

ILLICIT USE OF METHADONE IN HEROIN ADDICTS IN ROME

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Summary. - Although in several countries heroin addicts have been found to engage in illicit use of methadone, no studies have been addressed to this behavior in Italy. The present study gives evidence that methadone dispensed by public health services in Rome is paralleled by a black market in this drug. Of sixty-five heroin addicts hospitalized for medical or surgical problems, the majority (89.2%) referred to the existence of an illicit methadone market in Rome, and 38% used it. When asked why they bought illicit methadone the addicts stated that the daily dose obtainable from public health services was inadequate. However this statement is in contrast with the evidence that the heroin addicts using illicit methadone had highest daily doses similar to those of heroin addicts not referring to the illicit methadone market. We wonder whether illicit use of methadone is influenced by the therapeutic benefit that addicts expect to obtain from methadone. These "expectations" may lead heroin addicts to extend consumption of methadone to alleviate problems altogether unrelated to the withdrawal syndrome. If so, the illicit market in methadone may be sustained not by the drug's addictive properties but by its therapeutic effects.

KEY WORDS: methadone, illicit methadone, heroin addicts.

Riassunto (Uso illegale di metadone in eroinomani della città di Roma). - *Sebbene in letteratura sia stato riportato da parte di eroinomani, sia negli Stati Uniti d'America sia in Inghilterra, l'uso di metadone proveniente dal mercato illegale, le cause per cui i tossicodipendenti si rivolgono a questo mercato non sono state adeguatamente valutate. Nell'ambito della nostra casistica abbiamo voluto verificare l'esistenza, nella città di Roma, di un mercato clandestino di metadone parallelo alla somministrazione di tale farmaco da parte dei Servizi Pubblici per Tossicodipendenti (SERT). L'indagine è stata condotta su 65 tossicodipendenti ricoverati per problemi medici o chirurgici, la maggioranza dei quali (89.2%) ha riferito*

l'esistenza di un mercato illegale di metadone e il 38% ha dichiarato di fare uso illegale del farmaco. La ragione principale addotta per tale comportamento è stata l'adeguatezza della dose giornaliera somministrata dai SERT; tuttavia le nostre osservazioni dimostrano che le dosi giornaliere massime di metadone assunte dagli eroinomani che si rivolgono al mercato illegale coincidono con le dosi massime di coloro che fanno riferimento esclusivamente al SERT. E' possibile, quindi, che le aspettative terapeutiche che i tossicodipendenti attribuiscono al metadone possano indurli a ricorrere all'uso del farmaco per ragioni del tutto indipendenti dalla sindrome di astinenza da oppiacei; il mercato illegale del metadone, pertanto, potrebbe essere sostenuto non dalle sue proprietà farmacologiche, ma dalle aspettative dei tossicodipendenti per i suoi effetti terapeutici.

PAROLE CHIAVE: metadone, metadone illegale, eroinomani, tossicodipendenza.

Introduction

In the hope of eliminating the illicit drug market and reducing the inherent risks of criminality and spread of infectious disease, proposals have been put forward for legalization of scheduled psychotropic drugs [1]. Methadone dispensing at public health services fulfills some of the requirements of such a legalization. Although methadone maintenance does help to reduce criminality among heroin addicts [2, 3] the existence of an illicit methadone market in the United States [4-7] and Great Britain [8-10] lends no weight to the belief that legalization would eradicate the black market of addictive drugs. Understanding why people prefer methadone that is illicit and expensive to methadone that is licit and free, may probably help us to improve the efficacy of methadone in controlling drug-seeking behavior. We designed this study to find out

whether illicit methadone is abused in Rome and to understand the reasons why heroin addicts engage in illicit consumption of this drug.

Methods

The sample included 65 subjects, 53 men and 12 women, from 17 to 50 years old, who came to our observation between February and November 1990 (Table 1). All referred a history of heroin abuse and voluntarily asked to be detoxified from heroin within the facilities of the School of Medicine, Policlinico Umberto I, University of Rome "La Sapienza", where they were hospitalized for medical or surgical problems. On admission for treatment, 37 subjects had a diagnosis of infectious diseases such as hepatitis (36.9%) and AIDS (6.2%). One third of the subjects (33.8%) were also HIV positive. Drug addiction was confirmed by clinical examination and immunoenzymatic analyses of urine samples.

The subjects were interviewed before detoxification with an oral single daily dose of methadone syrup (w/v 1%) began. All patients agreed to complete the questionnaire designed to obtain the following information: a) the demographic characteristics of the subjects; b) their clinical history; c) number of years on heroin; d) medical drugs and recreational substances taken in the last year or month or week; e) previous attempts at pharmacological and non pharmacological detoxification; f) number of years on methadone; g) patterns of methadone use and personal opinions about the drugs used for pharmacological detoxification therapies; h) the existence of an illicit methadone market in Rome; i) the cost of methadone in Rome and l) the reasons why the subjects bought methadone on the black market.

Table 1. - Demographic characteristics in a studied sample of heroin addicts (no. = 65)

	no.	(%)
Sex		
Male	53	81.5
Female	12	18.5
Age (mean) 30.4 year (range 17-50)		
< 20	2	3.1
21-30	32	49.2
31-40	26	40.0
> 40	5	7.7
Marital status		
Unmarried	42	64.7
Married	6	9.2
Divorced	16	24.6
Widow	1	1.5
Occupation		
Employed	40	61.5
Unemployed	23	35.4
Retired	2	3.1

Results

All subjects had histories of i.v. heroin abuse ranging from 1 to 20 years (mean 9.6) with a daily dose ranging from 200 mg to 5 grams (street doses). They started using opiates at an average age of 20.7 years, and 46 subjects (70.8%) have been heroin addicts for more than five years (Table 2). All subjects injected heroin daily and were polydrug users on a regular basis (Fig. 1). A comparative analysis of drugs used during the previous year versus the week before the interview showed that heroin, benzodiazepines, alcohol and tobacco were abused daily. In contrast, cocaine was only occasionally used (7.7% vs 55.4%, weekly and yearly, respectively). When questioned about alcohol use, 21 subjects (48.8%) admitted drinking a large amount of spirits daily. Only four subjects reported the use of amphetamines in the previous year and three declared they had used 3,4-methylen-dioxymetamphetamine (MDMA, known as "Ecstasy"). Fifty-six subjects (86.1%) had already been treated with methadone in doses ranging from 15 to 170 mg/day for periods ranging from 1 to 13 years and seventeen of them had been involved in therapeutic communities. The majority of subjects studied (71%) considered methadone the best pharmacological approach for heroin detoxification; few of them thought they had benefitted from other pharmacological detoxification therapies such as buprenorphine (7.7%), morphine (9.2%), clonidine (1.6%) or paracodine (1.5%).

Fifty-eight of the subjects studied (89.2%), were aware of the existence of illicit selling of methadone in Rome, with prices ranging from US \$ 16 to 80 for a 20 mg dose (mean US \$ 33), and 25 subjects (38.1%) acknowledged buying illicit methadone (Table 3). The most frequently alleged reason was that the daily dose of methadone obtained by the public services was inadequate (56%), or the refusal to be hospitalized and registered (24%).

The comparison between the number of years on heroin and the daily dose of methadone indicated that the daily dose of methadone was a linear function of the years of heroin abuse ($r = 0.383$, $p < 0.01$), and that it did not differ between illicit and licit methadone users.

Discussion

This report gives the evidence that the prescription of methadone by public health services in Rome is paralleled by an illicit trade of this substance. All the subjects we examined were regular polydrug users, 48.8% of them abused alcohol, and all made several attempts at detoxification. Treatment was usually pharmacological (86.1%); 26.1% of the addicts had been in therapeutic communities. Although they reportedly preferred treatment with methadone, this therapeutic approach was of questionable efficacy since 72.3% of the patients studied underwent two or more cycles of methadone tapering. This 72.3% also

Table 2. - Duration of heroin addiction and patterns of methadone use in 65 heroin addicts(*)

Years on heroin	Heroin addicts no. = 65		Only licit methadone users (no. = 31)			Licit + illicit methadone users (no. = 25)		
					Reported maximum daily dose			Reported maximum daily dose
	no.	(%)	no.	(%)	mg (\bar{x})	no.	(%)	mg (\bar{x})
< 1	4	6.1	1	3.2	25.0	1	4.0	20.0
1-5	15	23.1	8	25.8	28.6	5	20.0	35.2
> 5	46	70.8	22	71.0	51.8	19	76.0	49.4

(*) Note that 9 subjects never used methadone.

Table 3. - Answers given by heroin addicts to questions about an illicit methadone market in Rome (no. = 65)

		no.	(%)
Does an illicit methadone market(*) exist?	Yes	58	89.2
	I don't know	7	10.8
Have you ever used illicit methadone?	Yes	25	38.1
Why?	1. The licit methadone daily dose was not enough	14	
	2. To avoid registration	6	
	3. Lack of money to buy heroin	1	
	4. Because minor	2	
	5. No answer	2	

(*) The price of a 20 mg dose of illicit methadone (mean): US \$ 33 (range: US \$ 16-80)

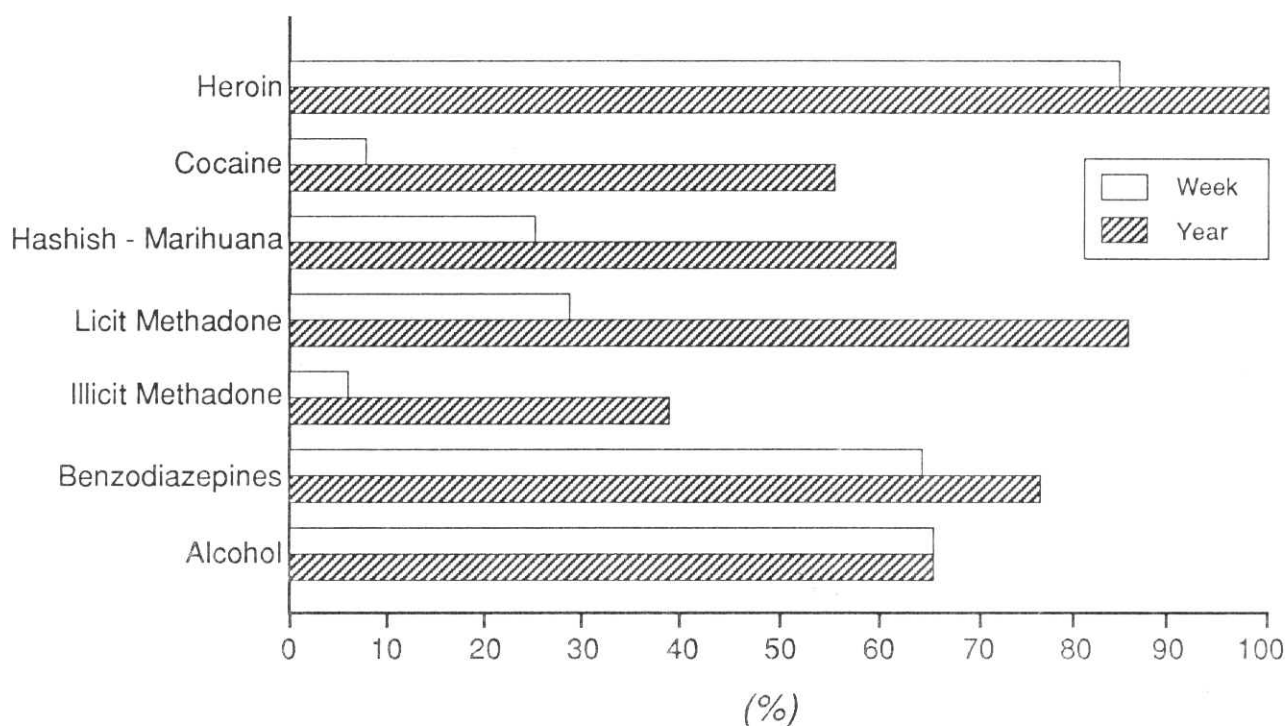


Fig. 1. - Reported drug use in the year and week before interview in 65 heroin addicts. (Data are expressed as percent of the total number of subjects).

included subjects who had bought street methadone. Here again, the addicts in our study matched those examined in the United States [4-7] and Great Britain [8-10]. The usual explanation offered for consumption of illicit methadone is the inadequacy of the dose dispensed by public health services. Dole [11] pointed out that clinical success in the rehabilitation of heroin addicts depends on stable methadone blood levels. The daily dose of methadone should be high enough to sustain pharmacologically effective serum concentrations ranging from 150 to 600 ng/ml. This hypothesis appears to be upheld in our study by the drug addicts' contention that the public health service dose was too low to "hold" them. Doubt is, however, cast on this explanation in a report (published when our study was already completed) emphasizing how addicts abused heroin during methadone maintenance therapy notwithstanding serum methadone levels that according to Dole were adequate [12]. Interestingly enough, these addicts still sought heroin even though they contended being "held" by methadone. Simi-

lar behavior probably occurred in our study. Although we did not measure serum methadone levels, we did observe that the heroin addicts who used illicit methadone and those who did not were receiving equivalent maximal daily doses. Between heroin addicts who alleged illicit consumption and those who only used licit methadone we found no apparent differences. Whether differences exist and if so what they are they will need to be evaluated in further studies. Since these subjects were receiving equivalent maximal doses and had been addicted to heroin for a similar number of years we are tempted to exclude strictly pharmacological factors. We wonder whether a role in the illicit use of methadone might be played by the therapeutic benefits that an addict expects to obtain from methadone treatment. These "expectations" may lead heroin addicts to use methadone even in circumstances of distress that are completely unrelated to the withdrawal syndrome.

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