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Letter to the Editor

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The treatment goal in maintenance treatment of heroin addiction ought to be more than retention

Lennart S. Öhlund¹ and Lars Gunne²

1. Faculty of Health and Occupational Studies, University of Gävle, Gävle, Sweden. EU

2. Professor em. of Psychiatry at Uppsala University, Uppsala, Sweden. EU

TO THE EDITOR:

1. High goal – low dose

Any leader of a methadone/buprenorphine programme for the maintenance treatment of heroin addiction will be studied by its prospective patients, and there will be a discussion going on between them about the best strategy for participants. When one of the authors (LG) returned to Sweden in 1966, after a year's stay at the Rockefeller University, working in Dr. Dole's laboratory, one of the first European methadone maintenance treatment (MMT) programmes was started. The treatment goal was focused on enabling patients to return to a productive life as self-supporting, vocationally rehabilitated citizens. All opioid addicts started therapy as inpatients in a treatment unit belonging to the Psychiatric Research Centre at Uppsala; they were initially detoxified, before the field in which the patient should work had been decided. If they were unable to decide what profession to choose, they had to visit a job counsellor and undergo testing to identify their personal talents. After a while, the situation was that newly arriving patients took their own decision before they met us, and would present themselves, saying: "Hello, I am

Calle Karlsson and I am going to be a plumber [or: electrician, or nurse's assistant, etc.]". After this kind of presentation the dose-finding of methadone could begin right away. The patients knew in advance that our methadone treatment was long-term and that their craving for heroin would be kept under control as long as needed. Since they were not helped by the social services (which were against MMT), we had to train them how to behave when applying for a job, which some of them had never tried to do before. Our work-directed treatment made it necessary to find a minimal effective dose of methadone, and our results for 23 years were an outstanding yearly vocational rehabilitation rate between 70 and 80% (on the average 76% ceased to abuse opioids, managed to find and retain a paid job on the open market and became respectable taxpaying citizens). They all regularly sent us monthly written documents from their employers to prove that they still had their the job, and urinary test results for drug excretion were monitored.

It cannot be excluded that our patients may have represented a selection, because they were people who found our treatment goals attractive, but we considered such a selection as acceptable. We were looking for heroin addicts who wished to find an exit

strategy from their heroin abuse and illegal way of life. After heroin craving had been reduced or eliminated, the main obstacle to success was found to be benzodiazepine misuse. If patients took repeated overdoses, and had to be taken more than once in an unconscious state to an intensive care unit, the combination of methadone and benzodiazepines meant a higher risk of a lethal outcome. In this situation MMT sometimes had to be abandoned. We thus had a very stable and successful treatment programme, (figures 1 and 2) until LG had to retire for age reasons. We made an evaluation of treatment efficacy [7], the results of which elicited protests from the Board of Health & Welfare, where it was proclaimed that drug addicts should not be given drugs. In the end, however, our results received the approval of a new Director General, Barbro Westerholm, and the hostile group within this authority had to give up. After five years of standstill in our patient-intake 1979-84 [8], we were back in business.

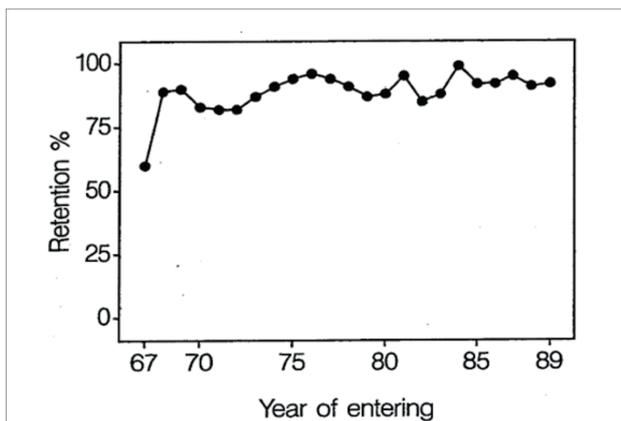


Figure 1. Yearly proportion of patients remaining in treatment from January 1st until December 31st. During 1967 a few left to enter the competing legal prescription of the Board of Health.

2. Looking for the minimal effective dose level

Heroin addicts who are receiving methadone or buprenorphine/naloxone treatment often show cognitive deficits in attention, working and verbal memory. A couple of studies have compared patients on methadone or buprenorphine/naloxone maintenance with untreated controls. In their early phase of treatment, MMT patients tended to make more 'risky' choices on a decision-making task than an untreated control group [5]. Methadone-treated patients as a group had a significantly slower simple reaction time (RT) than either heroin addicts or untreated controls [16]. It is

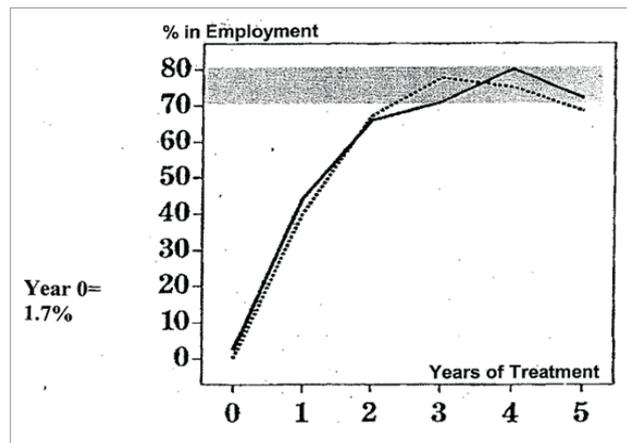


Figure 2. Per cent employed during the first five years of treatment (continuous line: men; dotted line: women). During year five 13,4 % decided to leave treatment and 10 % managed to stay drug-free.

thus difficult to avoid a lowering of attention even at low daily doses of the maintenance opioid drug. When the treatment goal is for the patient to return to an ordinary, vocationally rehabilitated, non-drug-abusing, well-adjusted life, treatment-induced deficiencies are only acceptable to a limited extent. There are, however, other reasons for remaining in the lower dose area, even if close attention must be dedicated to the patient's ability to stay free of drug abuse. In this context it is important to never allow the patient to negotiate for a dose increase. During LG's 23 years as leader of the Uppsala programme, staff members were instructed to only discuss symptoms with patients, and never to inform them whether a complaint would give rise to an alteration of the methadone dose (a policy identical with that applied at the Rockefeller University during the first few years, when there was a high percentage rate for the retention of patients [3]). Once patients had accepted that they were not going to be told about dose or plasma levels of methadone, they often expressed the conviction that changes had meant dose increases, even when the opposite was true. Our patients displayed their inability to discern even considerable dose reductions, when they had been hoping for a rise in dose. After a couple of years it was found that the mean daily methadone dose, 80 mg (range 30-130), had been the same in New York and Sweden [7]. The total number of Swedish patients had reached levels 345 accepted as long as this treatment system was in use.

3. Methadone doses above 150 mg/day

In 1989, after LG's retirement, the centralized

national approach was abandoned, new physicians took over and the MMT programme was more intensely controlled by the National Board of Health. The newly installed Dependence Centres (currently there are 77 of these) were instructed to tell patients that they would soon have to leave this programme and manage without long-term maintenance medication. Patients felt that it would not be possible to apply for a new job and, at the same time, let the prospective employer know that work may have to end later, after an unknown period of time, due to treatment restrictions. Thus the return from a criminal to an orderly way of life came to a sudden halt in 1989. The Uppsala model that allowed 76% of patients to achieve vocational rehabilitation suddenly turned into 0%, and all patients had to be supported by a social allowance or an early retirement pension. In a long-term follow-up of 261 patients in methadone treatment held in 1989-1998 and organized by the Board of Health, no comparison was made with our earlier results for 23 consecutive years [18]. The study responded to concerns focused on the low retention rate; the evaluators seem to have forgotten that an early treatment interruption had been recommended

symptoms of withdrawal and signals of craving for opioids. Whenever something was wrong with any of these measurements, the dose was raised. During the present century high doses are often recommended, and the misuse of heroin has become just another reason for giving more methadone. A few studies did, however, report that individual therapists were getting better results irrespective of dose [1], or that a voucher reward was as effective in reducing heroin abuse as raising the methadone dose level [15]. Robles et al. [17] found that dose reductions down to 80% of the previous dose, or increases up to 120% were not possible to discern for MMT patients, and they concluded that this observation argues against a patient-regulated dosing of methadone.

Payte [14] suggested that a suitable individual dose level could always be found between 10 and 500 mg/day, or even more, and Gonzales-Saiz [6] provided an Opiate Dosage Adequacy Scale (ODAS) based essentially on the patients' self-reported feelings of craving and withdrawal symptoms, and MMT reduces their illicit drug use. In addition, patients were asked to express their opinions about the methadone dose being used, and if they had any sugges-

Table 1: Maximal methadone doses reported.

Author	Publication	Methadone dose
Shinderman MS:	AATOD 2008	1400 mg/day
Cruciani RA et al.:	J. Pain 2005;29:385-201	1200 mg/day
Hobbins DF:	J. Addictions Nursing 2010;21:22-26	1200 mg/day
Maxwell S.& Shinderman M:	J. Addictive Dis 2002;21:1-12	1100 mg/day
Krantz MJ et al.:	Ann.Internal.Med. 2002;137:501-504	1000 mg/day

by the Board of Health! The follow-up showed that only 8 out of the 261 long-term patients investigated had not had new legal procedures taken against them during the follow-up period, meaning that criminal activity had continued in at least 97% of these cases. A third of the population died, a majority of them after they were excluded from treatment for various disciplinary reasons.

During the 1990s there were increasing numbers of MMT reports in which high methadone doses had been applied, bringing reported improvements in the initial results [2, 4, 11,12,13], although there were often worse side-effects [2,10,13]. In the high-dose programmes, greater emphasis was laid on patients' continuing heroin abuse, their retention in treatment and their reports of continuing subjective

tions for a change of dose. All the arguments in favour of dose increases are taken into consideration, whereas the dose restrictions of the early Rockefeller University policy and the early National Swedish MMT programme were disregarded. Patients with the methadone doses indicated in table 1 are likely to be chronically euphoric and they are hard to rehabilitate vocationally, even if their quality of life is claimed to be good.

Both the Swedish Medical Product Agency, and Professor Kreek at the Rockefeller University have defined a recommended highest methadone dose level of 150 mg/d. If doctors wish to provide a higher dose in an individual case, they should be able to explain what precautions were taken, particularly if the patient died or had high dose-related side-effects [2,10]. Prescribing methadone for MMT at doses above 150

mg/d should also require taking a position on the issue whether the patient can keep his or her driver's license. If possible, the high-dose and low-dose policies should be compared at intervals, but it is difficult for any supervisory public authority to regulate them in a sensible way, as illustrated by events in Sweden and other countries. On the other hand, the prescription of euphoria-delivering amounts of opioids or, as sometimes recommended, the distribution of heroin maintenance for intravenous self-administration may ruin an ongoing high-goal treatment programme.

Patients who could have been resocialized may contribute to high retention figures by their regular visits to obtain free heroin or euphoria-inducing amounts of maintenance drugs at the dependence clinics. If such programmes become dominant in the future, then we may lose the advantages provided by the Dole-Nyswander treatment altogether. This would lead to a situation where the acquisition and retention of patients has become more important than offering those subjects a chance to return to a normal society from a life dominated by drugs and criminal acts.

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