously demonstrated [29]. Third, international comparisons are made difficult by different legal regulations, particularly because, in some countries, access to a medical examination depends on an assessment made by the police [14,30,31].

In conclusion, individuals detained in police stations are commonly socially disadvantaged and isolated, with high prevalence of chronic or mental health problems and lower access to health care. These results argue for widespread medical interventions on all arrestees. Moreover, brief interventions in addictive behaviours, mental health and nutrition have been shown feasible among arrestees in most cases [15,32] when they take into account individuals' social situation and living conditions. Our findings plea for implementing such interventions that could be incorporated into the public health missions of physicians caring for patients in police custody.

Conflicts of interest: None

Ethical statement: The project has been reviewed and approved by the Institutional Review Board (IRB 00001072) of Ile-de-France II (Paris, France).

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Table 1. Health and social characteristics of arrestees.

	All detainees N=600 (%)	Paris N=200 (%)	Hauts-de-Seine N=200 (%)	Seine-Saint-Denis N=200 (%)	χ^2, P-value
Demographics					
Gender, M/F	555/45 (92.5/7.5)	1/9	94/6	92.5/7.5	0.523
Age, mean/median, yrs	31/27	34/33	30/26	28/25	<0.001
French / Non-French nationality	455/45 (75.8)	67.5/32.5	77.5/22.5	82.5/17.5	0.002
Marital situation					0.677
Single without romantic relationship	209 (34.8)	35.5	35.5	33.5	
Single with romantic relationship	130 (21.7)	19.0	19.5	26.5	
Couple who do not live together	100 (16.7)	17.5	15.5	17	
Couple who live together	156 (26.0)	27.5	27.5	23.0	
Missing data	5 (0.8)	0	1.5	0	
Socioeconomic status					
Level of education					<0.001
Lower education level	25 (4.2)	7.0	3.5	2.0	
Middle school	169 (28.2)	31.5	36.0	17.0	
High school	306 (51.0)	39.0	46.0	68.0	
University	100 (16.7)	22.5	14.5	13.0	
Highest degree obtained					0.001
No degree	181 (30.2)	33.5	29.5	27.5	
Certificate of general education	74 (12.3)	8.0	9.5	19.5	
Certificate of professional competence or vocational baccalaureate	217 (36.2)	31.5	42.0	35.0	
General or technical baccalaureate	40 (6.7)	9.5	4.5	6.0	
Higher learning	84 (14.0)	17.5	14.5	10.0	
Missing data	4 (0.7)	0.0	0.0	2.0	
Employment situation					<0.001
Employed	270 (45.0)	43.0	47.0	45.0	
Students and trainees	48 (8.0)	7.0	5.5	11.5	
Currently unemployed	180 (30.0)	42.0	35.0	13.0	
Retired	8 (1.3)	2.5	0.5	1.0	
Inactive	94 (15.7)	5.5	12.0	29.5	
Perceived financial situation					<0.001
Good	226 (37.7)	24.5	38.5	50.0	
Careful with their money	151 (25.2)	30.5	24.0	21.0	
Difficult	223 (37.2)	45.0	37.5	29.0	
Other social characteristics					
Living in social housing	263 (43.8)	33.0	54.0	44.5	<0.001
Score of social support					0.001
0 (no support)	87 (14.5)	13.5	14.5	16.0	
1 (low support)	61 (10.2)	13.5	9.0	8.0	
2 (medium support)	100 (16.7)	23.5	15.0	11.5	
3 (high support)	351 (58.5)	50.0	61.0	64.5	

Self-perception of loneliness					0.011
Very lonely	86 (14.3)	19.5	15.5	8.0	
Rather lonely or rather surrounded	416 (69.3)	63.5	67.0	77.5	
Very surrounded	96 (16.0)	16.5	17.5	14.0	
Missing data	2 (0.3)	0.5	0.0	0.5	
Health insurance coverage					0.021
Full	191 (31.8)	25.0	36.0	34.5	
Partial	114 (19.0)	24.0	13.0	20.0	
Limited	211 (35.2)	33.5	39.0	33.0	
No	84 (14.0)	17.5	12.0	12.5	
Registrered with GP	423 (70.5)	70.5	71.5	69.5	0.908
Health conditions					
Mini European Health Module					
Chronic health condition	197 (32.8)	50.0	25.0	23.5	<0.001
Functional limitations [a]	172 (28.7)	40.0	32.0	14.0	<0.001
Deteriorated perceived health[b]	193 (32.2)	52.0	27.0	8.5	<0.001
Medical history of somatic and mental health disorders					
No health disorder	421 (70.2)	56.0	72.0	82.5	<0.001
One or several health disorders	179 (29.8)	44.0	28.0	17.5	
Asthma	61 (10.2)	13.5	11.0	6.0	0.041
Hypertension	35 (5.8)	8.5	5.0	4.0	0.131
Diabetes mellitus	31 (5.2)	6.5	3.5	5.5	0.386
Epilepsy	22 (3.7)	5.5	4.0	1.5	0.099
Mental health disorder	130 (21.7)	34.0	20.0	11.0	<0.001
Treatments					
Psychoactive treatment	91 (15.2)	23.5	15.5	6.5	<0.001
Opioid replacement Therapy	40 (6.7)	15.5	3.5	1.5	<0.001
Any other treatment	94 (15.7)	15.5	12.5	19.0	0.201
Addictive behaviours					
Alcohol use[c]	74 (12.3)	21.0	7.5	7.0	<0.001
Tobacco use[c]	426 (71.0)	75.5	66.5	70.0	0.140
Cannabis use[d]	259 (43.2)	47.5	37.5	44.5	0.117
Cocaine/ crack use[d]	49 (8.2)	16.0	4.5	4.0	<0.001
Heroin use[d]	10 (1.7)	3.5	1.0	0.5	0.043
History of detention					
First Custody	124 (20.7)	21.5	19.5	21.0	0.759

a: Severe or not
b: Average, bad or very bad
c: Daily consumption
d: Any consumption during the last week

Table 2. Age-standardized comparison of social characteristics between male arrestees and the male general population in the Greater Paris area.

	Arrestees n=555 (%)	General population n=1411 (%)	
Demographics			
Nationality			<0.001
French	69.0	86.0	
Non French	31.0	14.0	
Marital situation			<0.001
Single without romantic relationship	32.5	21.5	
Single with romantic relationship	17.6	11.5	
Couple who do not live together	13.2	6.2	
Couple who live together	0.2	60.8	
Missing data	0.6	0.0	
Socioeconomic status			
Level of education			<0.001
Lower education level	8.6	7.6	
Middle school	27.5	14.5	
High school	37.9	21.5	
University	26.0	56.4	
Highest degree obtained			<0.001
No degree	31.0	9.5	
Certificate of general education	7.0	9.7	
Certificate of professional competence or vocational baccalaureate	30.9	19.2	
General or technical baccalaureate	6.8	9.3	
Higher learning	23.7	52.4	
Missing data	0.6	0.0	
Employment situation			<0.001
Employed	48.8	60.6	
Students and trainees	2.5	9.4	
Currently unemployed	27.6	9.3	
Retired	6.7	18.1	
Inactive	14.5	2.7	
Perceived financial situation			<0.001
Financially comfortable	32.3	60.3	
Careful with their money	25.1	28.1	
Difficult financial situation	42.6	11.2	
Other social characteristics			
Score of social support			<0.001
0 (no support)	19.0	1.1	
1 (low support)	11.4	2.5	
2 (medium support)	21.0	8.4	

3 (high support)	48.2	88.0	
Self-perception of loneliness			<0.001
Very lonely	18.1	1.7	
Rather lonely or rather surrounded	66.8	67.1	
Very surrounded	14.6	31.0	
Missing data	0.4	0.0	
Health insurance coverage			<0.001
Full	48.1	87.9	
Partial	18.9	6.8	
Limited	36.1	14.9	
No	10.2	0.2	
Health conditions			
Mini European Health Module			
Chronic health condition	54.4	36.3	<0.001
Functional limitation [b]	47.6	17.8	<0.001
Deteriorated perceived health [c]	48.3	20.8	<0.001

a: Age-adjusted data
b: Severe limitation or limitation
c: Average, bad or very bad opinion