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# Illicit methadone injecting during methadone maintenance treatment in a specialised out-patient clinic

## Abstract

**AIM:** The injection of non-sterile methadone designed for oral consumption is associated with serious health risks. There is only a small number of studies on this topic, with divergent results. The main aim of the present study was to obtain data on the frequency of methadone injecting in a state out-patient clinic specialised in substance use disorders. **METHODS:** Eighty patients in methadone maintenance treatment were interviewed with a short questionnaire. Mean age was 32 years, 76% were male, mean methadone dose was 55 mg. **RESULTS:** Twenty-six patients (32%) indicated having injected methadone at least once in their life. Only four patients (5%) reported having injected methadone within the preceding month (mean dose 56 mg). All four had injected additional substances during this month. **CONCLUSIONS:** Frequency rates appeared low compared with other studies despite a generous take-away policy. The results suggest an association between methadone injecting and a more general tendency to inject substances.

# Illicit methadone injecting during methadone maintenance treatment in a specialised out-patient clinic

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## Summary

**Aim:** The injection of non-sterile methadone designed for oral consumption is associated with serious health risks. There is only a small number of studies on this topic, with divergent results. The main aim of the present study was to obtain data on the frequency of methadone injecting in a state out-patient clinic specialised in substance use disorders.

**Methods:** Eighty patients in methadone maintenance treatment were interviewed with a short questionnaire. Mean age was 32 years, 76% were male, mean methadone dose was 55 mg.

**Results:** Twenty-six patients (32%) indicated

having injected methadone at least once in their life. Only four patients (5%) reported having injected methadone within the preceding month (mean dose 56 mg). All four had injected additional substances during this month.

**Conclusions:** Frequency rates appeared low compared with other studies despite a generous take-away policy. The results suggest an association between methadone injecting and a more general tendency to inject substances.

**Key words:** methadone syrup; injecting; substance abuse; harm reduction; prevalence

## Introduction

Methadone maintenance treatments (MMTs) are nowadays widely recognised as an efficient strategy in the treatment of opiate dependence. One of the problems of MMTs is the injection of take-away methadone doses intended for oral consumption. The injection of non-sterile methadone mixed with syrup poses serious health risks such as venous damage and systemic infections [1].

Most of the information about the frequency of this behaviour originates from Australia (see table 1). As can be seen from the table, the studies presented have similar samples with respect to age, percentage of males and methadone dose. The

samples differ, however, with respect to number of subjects in MMT, number of subjects who inject heroin, and substitution with peroral or injectable methadone. The results are divergent: between 18 and 52% of the subjects indicated having injected methadone at least once in their life, between 1.2 and 31% at least once within the past six months, and between 20 and 41% at least once during the last month. As it seems difficult to explain these differences, it was the main aim of the present study to gather additional data on the frequency of methadone injections.

## Methods

**Setting:** The present study was conducted in a clinic in Zurich, Switzerland. The clinic is an out-patient department of the psychiatric university clinic, located in a quiet residential area. The staff consists of psychiatrists, general practitioners, psychologists, nurses, social workers, and administration personnel. The clinic offers psychiatric treatment for persons who are or were dependent on illegal drugs and accepts every person who seeks this sort of help. Treatment strategies include a long-term perspective; improvement of psychological and physical health

and social integration are seen as more important than abstinence from drugs. Patients in MMT obtain between two and seven take-away doses per week, regardless of the time they have spent in methadone maintenance, but depending on the reliability of the individual patient.

**Procedure:** The interviewers obtained a list of all patients who were in methadone maintenance for at least one month. Patients who obtained methadone for less than 30 days as well as patients who obtained other or no medication were not considered. Interviewers were two

interns (psychology and social work students). They approached the patients individually at the counter or in the waiting room and asked each one to participate in the study. If the patient agreed, the interview was conducted in the waiting room; interviewer and patient were alone during this time. Participation was voluntary and anonymous. All participants signed an informed consent. The study was approved by the Psychiatric University Clinic's Ethics Committee.

The questionnaire contained the following questions:

- Concerning lifetime: did you ever inject methadone; at what age for the first time; which was the first substance you ever injected?
- Concerning the preceding month: did you inject methadone; how many doses of methadone were you allowed to take away; of these, how many doses did you inject; did you inject other substances; if so which ones?

- Age, dosage of methadone, and age at the beginning of heroin dependence. Information about the duration of MMT was gathered from hospital records.

Sample: Of the 87 patients who were methadone-maintained for at least one month, 80 patients (92%) were interviewed; three persons refused and four persons stopped their treatment. The recruitment period had a duration of 21 days.

The sample (n = 80) had the following characteristics: mean age 32 years (SD = 6.0, range 16-48); 76% males; mean methadone dose 55 mg (SD = 27, range 5-150); mean duration of methadone maintenance 17 months (SD = 15, range 1-72); mean age at the beginning of opiate dependence 21 years (SD = 4.9, range 11-32).

**Table 1**  
Results of studies on illicit methadone injecting.

Authors Place	Sample	Mean age % of males	Mean methadone dose	Illicit injection of methadone	
				lifetime	at present
Lintzeris et al. 1999, Melbourne, AUS [1]	168 patients in methadone substitution	34 years 59% male	-	-	1.2% last 6 months
Darke et al. 1996, Sydney, AUS [2]	312 heroin injecting subjects	29 years 61% male	-	52%	29% last 6 months
	of these 166 in methadone substitution	-	64 mg	50%	31% last 6 months
Humeniuk et al. 2003, Adelaide, AUS [4]	365 heroin users (of these 86 in methadone substitution)	29 years 59% male	53 mg	18%	11% last 6 months
Waldvogel & Uehlinger 1999, Fribourg, CH [3]	134 patients in methadone substitution of these	29 years 80% male	-	42%	21% last month
	107 with peroral methadone	-	-	-	20% last month
	17 with injectable methadone	-	-	-	41% last month
Present study, Zurich, CH	80 patients in methadone substitution	32 years 76% male	55 mg	32%	5% last month

## Results

Lifetime: Twenty-six patients (32%) indicated having injected methadone at least once in their life (mean age 33 years, SD = 5.3; mean dosage of methadone 52 mg, SD = 23; mean duration of methadone maintenance 21 months, SD = 18; mean age at the beginning of opiate dependence 21 years, SD = 4.5). Regarding sample characteristics they did not differ substantially from the other 54 patients. Mean age at the first injection of methadone was 25 years (SD = 5.7). None of the patients reported that methadone was the first substance he or she had ever injected. All of the 26 patients who had injected methadone had also injected heroin in the past; of the other 54 patients

only 36 (67%) had injected heroin in the past. Patients who had injected heroin had a 1.5 times higher probability of having also injected methadone (unadjusted risk ratio 1.5, 95% CI 1.2-1.8, CI calculated using the delta method).

Preceding month: Four patients or 5% of the sample (n = 80) indicated having injected methadone during the preceding month, three of them occasionally (up to three doses of 20, 24 and 30 take-away doses), and one of them regularly (seven of eight take-away doses). All of these four patients had injected other substances (heroin, cocaine, flunitrazepam) in the preceding month.

## Discussion

The rate of past methadone injecting proved to be 32% in this sample with a mean age of 32 years. This is a "medium" rate compared with 52% [2], 42% [3] and 18% [4], with a mean age of 29 years in these three samples. Likewise, the frequency of injecting methadone at present appeared to be low, as only 5% of the patients indi-

cated having injected methadone during the past month, compared to 21% [3]. All patients who had injected methadone had also injected heroin in the past, of the other patients only 67%. The four patients who had injected methadone during the preceding month had also injected other substances during this time.

The present study has some limitations. First, information on methadone injecting was self-reported. Patients may have under-reported the frequency of methadone injecting, although the consumption of drugs (including the injection of methadone) does not have negative consequences for the patients' treatment and the questionnaires were carried out anonymously by interns. A second limitation is the issue of representativeness of the sample and generalizability of the findings. Although the participation rate was high (92%), the sample ( $n = 80$ ) was small, which affects its representativeness for other methadone-maintained patients.

Lintzeris et al. [1] proposed different take-away policies as an explanation for differences in prevalence rates, as higher availability of methadone take-aways increases the capacity for inappropriate use. This hypothesis is not supported by the present results, as the frequency of current methadone injecting was low, despite the opportunity to take away two to seven doses per week. The association between past methadone injecting and past heroin injections found in the present study is consistent with Humeniuk et al. [4]. They found that those who inject methadone were significantly more likely to use other drug

types intravenously than those who did not, never or not within the last six months. Further research will have to show whether the habit to inject heroin and other substances is a major predictor for injecting prescribed methadone.

Several conclusions might be stated: First, frequency rates regarding methadone injecting are heterogeneous, not only in Australia, but also in Switzerland. This implies that the findings regarding the frequency of methadone injecting of this study cannot be extrapolated towards other treatment centres specialised in opiate addiction. More studies on this topic are needed. Second, patients who injected heroin and other substances in the past should obtain special attention regarding methadone injecting. And third, a generous take-away policy does not necessarily lead to a higher rate of methadone injecting.

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