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Reduction in Acquisitive Crime During a Heroin-Assisted Treatment: a Post-Hoc Study

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Abstract

Background: We investigated the evolution of the criminal involvement of severe heroin addicts recruited in a randomised controlled trial comparing heroin-assisted treatment (HAT) to methadone treatment.

Method: During the trial, detailed questions were asked on crimes committed and experienced at baseline and every 3 months during 12 months. We analysed our data in a post-hoc study.

Results: Severe heroin addicts included in the trial showed a high level of criminal involvement in the past but their involvement had decreased at baseline. At the 12-month assessment, crimes committed and experienced decreased significantly in both groups but the difference between the groups was not significant.

Conclusion: A new opioid maintenance treatment, with methadone or diacetylmorphine, can help severe heroin users to decrease their criminal involvement.

Keywords: Heroin-assisted treatment; Diacetylmorphine; Methadone; Criminal involvement

Introduction

Drug and crime are frequently associated in case of regular use of illicit drug [1,2]. The association is especially strong between expensive drugs use, as heroin or cocaine, and acquisitive crime, as selling illicit drugs, prostitution, shoplifting and other thefts [3-5]. However, there is no definite causal link: each heroin user is not delinquent and crimes can precede or follow the first use of illicit drug [1,3,6].

Opioid maintenance treatment can help heroin addicts to reduce crimes intended to acquire income for heroin use [2,7]. If methadone treatment can help most of the street heroin addicts [8,9], for severe heroin users pursuing street heroin use while in Methadone Treatment (MT), Heroin-Assisted Treatment (HAT) is another solution [10]. Patients in HAT showed also a reduction of crimes [5,11-14].

As in other countries, heroin addiction remains a critical problem in Belgium in some urban areas. In 2007, among the 200.000 inhabitants of the commune of Liège more than 1% of the inhabitants aged from 15 to 64 were addicted to heroin [15]. Following the example of other experiments conducted in Europe [13,14,16-18] and in Canada [19], a trial comparing HAT to existing MT was conducted in Belgium. The result of the study was present elsewhere [20]. We focused our present post-hoc analysis on the evolution of the criminal involvement of the 74 heroin addicts included in the trial.

Method

Ethics

The Ethics Committee of the University of Liège approved this trial on March 16, 2010. It was registered in the European database of all clinical trials with the Eudra CT number 2010-019026-13. The trial was accepted by the National Federal Agency for Medicines and Health Products on May 7, 2010. Each participant signed the informed consent form approved by the Ethics committee.

Trial design

TADAM, a Treatment Assisted by Diacetylmorphine (DAM) was a randomised controlled trial comparing HAT with MT during 12 months. Between January 17, 2011 and January 16, 2012, 74 participants were included in the trial: 36 participants were randomised in the experimental group and 38 in the control group. The detailed method of the trial has been already described in details [20].

Assessments

The research team assessed participants on their criminal involvement with the Europe ASI and questions on crimes, committed or experienced. Illicit drug users are also frequent victims of thefts or assaults [3]. 13 questions concerned illegal acts committed: different forms of thefts (as shop-lifting and burglary), fencing, forgery/fraud, prostitution, selling illicit drugs and assaults (including homicide). 5 questions concerned victimisation: thefts, assaults, sexual abuse and being deceived while buying illicit drugs. For each participant, we compared criminal proceedings recorded by the public prosecutor's department to self-reported crimes during the same period. Our analysis was mainly based upon self-reported data as drug users generally report more criminal acts than are prosecuted [21]. Prosecutions were used to verify the self-reported. If more acts were prosecuted than self-reported during the previous month, we registered the number of prosecutions.

The researchers, independent from the treating staff, assessed participants at baseline at the policlinic of the Liège University Hospital. After baseline, participants treated by DAM where assessed in the HAT centre and other participants were invited at the policlinic

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or, when necessary, were interviewed in prison or in their residential treatment centre. At each assessment, participants who were not (or were no more) in HAT received between 15 and 60 euro (depending on the presence of medical examination, blood and urine sample). At 12 months, the research team assessed 70 participants (35 in each group).

Results

Participant characteristics at baseline are shown in Table 1. No significant differences were found between the groups. The retention rate in the allocated treatment centre was higher for the experimental group: 27 (74%) versus 13 (34%). The difference was statistically significant (p=0.00052) but this retention rate did not take into account participants treated in MT outside of their allocated centre or abstinent. Including all participants in opioid maintenance treatment or voluntarily abstinent at the 12-month assessment, the difference between the groups was no more significant: 30 (83%) remained in the experimental group (27 in HAT, 2 in MT and 1 abstinent) and 30 (79%) in the control group (all in MT).

Among participants criminally involved during the month before baseline (24 in the experimental group versus 23 in the control group), participants who reduced their criminal involvement after 12 months were more numerous in the experimental group (n=20; 83% versus n=17; 74%). The difference between the groups was higher if we included only participants who showed improvement after 12 months: 17 (71%) decreased criminal acts in the experimental group versus 11 (52%) in the control group. However, as shown by our main analysis (Figure 1 and Table 1), no significant main effect of the group was noticed [F(1.62)=1.46; p=0.23] and no significant interaction [F(4.248)=1.56; p=0.19], but both groups significantly reduced their criminal involvement as indicated by a significant main effect of time post-inclusion [F(4.248)=8.96; p<0.001](20).

Baseline characteristics[a]	n = 74
Sociodemographic characteristics	
Male sex	65 (88%)
Age – years	43 [7]
Belgian	62 (84%)
Employed during previous month	2 (3%)
Social or medical welfare as main source of income	58 (78%)
No stable housing in past month	21 (28%)
Criminal involvement ("during life)	
Ever convicted	72 (97%)
Ever condemned	56 (76%)
Ever incarcerated	47 (64%)
Criminal involvement[b]	74 (100%)
Illegal activities[b]	72 (97%)
- Assaults	29 (39%)
- Acquisitive crimes (thefts, selling illicit drugs, forgery/fraud, fencing or prostitution)	72 (97%)
Victimisation[b]	72 (97%)
- Assaults and sexual abuse	47 (64%)
- Acquisitive crimes (thefts or deceit while dealing)	72 (97%)
Drug use	
Regular street heroin use – years	20 [7]
Street heroin in past month – days	27 [5]
Cocaine in past month [b]	34 (46%)
Ever injected	60 (81%)
Habitual use of street heroin through injection	12 (16%)
Previous addiction treatment	
Regular methadone use – years	14 [7]
Number of previous drug treatments	9 [13]

[a]Data are number of participants (%) or mean [s.d.]

[d]Self-reported data complemented with toxicological analysis or registered criminal proceedings

Table 1: Baseline characteristics of the 74 participants randomised in TADAM trial.

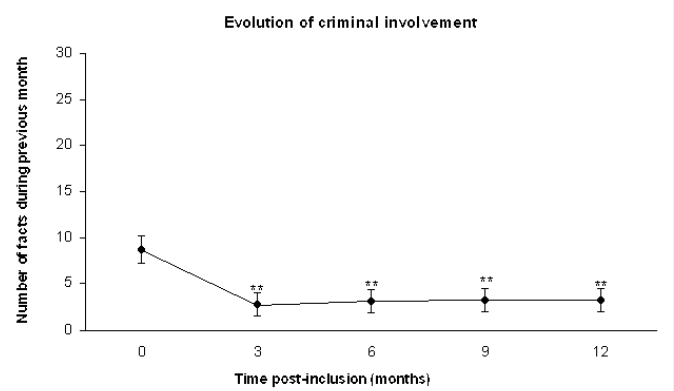

Figure 1: Evolution of criminal involvement

Between baseline and the 12-month assessment, the mean number of crimes during the last month decreased by 65% for all participants but crimes by perpetrator decreased only by 33% (Table 2). Participants committed mainly the same type of crimes: during the 6 previous months, each perpetrator committed on average 1.5 different types of crimes at baseline and 1.2 at the 12-month assessment. During the previous month, the average was 1.4 types of crimes at baseline and 1.0 at the 12-month assessment. At the 12-month assessments, no perpetrator reported more than 2 different types of crimes.

Discussion

Compared to participants in other trials[13,14,16-19,22], our participants showed the same level of criminal involvement in the past but were less involved in illegal activities at baseline (Table 3). The main crimes committed by our population were acquisitive crime. This lower rate of delinquency at baseline in our trial could be related to the higher rate of social assistance welfare in our population (78%).

Participants of both group decreased significantly their criminal involvement during the project. The number of perpetrators decreased more in the experimental group but the difference between the groups was not significant. Other trials found a significantly greater reduction of crimes in the group treated with HAT than in the group treated with MT [5,13,14,17]. The reduction could be a consequence of less street heroin use and detachment from the drug scene [5].

A few number of perpetrators committed a lot of crimes in each groups: at the 12-month assessment, the 253 prostitution crimes committed during the previous 6 months were reported by only 2 women (in the experimental group). On the same period, 1 participant in the experimental group reported 180 acts of selling illicit drugs and 8 participants in the methadone group reported 156 acts of selling illicit drugs. This configuration (few perpetrators and many acts by perpetrators) had two consequences: first, to find a difference between the groups, a greater number of perpetrators is necessary and, second, the great proportion of acts by perpetrator indicate a specialisation of some participants. Another evidence for this specialisation is that each perpetrator reported at the last assessment in average 1.0 type of fact during the previous months.

Criminal involvement during 6 previous months	Baseline					12-month assessment				
	Perpetrators / Victims	% (N=74)	Crimes	Crimes by participants (N=74)	Crimes by perpetrators / victims	Perpetrators / Victims	% (N=70)	Crimes	Crimes by participants (N=70)	Crimes by perpetrators / victims
Criminal involvement	**63**	**85%**	**3 618**	**48.9**	**57.4**	**40**	**57%**	**812**	**11.6**	**20.3**
Illegal activities	**47**	**64%**	**3 331**	**45.0**	**70.9**	**29**	**41%**	**736**	**10.5**	**25.4**
- Assaults	**4**	**5%**	**18**	**0.2**	**4.5**	**6**	**9%**	**21**	**0.3**	**3.5**
- Acquisitive crimes	**46**	**62%**	**3 313**	**44.8**	**72.0**	**27**	**39%**	**715**	**10.2**	**26.5**
-- thefts	28	38%	826	11.2	29.5	14	20%	117	1.7	8.4
-- selling illicit drugs	25	34%	2 012	27.2	80.5	10	14%	342	4.9	34.2
-- forgery/fraud, fencing	8	11%	223	3.0	27.9	3	4%	4	0.1	1.3
-- prostitution	2	3%	252	3.4	126.0	2	3%	252	3.4	126.0
Victimisation	**42**	**57%**	**287**	**3.9**	**6.8**	**25**	**36%**	**76**	**1.1**	**3.0**
- Assaults	**6**	**8%**	**11**	**0.1**	**1.8**	**5**	**7%**	**5**	**0.1**	**1.0**
- Acquisitive crimes	**41**	**55%**	**276**	**3.7**	**6.7**	**24**	**34%**	**71**	**1.0**	**3.0**
-- thefts	24	32%	154	2.1	6.4	17	24%	27	0.4	1.6
-- deceived while buying drugs	28	38%	122	1.6	4.4	14	20%	44	0.6	3.1
Criminal involvement during 30 previous days	**Baseline**					**12-month assessment**				
	Perpetrators / Victims	**% (N=74)**	**Crimes**	**Crimes by participants (N=74)**	**Crimes by perpetrators / victims**	**Perpetrators / Victims**	**% (N=70)**	**Crimes**	**Crimes by participants (N=70)**	**Crimes by perpetrators / victims**
Criminal involvement	**47**	**64%**	**638**	**8.6**	**13.6**	**22**	**31%**	**223**	**3.2**	**10.1**
Illegal activities	**37**	**50%**	**585**	**7.9**	**15.8**	**16**	**23%**	**194**	**2.8**	**12.1**
- Assaults	**3**	**4%**	**8**	**0.1**	**2.7**	**3**	**4%**	**6**	**0.1**	**2.0**
- Acquisitive crimes	**37**	**50%**	**577**	**7.8**	**15.6**	**14**	**20%**	**191**	**2.7**	**13.6**
-- thefts	19	26%	173	2.3	9.1	5	7%	66	0.9	13.2
-- selling illicit drugs	22	30%	334	4.5	15.2	6	9%	111	1.6	18.5
-- forgery/fraud, fencing	5	7%	28	0.4	5.6	2	3%	2	0.0	1.0
-- prostitution	2	3%	42	0.6	21.0	1	1%	12	0.2	12.0
Victimisation	**22**	**30%**	**53**	**0.7**	**2.4**	**9**	**13%**	**26**	**0.4**	**2.9**
- Assaults	**1**	**1%**	**3**	**0.0**	**3.0**	**0**	**0%**	**0**	**0.0**	**0.0**
- Acquisitive crimes	**22**	**30%**	**50**	**0.7**	**2.3**	**9**	**13%**	**26**	**0.4**	**2.9**
-- thefts	10	14%	23	0.3	2.3	5	7%	5	0.1	1.0
-- deceived while buying drugs	15	20%	27	0.4	1.8	5	7%	21	0.3	4.2

Table 2: Details of criminal involvement before baseline and before the last assessment.

	Demaret et al., 2014	Perneger et al., 1998	van den Brink et al., 2003	March et al., 2006	Haasen et al., 2007	Oviedo-Joekes et al., 2009	Strang et al., 2010
Year of beginning of recruitment	2011	1995	1998	2003	2002	2005	2005
Number of participants	74	51	549	62	1015	251	127
Sociodemographic characteristics							
Age	43	32	39	37	36	40	37
Men	88%	75%	80%	90%	80%	61%	73%
Employment	3%	-	8%	5%	-	16%	2%
Social or medical assistance	78%	46%	58%	-	49%	36%	-
Unstable housing	28%	-	13%[2]	21%[3]	31%[4]	73%[5]	-
Criminological data							
Illegal incomes as main source of income during previous month	11%	-	27%	-	23%	-	-
Illegal activities during previous month	50%[6]	-	-	-	73%	74%[6]	-
Ever convicted	93%	-	-	-	96%	94%	-
Ever incarcerated	64%	-	82%	-	75%	-	73%

Drug use and treatment							
Life time drug use							
Heroine	20	-	16	20	14	14	16
Methadone	14	-	12	-	-	-	-
[1] Any hepatitis							
[2] Stable housing = 87%							
[3] Homeless							
[4] Stable housing situation = 70%							
[5] Homeless or living in shelter or hotel room							

Table 3: Comparison with other heroin-assisted treatment trials.

Although 93% of the participants reported a delinquent past, 36% did not report any offence during the 6 months before baseline and were not prosecuted. The association between drug dependence and criminality is not ineluctable even for severe heroin users.

Strengths and limits

The absence of statistically significant difference between both groups in our trial could be related to the small number of perpetrators at baseline (47 during the previous 6 months and 37 during the previous month) combined to the high number of acts committed by each perpetrator. With a small number of participants, as in our trial, prevalence is more sensible to changes than incidence. However, on a societal point of view, the total number of crimes committed has more consequences than the number of delinquents.

Participants could have underreported the number of their criminal activities to give a more socially desirable response, but, even in this case, self-reported data are more sensible than registered prosecutions [21].

35 participants reported illegal activities during the previous month in response to one general question in the Europe ASI, but 2 more participants reported crimes during the same period according to the 13 questions of our delinquency questionnaire. Detailed questions about crimes enable participants to remember better what they did than a general question [23].

Conclusion

Acquisitive crime linked to heroin use can be reduced by an opioid maintenance treatment as HAT. However, even a new methadone treatment for severe heroin users can also help patients to decrease their criminal behaviour related to street heroin use.

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