

## STREET DRUGS IN DENMARK 1995–1998

Kirsten W. SIMONSEN<sup>1</sup>, Elisabet KAA<sup>1</sup>, Erik NIELSEN<sup>2</sup>,  
Dorte ROLLMANN<sup>3</sup>

<sup>1</sup>*University Institute of Forensic Medicine, Aarhus, Denmark*

<sup>2</sup>*University Institute of Forensic Medicine, Copenhagen, Denmark*

<sup>3</sup>*University Institute of Forensic Medicine, Odense, Denmark*

**ABSTRACT:** An investigation of drugs for illicit sale on the street in six selected police districts in Denmark is presented. Heroin dominated the market and most heroin samples occurred as heroin base. During the years the frequency of cocaine has increased significantly. Within the different parts of Denmark no difference in purity of drugs were observed. Whereas a significant difference in the distribution of drugs was seen.

**KEY WORDS:** Street drugs; Opiates; Amphetamine; Cocaine.

*Problems of Forensic Sciences, vol. XLIII, 2000, 257–262*

*Received 9 September 1999; accepted 16 May 2000*

### INTRODUCTION

In 1995 a pilot study of drugs for illicit sale on the street was introduced by the Danish National Board of Health. The investigation has been conducted every year since January 1st 1995 and is continuing in 1999.

The purpose of the investigation is to give insight into the supply of illicit drugs in different parts of Denmark.

The investigation demonstrates data from 1995 to 1998. Deviations within the period and different parts of Denmark with view to type and purity will be stated.

### MATERIALS AND METHODS

The investigation covers the period 01.01.95–31.12.98. The material consists of narcotics confiscated at user levels in six selected Police districts in Denmark: Copenhagen (550 000), Aarhus (300 000), Odense (200 000), Aalborg (150 000), Esbjerg (80 000) and Elsinore (60 000), Figure 1. Number of inhabitants is in brackets.

Cannabis and known medical drugs are not included.

Sample weight had to be between 0.05–1.0 gram in 1995 and between 0.05–2.0 gram the following years.

Samples were collected from the first suitable seized drug within a week from Monday at 8 a.m. every week in Copenhagen, Aarhus and Odense and every second week in the other districts. In Copenhagen the last suitable sample within a week was also included.

Statistical methods included evaluation with t-test and analysis of variance for purity and chi-square goodness-of-fit test for distribution of the narcotic drugs.

## RESULTS AND DISCUSSION

Fig. 1. Six selected Police districts in Denmark from which narcotics were confiscated.

Table I demonstrates the number of seized samples and distribution of confiscated drugs in the six Police districts.

During the 4 years the dominance of heroin prevailed in all districts except for one (Aalborg). The frequency of heroin base is more extensive than that of heroin hydrochloro-

ride. Approximately 70% of the heroin samples appeared as heroin base and dominated in all Police districts except for one major district (Odense), which was deviant by having more heroin hydrochloride (about 70%), Table II. This outcome was observed during all the years and the heroin market in Odense deviates significantly from the rest of Denmark.

Allmost all heroin bases were brown while most of the heroin hydrochloride samples on the market were white or beige.

Amphetamine was confiscated in all Police districts. There were a significant difference among the Police districts. One Police district (Aalborg) deviated from the rest by having amphetamine in half of the seized samples whereas Copenhagen and Odense had less amphetamine than expected. Within the years no significant variations in the frequency of amphetamine were observed in the total material or the major districts (Copenhagen, Aarhus and Odense). All amphetamine samples were amphetamine sulphate.

In 1998 cocaine was observed for the first time in all Police districts and there was a significant increase in the occurrence of cocaine in Denmark and a double and triple increase appeared in the major districts (Copenhagen, Aarhus and Odense). This increase indicate that cocaine has spread into the drug market and is used by the drug addicts. Except two cocaine base samples all cocaine appeared as cocaine hydrochloride.

Only ten of the samples were designer drugs (MDMA, MDE, MBDB), all were seized in the western part of Denmark.

The purity (median values) of illicit drugs in this project and in routine samples of all weight groups are presented in Table III.

Within the period there were no change in the purity of heroin hydrochloride and cocaine whereas in 1996 the purity of heroin base was significantly higher than the one found the other years and the purity of amphetamine was significantly higher in 1995 than the purity found the following years.

There was no significant difference in the purity of the drugs at street level and the routine samples. This indicate that street drugs are not diluted before sale.

The relation between purity and time of seizure in 1998 is presented in Figure 2. It was not possible to demonstrate periods of particular high or low purity for any of the drugs. All drugs covered a wide range of purity and drugs of high and low purity appeared at every time. The same result was seen during the other years.

TABLE I. DISTRIBUTION BETWEEN DIFFERENT TYPES OF DRUGS AT USER LEVEL IN SIX DIFFERENT POLICE DISTRICTS IN DENMARK IN 1995, 1996, 1997 AND 1998 (RESULTS AS PERCENTAGE OF THE TOTAL NUMBER OF SAMPLES IN ALL COLUMNS)

Police district	Copenhagen				Aarhus				Odense				Esbjerg				Aalborg				Elsinore			
	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
Heroin	81%	69%	71%	69%	75%	59%	65%	52%	69%	66%	74%	66%	88%	29%	43%	60%	11%	6%	6%	9%	77%	24%	44%	59%
Amphetamine	8%	13%	14%	5%	23%	26%	19%	21%	11%	11%	12%	3%	12%	29%	29%	20%	67%	61%	89%	61%	23%	53%	44%	29%
Cocaine	11%	17%	11%	23%	–	–	5%	17%	19%	18%	15%	32%	–	14%	–	20%	22%	11%	6%	30%	–	18%	6%	6%
Designer drugs	–	–	–	–	–	6%	–	2%	–	–	–	–	–	29%	29%	–	–	17%	–	–	–	–	–	–
Other euphor.	–	–	–	1%	–	6%	2%	2%	–	–	–	–	–	–	–	–	6%	–	–	–	–	–	3%	6%
Not euphor.	–	–	3%	1%	2%	3%	10%	4%	–	5%	–	–	–	–	–	–	–	–	–	–	–	6%	3%	–
Number of samples	88	98	83	77	40	34	43	48	36	38	34	38	8	7	7	5	9	18	18	23	22	17	32	17

TABLE II. DISTRIBUTION BETWEEN HEROIN BASE AND HEROIN HYDROCHLORIDE IN THE MAJOR POLICE DISTRICTS IN DENMARK IN 1995, 1996, 1997 AND 1998 (RESULTS AS PERCENTAGE OF THE TOTAL NUMBER IN ALL COLUMNS)

Police district Drug	Copenhagen				Aarhus				Odense			
	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
Heroin base	80%	84%	78%	83%	83%	70%	71%	88%	32%	28%	20%	24%
Heroin hydrochloride	20%	16%	22%	17%	17%	30%	29%	12%	68%	72%	80%	76%
Number of samples	71	68	59	53	30	20	28	25	25	25	25	25

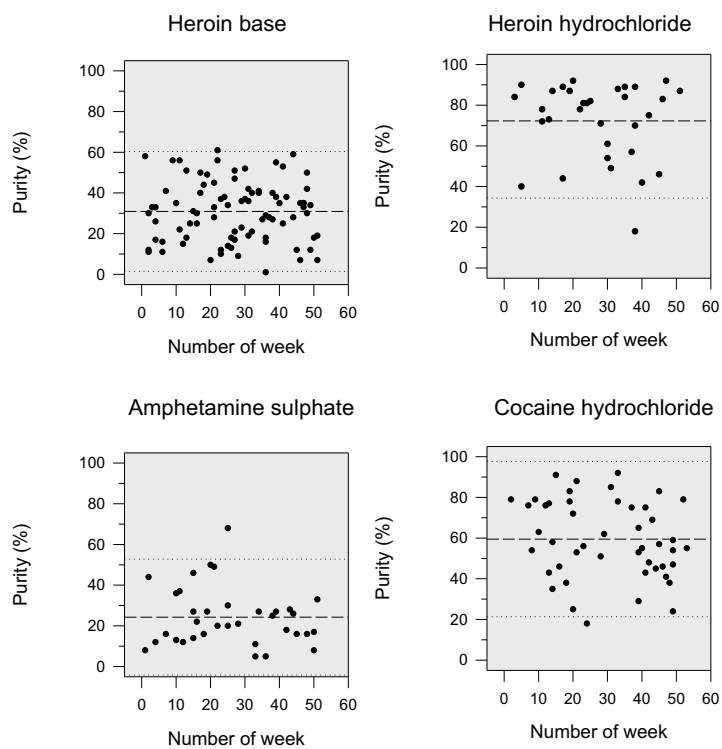


Fig. 2. Purity (conc. w/w) in relation of time of seizure 1998.

TABLE III. PURITY OF ILLICIT DRUGS IN THE PILOT PROJECT AND IN ROUTINE SAMPLES (MEDIAN VALUES)

Drugs	Routine samples (all weight classes)				Project (user levels)			
	1995	1996	1997	1998	1995	1996	1997	1998
	(n=514)	(n=407)	(n=478)	(n=480)	(n=202)	(n=197)	(n=205)	(n=200)
Heroin base	35%	45%	35%	36%	34%	43%	32%	31%
Heroin hydrochloride	72%	77%	60%	59%	78%	73%	82%	80%
Amphetamine sulphate	30%	19%	21%	20%	36%	20%	22%	21%
Cocaine hydrochloride	77%	70%	71%	60%	76%	65%	65%	57%

The purity of heroin, amphetamine and cocaine at street level did not differ significantly among different parts of Denmark during the four years.

## CONCLUSION

Heroin dominated the drugs for illicit sale during the four years. Approximately 70% occurred as heroin base.

In 1998 the frequency of cocaine has increased significantly and cocaine is now detected in all Police districts. Almost all cocaine occurred as cocaine hydrochloride.

All drugs covered a wide range of purity and no period with particular pure drug could be demonstrated.

Within the different parts of Denmark no difference in the purity of drugs were observed. Whereas a significant variation in the distribution of drugs was noticed.