

## Global Health and Vulnerability Factors of Minors in Police Custody: A Prospective Cohort Study

Margaux Lemesle\*, Nathalie Vabres, Georges Picherot, Elise Launay, Renaud Clément and Christèle Gras-Le Guen

Centre Hospitalier Universitaire de Nantes, Unité d'Accueil des Enfants en Danger, 8 Quai Moncousu Nantes, 44093, France

\*Corresponding author: Margaux Lemesle, Centre Hospitalier Universitaire de Nantes, Unité d'Accueil des Enfants en Danger, 8 Quai Moncousu Nantes, 44093, France, Tel: +33240084454; E-mail: [margaux.lemesle@chu-nantes.fr](mailto:margaux.lemesle@chu-nantes.fr)

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### Abstract

**Study background:** There is currently no data available regarding overall health and vulnerability factors for minors (i.e. those aged under 18) who have been placed in police custody in France. The purpose of this study was to define the sociodemographic characteristics of this population. We hypothesized that most of these teenagers can be deemed as being abused or neglected.

**Methods:** We carried out a prospective study that included minors of 13 to 18 years of age who had been placed in custody at the Central Police Station of Nantes (France), from October 2012 to May 2013. The sociodemographic characteristics, scores for quality of life, and the data collected from the social and judiciary services were analysed to identify abused or neglected teenagers.

**Results:** Ninety-nine cases were included. The identified population was mostly comprised of males, most commonly 16 years of age, who had been placed in custody for robbery. Their scores for quality of life were not statistically different from those of the general population. While 50% had already been identified by child protection services, our study shows that 84.8% of this population should nonetheless be considered as being abused or neglected.

**Conclusion:** Compulsory health screening could provide an opportunity to detect abused or neglected teenagers, and consequently to provide them with access to appropriate care, as well as their referral to the relevant social and judiciary services so that the need for deploying specific protection to them can be assessed.

**Keywords:** Adolescent; Inconsistent paternal behavior

### Introduction

Teenagers represent a precisely circumscribed population amounting to one fourth of the total world population [1]. They are individuals who are in the process of developing, and are consequently particularly vulnerable. The transition from childhood to adulthood is a pivotal period during which the foundations for the individual's future health are laid [2,3]. It is at this time that risk behaviours may emerge. Importantly, 70% of adult premature deaths occur as a consequence of risk behaviours that were acquired in adolescence [4]. Transgression of the law is common theme in risk behaviour, and it often leads to the teenage perpetrators being taken into police custody.

In France, the Criminal Procedure Code states that, as part of the judicial inquiry, a person aged 13 or over who is suspected of committing or attempting to commit an offense shall be placed in police custody. The number of minors placed into police custody in France has been growing steadily in the last few years, thus mirroring an increase in the number of adults in custody [5-7]. In the USA, between 16 and 27% of teenagers under the age of 18 have been placed in police custody on at least one occasion [8]. Delinquency is a well-established health risk factor, with a deleterious impact on scholastic, social, professional, and financial outcomes [9-13]. Teenagers with a police record are more likely to both inflict and to suffer from violence

[14,15]. Youths who have had run-ins with the law may reduce their overall health potential at an early stage of their lives, and often end up pursuing a path of delinquency [16]. This phenomenon is described by Hagan [17] as "criminal rooting".

We hypothesize, therefore, that the population of minors who have been in police custody differs from the general population, with a higher proportion of "abused or neglected" minors, according to the definitions provided by the National Observatory on Decentralised Social Action (ODAS) [18]. Improving our knowledge of the characteristics of minors held who have been held in custody could allow for development of a juvenile delinquency prevention programme, and the establishment of more precisely targeted measures to protection minors. Thus, the aim of the present study was to describe the sociodemographic characteristics and overall health of minors who have been in police custody, and to determine the proportion of abused or neglected minors in that population, using the systematic medical check-up that is carried out when youths are taken into police custody.

### Materials and Methods

We carried out a prospective, monocentric, non-interventional, panel longitudinal study, at the Central Police Station of Nantes (France), from October 2012 to May 2013.

The relevant local ethics board approved this study.

### Inclusions and exclusions criteria

Included were minors placed in custody at the Central Police Station of Nantes, aged from 13 up to (but not including) 18 years of age.

Exclusion criteria were: minors placed in custody beyond the defined geographic area, minors under the age of 13, individuals aged 18 years and over, unable to understand French, refusal to take part, custody extension examinations, or multiple medical consultations by the same minor within the inclusion period.

### Data collection

In Nantes, a medical examination is systematically carried out on every minor in police custody who is less than 18 years of age. At the doctor's request, and prior to the medical examination, every minor completed a non-refusal disclaimer sheet. During the examination of each minor, the doctor on-call completed a questionnaire that was devised by a multi-disciplinary team of paediatricians, forensic doctors, addictologists, jurists, and sociologists. Answers to the questionnaire were self-reported.

### Data analysis

The first part of the analysis consisted of a description of the population:

**General features:** Age, sex.

**Aspects of the police custody:** date, time, reason for custody, and the number of previous custodies, information as to the legal representative for the on-going custody; Security and education conditions: availability of a permanent residential address, schooling status, scholastic level;

**Health screening:** regular affiliation with an attending physician, date of the last medical check-up, medical history, information regarding the use of illicit substances, specifics regarding the clinical examination, on-going treatments, treatment(s) prescribed in custody.

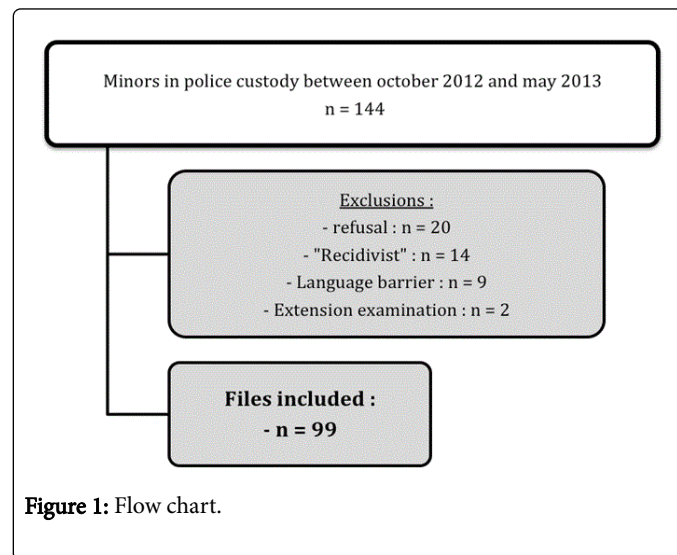
**The various scores in the Duke Health Profile were determined for each minor:** The Duke Health Profile is a measurement tool to assess the quality of life in terms of health (as defined by the World Health Organisation) that has been approved of for use with French teenagers and young adults [19]. It allows for a quick overview of the way a patient perceives their overall health. Each of the six categories in this evaluation focuses on the following health functions: general health, physical health, perceived health, mental health, social health, and self-esteem. The other four scores assess health dysfunctions, such as depression, pain, anxiety, and disability.

The results are displayed in the form of a percentage or an average, ± a confidence interval of 95% or the standard deviation. The Duke score is reported and calculated in every category as the sum total of all of the items, standardized from 0 to 100. For the 6 health scores, a 100 rating equates to the best possible quality of life in regard to its category; while for the 4 health dysfunction scores, a 100 rating equates to the highest level of dysfunction [19]. The Duke's medians were compared using the Mann Whitney test. Further, permission was requested and obtained from the Public Prosecutor of Nantes, and the Senior Officer at the Child Protection Department in order to gain access to items compiled by the respective services, such as notes of concern, reports, past or current measures of protection regarding prior incidences of involvement by the teenagers in question.

The second aspect of this work consisted of reviewing of the questionnaire filled out during the systematic health screening while in police custody; so as to assess whether the minor placed in custody can be considered as being "abused or neglected", and to determine their vulnerability symptoms. A minor was considered to be abused or neglected based on the ODAS definitions [18]. According to this definition, a minor is considered as being abused or neglected when "their health, security, morality, their conditions of being raised, physical, affective, intellectual, or social developments are severely compromised." This definition encompasses abused and neglected children, as well as those at risk of this happening to them. The criteria deemed necessary and sufficient to label a teenager "abused or neglected" were the following vulnerability symptoms: 1) prior reports or notes of concern preceding the on-going custody, 2) prior or on-going protection measures, 3) an existing educational report filed with the minors section of the Public Prosecutor's Office, 4) age 14 or under, 5) two or more prior incidences of being placed in custody, 6) past or on-going criminal penalties, 7) having dropped out of school or being unemployed, 8) lack of permanent residence, 9) acknowledged consumption of at least three types of toxic substances, and 10) if one of their physical, mental, or social health scores for the Duke's profile was below the 25th percentile of the reference value for the general population.

### Results

Patient flow charts are presented in Figure 1. Out of the 144 eligible minors placed in custody within the inclusion period, 99 could be included (Tables 1 and 2).



**Figure 1:** Flow chart.

Characteristics	
Age in years (mean with standard deviation)	16,6 (1,1)
Sex ratio (H/F) [95% CI]	8 [4,9-17]
Number of prior police custodies (mean with standard deviation)	1,9 (1,7)
Primary police custody grounds (%)[95% CI]	Robbery (62) [52-72]
Primary residence (%)[95% CI]	Parents' home (81) [73-89]
Schooling rate (%)[95% CI]	57 [47-67]

Previous notes of concern, report or protective measures by social services (%)[95% CI]	50 [40-60]
Normal medical examination (%)[95% CI]	93 [88-98]
Regular use of toxic substances (%)[95% CI]	45[35-55]
95% CI : 95% confidence interval	

	Score/100	IC 95%	Duke Profile Norms for age 12-17 [19]
<b>Function Scores</b>			
Physical Health	83	[80-87]	80,7
Mental Health	71	[66-76]	74,3
Social Health	68	[64-72]	70,3
General Health	75	[72-79]	75,1
Perceived Health	91	[71-95]	71,4
Self-Esteem	71	[67-76]	77,1
<b>Dysfunction Scores</b>			
Pain	16	[10-21]	22,6
Disability	2	[0-5]	2,7
Anxiety	29	[25-34]	29,2
Depression	29	[24-34]	28,6

**Table 2:** Population's Duke scores.

The main characteristics of our population are summarized in Table 1.

### General features

Males represented the vast majority of the minors in custody, and 83% of the population was between 15 and 17 years of age.

### Custody features

There was an equal representation of weekdays for the custodies, while the majority of the minors (54.5%) were placed in custody at night-time, between 8pm and 8am. For only one-third of the minors it was the first time that they were placed in custody. For 30% of them, the number of prior custodies varied from 2 to 5 occasions. 4% of the teenagers had previously been arrested by the police more than ten times. 62% of the grounds for holding them in custody were related to robbery or handling of stolen goods. Next in frequency were assault and battery (15%), and voluntary damage to property (5%). These three grounds represented 69.0% of the police custodies. Crimes were involved in only a small minority of cases, with one suspected case of a rape having been committed.

### Security and education conditions

In 70% of the cases, a relative of the minor had been informed of the custody measure, as prescribed by the penal code. We noted that in 21% of the cases, no relative had been informed of the measure at the

time of the health screening. The majority of the minors interviewed stated that they had a permanent place of residence, which for most of them was their parents' home (81%), or a social care institution (5%), a host family (2%), or accommodation provided by another member of their family (1%). 9.1% of the minors stated that they had no permanent place of residence. A little more than half of them (56.6%) attended school on a regular basis, where they were enrolled in a general curriculum (46%), or an apprenticeship (31%). The majority of the minors attended Junior High School, of whom 33.3% were in the final grade (normal age of 14). The number of High School pupils was low (16.2%). One-third (30.3%) were school dropouts or unemployed.

### Judiciary and protective measures

77.3% of the minors taken into custody were well known by the minors section of the Public Prosecutor's Office, whether for educational or penal issues. Criminal sanctions had already been levied on 15.1% of them: 6.1% had been sentenced to jail, 4% had been put on probation, 3% had been sentenced to community work, and 2% had been sentenced to other sanctions. 43.9% of this population had already been assigned protective measures from the social or judiciary services.

### Health status

90% of the minors interviewed stated that they had an affiliation with an attending physician. However, a majority of them (51.5%) were unable to specify when they had last consulted their practitioner. 81% of these minors stated that they had no particular prior medical history and 87.9% were not receiving any regular medical treatment. The pathologies that were found were asthma (10%), psychiatric pathologies (3%), and epilepsy (2%). 93% of them had a normal medical check-up. Less than half of the population (45.4%) stated that they used toxic substances on a regular basis. Two-thirds of the cases (66.0%) mentioned only tobacco use. Consumption of multiple toxic substances was rare. None of the minors declared that they had used cannabis on its own, or any other drugs such as heroin or cocaine.

The average Duke score values are shown in chart 2, along with their 95% confidence intervals. The health scores were not statistically different from those of the reference population ( $p > 0.5$ ).

### Classification

In our population of 99 adolescents, 84 minors (84.8%) were considered as being abused or neglected. The "abused or neglected" population included the 49 minors (50%) who had already come to the attention of child protection officials prior to being taken into police custody (criteria 1, 2, and 3), as well as 35 other minors (34%) who exhibited sufficient vulnerability symptoms for them to be considered as being abused or neglected (criteria 4 to 10). These teenagers displayed an average of  $4 \pm 2$  out of the 10 possible symptoms of vulnerability. 80 minors (81%) exhibited at least one of the necessary and sufficient criteria discussed earlier (criteria 1 to 9). Only 4 minors (4%) were considered abused or neglected based solely on their health scores.

### Discussion

We have shown here that most of the minors in custody could be designated as abused or neglected minors. While half of these minors had already been identified as being abused or neglected children by

the social and judiciary services, the medical examination during custody provided the opportunity to identify a further 35% of such cases.

The novelty of the present work lies in its focus on a population that had not been studied to date in France. Thus, while there are numerous studies in the international literature of individuals taken into custody, to our knowledge none have focused exclusively on minors.

The main strengths of this study are its prospective nature and the use of a formalized and reproducible questionnaire.

Several limitations of this study must, however, be kept in mind when interpreting the results. Firstly, a substantial drawback for this study is that it was only declarative, thus inevitably leading to a degree of reporting bias. This reporting bias could therefore lead to an underestimation of the health problems for our population, including their intake of toxic entities. In this study, the general health status appears rather reassuring, since 81% of the minors in custody had no particular prior medical history, or are in need of regular treatment. Their health scores according to the Duke's profile were comparable to the reference values published in 2011 by Baumann et al. [19]. Yet some studies regarding prison populations in the USA indicate that 10% of imprisoned minors suffer from chronic diseases that require regular medical attendance (mostly asthma) [20,21]. Several studies regarding the health of minors incarcerated in the United States have demonstrated that, while all of the adolescents were considered healthy by the judicial authorities, in fact nearly half had medical issues. [22]. Some publications in regard to North America suggest that repeat offenders may have a higher prevalence of mental health issues, and they may be more inclined to using psychoactive drugs [23,24]. In our study, a lack of medical attention, similar to what has already been described with minor convicts, can be observed in our population sample, with only one-third of the teenagers stating that they received regular medical attention [20,21,25]. The low level of declared toxic substance use in our study is questionable, and it does not match the results obtained in other studies focusing on teenagers. Indeed, in the INPES report [26], one third of teenagers aged between 11 and 15 had already used tobacco, and one out of ten Junior High School pupils had experimented with cannabis use. Alcohol remains the most widely used psychoactive substance. The consumption level determined in our study is also well below the drug consumption data collected by others in regard to incarcerated teenagers [22,25], and can probably be attributed to a declaration bias.

Further national and international studies are needed to confirm (or not) these first results. It would be interesting to better assess the minors' health (especially their mental health and their intake of toxic entities) by overcoming reporting bias related to the questionnaire used for data collection of this study.

The high proportion in our cohort of abused or neglected minors who had already been the subject of protective measures (50%) does not necessarily imply that the measures implemented were inefficient. Rather, it raises questions regarding the influence of the violence that these teenagers suffered on their current violent behaviour [27,28].

Also, information from databases in the literature suggests that patient management must be specific in this context. Some authors underscore the fact that minors who have been dealt with by a regular court are more at risk for exhibiting violent behaviour than those dealt with by a juvenile court [29]. Indeed, processing of minors by the adult judiciary system actually appeared to increase the rate of future arrests.

This study supports the validity of a model associating prevention with education, instead of one based on repression [7].

Although 50% of the teenagers had already been identified by child protection professionals, our study shows that 84.8% of this population can nonetheless be considered as being abused or neglected. All in all, one-third of the abused or neglected teenagers have yet to be identified by the social services. Through this study, we highlight the relevance of a systematic medical examination for any minor in police custody. Although the initial purpose of the medical examination is to detect somatic diseases, this process is an opportunity for the doctor to also identify a significant number of minors who can be deemed as being abused or neglected. This is particularly important since prevention in this population is paramount.

In conclusion, health screening while in custody provides an opportunity to identify abused or neglected teenagers, thereby to allowing them to be provided with access to appropriate care (e.g. a teenage centre, addictology consultations, etc.). It also provides a way to refer them to the relevant social services in order to request systematic medical psycho-social evaluation and the implementation of administrative or judiciary protective measures.

It could then be interesting to study the impact of a systematic implementation of such measures (systematic medical exam, psycho-social evaluation, access to appropriate care and systematic referring to social services) for each minor in custody and evaluate the effects on their global health and the rate of future arrests.

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