

Medical Assisted Treatment of Opiate Dependence with Buprenorphine/Naloxon (Suboxone®) of Heroin Addicts in Prison Who Are Aging Penalties

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Abstract

Aim: To describe the treatment of opiate addicts who had to spend certain period in prison, after introduced in outpatient administering of substitution medicament Buprenorphine/Naloxon in Bosnia-Herzegovina.

Methodology: We assessed 10 male opiate addicts aged 24.8 ± 4.7 years.

With presentation of clinical vignettes, authors described how opiate dependants with criminal past imprisoned in jail because of aging penalties avoided discontinuation of treatment after they were included in the Buprenorphine/Naloxon maintenance treatment program. This practice has been implemented in cooperation of Department of Psychiatry in Tuzla and Tuzla prison from 27 July 2009.

Results: All opiate dependants described with clinical vignettes showed surprised with positive effects on overall outcomes of Buprenorphine/Naloxon after implementation of continual treatment in prison in cooperation with jail officers (nurse and guards). Also they were very satisfied with life quality during treatment in prison. Also jail officers, family members of dependant person showed satisfaction with achieved efficacy of Buprenorphine/Naloxon eider during aging penalties.

Conclusion: Medically assisted treatment of opiate dependence with Buprenorphine/Naloxon for imprisoned addicts implemented as outpatient treatment with involvement of jail officers who were instructed in Buprenorphine/Naloxon daily administration, improved quality of life of treated opiate dependants, and quality of their relations in prison with others.

Keywords: Opiate dependence, Substitution therapy, Buprenorphine/Naloxone, Prison, Aging penalties

1. Introduction

It is known that substance abuse is severe disorder with harmful effects to psycho-physical health of its users, which are often fatal (such as HIV/AIDS, hepatitis B and C (1, 2), a death from overdose or other life endangered circumstances in which users are brought into searching for psychoactive substance). It imposes a substantial burden on society that is forced to suffer the aftermath of addictive behavior, delinquency and violence (3, 4). The existing health facilities are not able to provide long-stay in stationary institutions, which is necessary for drug addiction treatment, while correctional institutions and prisons are not an adequate solution to this problem for in most cases the consequences of addictive behavior onto society are only delayed that way (5, 6). Therefore, medically assisted maintenance method for treatment of opiate addicts with a combination of buprenorphine and naloxone (Suboxone®) is introduced at the Department for Psychiatry of the University Clinical Center (UCC) Tuzla in July 27th, 2009, with consent of management of UCC Tuzla, Institute for Health Insurance of Tuzla Canton (ZZOTK) and Ministry of Health of Tuzla Canton. This method was developed into a unique concept called "Tuzla's Treatment Model for Opiate Addiction with Buprenorphine/Naloxon", adapted to existing social condition and financial circumstances (7). At the meeting between the Minister of Health of Tuzla Canton and his spokesman, the Director of the Health Center Tuzla and his Deputy, General Director and Medical Director of the UCC Tuzla and Director of the ZZOTK, and representatives of the Department of Psychiatry, it was decided that Buprenorphine/Naloxon can be prescribed only by licensed specialists in neuropsychiatry upon approval by the Minister of Health of TK.

This method ensures that young people return to a healthier lifestyle from the beginning of their treatment. Also, they are able to give in return to community much more than it was invested in the treatment, in contrast to patients whose disease despite a high quality treatment ended with permanent disability, inability to operation and the maintenance and death (8). Also the treatment of heroin addicts is not just a job of psychiatrists and the Department of Psychiatry. What is needed is a complex synchronized and phase-defined action of all segments in the community, which should contribute through the three levels of prevention of drug addiction (3, 9). With this method we are offering the arguments to resist and successfully cope with this past daunting social and medical evil (10, 11).

2. Buprenorphine/Naloxon Treatment Implemented in Prisons' Environment

Buprenorphine/Naloxone may be implemented in prisons' environment for heroin addicts who must aging penalties during the treatment started.

In Penalty Institution (Prison) in Tuzla a hardened control during the taking of Buprenorphine/Naloxon pills has been established. Whilst taking the Buprenorphine/Naloxon pills (in the presence of medical worker and medical security service) the patient has to wait until the pill melts, and to open his mouth to show there is nothing inside. Also, frequently a surprise Urine opiate tests are conducted (4).

The Buprenorphine/Naloxon pills are held inside a safe, in a building inaccessible by convicted and imprisoned individuals. Daily, the medical staff gets the correct daily doses of

pills, while the weekends the security gets the weekend doses (4, 11).

Our aim is to describe the treatment of opiate dependant individuals who have to spent certain period in prison, who were previously introduced in outpatient administering of substitution medicament Buprenorphine/Naloxon in Bosnia-Herzegovina..

3. Subjects and Methodology

We assessed 10 male opiate addicts (five married) aged 24.8 ± 4.7 years. With presentation of clinical vignettes, we described how opiate dependants with criminal past imprisoned in jail because of aging penalties avoided discontinuation of treatment after they were included in the Buprenorphine/Naloxon maintenance treatment program. This practice has been implemented in cooperation of Department of Psychiatry in Tuzla and Tuzla prison from 27 July 2009 to 26 July 2011.

4. Results

All exemplars described with clinical vignettes showed that opiate dependants previously had open doubts in efficacy of this particular treatment during imprisonment, and after implementation of continual treatment in prison in cooperation with jail officers (nurse and guards) they surprised with positive effects on overall outcomes of Buprenorphine/Naloxon. Also they were very satisfied with life quality during treatment in prison. Also jail officers, family members of dependant person showed satisfaction with achieved efficacy of Buprenorphine/Naloxon eider during aging penalties.

5. Clinical Vignjetes

1. **P. D.** 40 years old, not married, unemployed, no children – expiration of sentence – height of penalty: 1 year + 4 months. Served time for unauthorized production and selling of drugs. During his jail time he behaved in accordance with Prison Tuzla house rules. He took therapy regularly with the enhanced control of security service. On urine drug tests, he showed negative.
2. **S. M.** 26 years old, during staying in prison he was not married, after finishing his penalty he married, has no children, not employed – expiration of sentence – height of penalty: 1 year and 6 months. He served time for banditry. During his jail time he behaved in accordance with Prison Tuzla house rules. He took therapy regularly with the enhanced control of security service. On urine drug tests, he showed negative. In the meantime his wife had a spontaneous abortion, nowadays she is hospitalized to keep another pregnancy safe. S. M. is constantly regular during opiate substitution therapy (OST).
3. **M. S.** 36 years old, not married, not employed – expiration of sentence – Height of penalty: 10 days for heavy robbery. During his jail time he behaved in accordance with Prison Tuzla house rules. He took therapy regularly with the enhanced control of security service. On urine drug tests, he showed negative.
4. **M. R.** 32 years old, married, he has one little son, he is not employed – expiration of

- sentence – height of penalty: 3 months and 15 days. Served time for unauthorized production and selling of drugs, and owning and making possible to do drugs. During his jail time he behaved in accordance with Prison Tuzla house rules. He took therapy regularly with the enhanced control of security service. On urine drug tests, he showed negative.
5. **M. N.** 28 years old, not married, has no children, not employed – expiration of sentence – height of penalty: 2 months. He served time for robbery. During his jail time he behaved in accordance with Prison Tuzla house rules. He took therapy regularly with the enhanced control of security service. On urine drug tests, he showed negative.
 6. **A. M.** 35 years old, not married, not employed, has no children – expiration of sentence – Height of penalty 30 days. He served time for heavy robbery. Before he went to prison to serve his penalty, he has been taken off from Buprenorphine/Naloxon pills by the Council of Psychiatry Clinic of University Clinical Centre Tuzla because he misused Buprenorphine/Naloxon therapy. By the time he came to prison, he claimed that he was inside the OST Buprenorphine/Naloxon pills treatment, but after by prison officers controlled his 6 months old psychiatry record, and by checking the Psychiatry Clinic administration, it was found that he did not say the truth, he has been taken out off treatment previously. The urine sample on psychoactive substances was positive on opiates when he came to prison to serve sentence. Nowadays he left Bosnia-Herzegovina after served the sentence.
 7. **J. D.** 37 years old, married, two children, not employed – serving a sentence –height of penalty: 8 months. Serving a sentence for heavy body injury, for light body injury, for possession of and selling drugs. During his jail time he behaved in accordance with Prison Tuzla house rules. He took therapy regularly with the enhanced control of security service. On urine drug tests, he showed negative.
 8. **J. O.** 28 years old, taxi driver, married, has one child – serving a sentence – height of penalty: 21 month and 18 days. He served time for heavy robbery. During time of therapy division, he tried to sneak Buprenorphine/Naloxon pills into his pocket. The security officer spotted that on time, and he was taken to control and advisory check on the Psychiatry clinic where he was warned from the Council that his treatment shall be continued, but if he tries not to take therapy again, the OST would be cancelled. On urine tests on opiates, he showed negative.
 9. **D. S.** 28 years old, married, private lorry driver, he has two children – Serving a sentence. Height of his penalty: 8 months. Doing time for unauthorized production and selling of opium drugs. During his jail time he behaved in accordance with Prison Tuzla house rules. He took therapy regularly with the enhanced control of security service. On urine drug tests, he showed negative.
 10. **M. E.** 29 years old, not married, no children, not employed. He was serving a sentence during this research – Height of penalty: 4 months. He was serving time for theft.

When he came into custody, he brought four pills of 8 mg Buprenorphine/Naloxon and told to prison officers that he is taking 4 mg therapy instead of 8 mg. Later insights into his findings on the Psychiatry Clinic of Tuzla and after consulting, it has been approved that M. E. was taking 8 mg daily which has been enabled to him with a strict control of taking the medication from medical staff and security of Prison Tuzla. For a reason, he said that he didn't know if his treatment would be continued in prison or not, so he reduced the daly dose by himself for longer lasting. Opiate tests while staying at Prison Tuzla were negative.

6. Discussion

In our study all observed opiate dependants previously had open doubts in efficacy of this particular treatment during imprisonment. Meanwhile, after implementation of continual treatment in prison in cooperation with jail officers (nurse and guards) they were surprised with surprising positive effects on overall outcomes of continual substitution therapy of opiate dependence with Buprenorphine/Naloxon. Also all of participants in this study were very satisfied with life quality during treatment in prison. Also jail officers, family members of dependant person showed satisfaction with achieved efficacy of Buprenorphine/Naloxon eider during aging penalties (10).

Buprenorphine is a partial agonist at the mu-opioid receptor and an antagonist at the kappa-opioid receptor. Buprenorphine/Naloxon is a combination of buprenorphine to which antagonist naloxone is added to reduce the likelihood of content and abuse of intravenous administration of dissolved tablets. When taken sublingually, buprenorphine acts but Naloxone does not work and there has been a therapeutic effect achieved. But if Buprenorphine/Naloxon tablets are crushed and injected subcutaneously or intravenously, the effect of naloxone antagonist is overridden, causing withdrawal symptoms, in the addictive jargon known as "night time", so that addicts do not want to take it improperly, and the abuse is prevented.

According to benefit-cost analysis of opioid addiction treatment with buprenorphine and methadone, the annual treatment costs per addict in Croatia covered by health insurance are reduced twice if buprenorphine is used (12) (Table 1).

Table 1. Illustration of annual costs of opioid treatment in Croatia

Medicine	Total Annual Costs of Opioid Treatment per Addict in Croatia covered by Health Insurance (Kn)
Buprenorphine	5.550,00
Methadone	1 0.734,00

In the Italian analysis of the costs of buprenorphine vs. methadone treatment of opiate addicts the results show that with the same action and even higher market price of buprenorphine, the latter represents a cheaper alternative of addiction treatment for the society due to shorter duration of treatment and especially flexible regime of administration (a patient is rarely coming to addiction center than in case of methadone treatment) (13).

Buprenorphine/Naloxon therapy resulted in a significant drop in the number of deaths associated with the use of medicine compared to methadone, and ten times lower number of deaths from opiate overdoses. Buprenorphine/Naloxon does not lead to the development of tolerance (no need for a constant increase in dose); it is far less addictive, and better tolerated than methadone known to cause serious cardiac arrhythmias, particularly in drug addicts with previous heart disease, disorder of mineral/salt metabolism or impairment of liver function. Also, the interruption of Buprenorphine/Naloxon therapy, if necessary, is much less complicated. This "smart drug" has far fewer interactions with other drugs compared to methadone. Also, it reduces the possibility of illegal use unlike methadone (8). It is helping us to support the patient to become distant from addictive surroundings. Buprenorphine/Naloxon diminishes their stigmatization; it is well suited for take-home medication, which significantly reduces the presence of patients/addicts in the waiting rooms of health facilities as well as the need for alternative treatment in so-called social institutions/communities. It is important to emphasize that the patients taking Buprenorphine/Naloxon at home have three times greater chance of employment than those involved in methadone programs. Students who interrupted their study due to opiate dependence, returned to university while in Buprenorphine/Naloxon treatment reporting on Buprenorphine/Naloxon to "clear their mind". Some of those admitted to Buprenorphine/Naloxon therapy, who did not study previously, became interested in applying and successfully enrolled in university (14, 15).

Buprenorphine/Naloxon is well suited for home use, and may be prescribed to the new patients, patients who are returning to a treatment program and those switching from other therapies. The experiences of institutions dealing with Buprenorphine/Naloxon treatment have shown that this is the safest and most cost-effective treatment option for opiate/heroin addicts. If therapy process is well implemented, a reconstruction of the brain function, the personality development and the improvement of the overall living conditions of addicts and their families is achieved in time (10, 11, 16).

In comparison with methadone treatment, Buprenorphine/Naloxon has an advantage for after the maintenance program on an adequate daily dose, the overall capacity of drug addicts is increasing, and therefore he or she has a better chance for successful and complete quitting, maintaining abstinence without any medicine (16). Methadone more often induces tolerance, with an increasing dose of the drug required, leading to more severe clinical presentation. Therefore, after a few years despite the wish of addict to detoxify, the chances for the establishment and maintenance of abstinence are lowered (17).

Thanks to the unquestioning consent of addicts and their families interested in, a gradual admission to treatment with Buprenorphine/Naloxon begun based on our own doctrine, which was established in respect to the realistic circumstances of addict way of life, our working conditions at the Department along with a strict adherence to medical principles and legal regulations (11, 18).

Our doctrine is based on the following principles:

1. Maximum level of drug control

2. Elimination of all patterns of addictive behavior
3. Partnership with family members of psychoactive substance addicts
4. Reliable coordination with the pharmacy
5. Detection and treatment of HIV, Hepatitis B and C
6. Detection and treatment of dual diagnosis
7. Knowing of the trials and penal measures, and assisting the addicts in maintaining his or her new lifestyle and behavior while serving their sentences

The ultimate goal is to enable an individual to achieve lasting abstinence without substitution and rehabilitated and resocialized to continue more healthful lifestyle (19).

The limitation of this study is number of the described participants.

7. Conclusion

With introduction of medical model of substitution therapy for opiate addiction in 27 July 2009 at the Department for Psychiatry of the University Clinical Center Tuzla, we provide a new doctrinal approach that proved to be very effective. This model and approach ensure the maximum control of the drug, the elimination of almost all patterns of addictive behavior and partnership with non-addicted family members, reducing or eliminating stigma, making sobriety a way of life, and preventing social exclusion through rehabilitation and resocialization. Knowing of the trials and penal measures to be taken, in collaboration with staff of correctional institutions this framework is assisting addicts in maintaining his or her new lifestyle and behavior while serving their sentences. This treatment of opiate dependence with Buprenorphine/Naloxon for imprisoned addicts implemented as outpatient treatment with involvement of jail officers who were instructed in Buprenorphine/Naloxon daily administration, improved quality of life of treated opiate dependants, and quality of their relations in prison with others.

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Conflict of Interests

We as the authors of the manuscript declare that we have not any direct financial relation with

the commercial identities mentioned in the paper that might lead to a conflict of interests or not.

References

Hasanović, I. M., Kuldija, A., Pajević, M. I., & Zorić, S. (2012). Gender aspects of epidemiological characteristics of heroin addicts clinically treated in psychiatry department from North-Eastern post-war Bosnia and Herzegovina. *Acta Medica Saliniana*, 41, 17-21. <http://dx.doi.org/10.5457/ams.219.11>

Mehić-Basara, N., Oručm, L., Kapur-Pojškić, L., & Ramić, J. (2013). Association of dopamine receptor gene polymorphism and psychological personality traits in liability for opioid addiction. *Bosn J Basic Med Sci.*, 13, 158-162. [Online] Available: <http://www.ncbi.nlm.nih.gov/pubmed/23988166>

Hasanović, M. (2001). *Odnos društvene zajednice prema problemima ovisnosti o psihoaktivnim supstancama* (pp. 167-185). U: Sinanović O (urednik). *Ovisnost o drogama - uzroci i posljedice, prevencija i liječenje*. Multidisciplinarni pristup. Tuzla: Behram-begova Medresa u Tuzli i Medicinski fakultet Univerziteta u Tuzli.

Hasanović, M., Pajević, I., Kuldija, A., Delić, A., Sutović, A., & Stanišić, D. (2012). Medical Assisted Treatment of Opiate Dependence with Buprenorphine/Naloxon (Buprenorphine/Naloxon) of Heroin Addicts in Prison who are Aging Penalties. *European Psychiatry*, 27(1), 1-36. [Online] Available: <http://www.sciencedirect.com/science/article/pii/S0924933812742037>

Hasanović, M. (2002). *Islamski pristup u tretmanu alkoholizma, depresije, suicidalnosti i psihotraume* (pp. 107-124). U: Sinanović O, Hafizović R, Pajević I (urednici). *Duhovnost i mentalno zdravlje*. Sarajevo: IP Svjetlost. [Online] Available: <http://www.healthbosnia.com/kongresi/wiamh/Tuzla/en/mhasanovice.htm>

Mehić-Basara, N., & Cerić, I., (2012). Treatment of addicts in Bosnia and Herzegovina--constraints and opportunities. *Psychiatr Danub*, 24(13), 392-397. [Online] Available: <http://www.ncbi.nlm.nih.gov/pubmed/23114823>

Hasanović, M., Pajević, I., Kuldija, A., Delić, A., & Sutović, A. (2011). Medical assisted treatment of opioid dependence with Buprenorphine/Naloxon method as prevention of social excluding young people. *European Psychiatry*, 25(1), 12-15. Austria. [Online] Available: <http://www.sciencedirect.com/science/article/pii/S0924933811717588>

Demetrovics, Z., Farkas, J., Csorba, J., Németh, A., Mervó, B., Szemely ácz, J., Fleischmann, E., Kasai-Farkas, A., Petke, Z., Oroján, T., Rózsa, S., Rigó, P., Funk, S., Kapitány, M., Kollár, A., & Rác, J. (2009). Early experience with Buprenorphine/Naloxon maintenance therapy in Hungary. *Neuropsychopharmacol Hung*, 11, 249-257. [Online] Available: <http://www.mppt.hu/images/magazin/pdf/xi-evfevfolyam-4-szam/fenntarto-suboxone-terapia-val-szerzett-kezdeti-tapasztalatok.pdf>

Hasanović, M., & Hasanović, A. (2001). Odnos islama prema problemima ovisnosti. (pp: 201-8) U: Sinanović O (urednik). *Ovisnost o drogama - uzroci i posljedice, prevencija i liječenje. Multidisciplinarni pristup*. Tuzla: Behram-begova Medresa u Tuzli i Medicinski fakultet Univerziteta u Tuzli.

Hasanović, M., Pajević, I., Kuldija, A., Delić, A., & Sutović, A. (2012). Quality of life of heroin addicts and their family members improved during medical assisted treatment of opiate dependence with Buprenorphine/Naloxone (Buprenorphine/Naloxon). *British Journal of Medical and Health Sciences*, 1, 55-62. [Online] Available: http://bjmhs.baar.org.uk/uploads/october%20issue/BJMHS-OCTOBER_2012,_Vol-1,No-1.pdf

Hasanović, M., Pajević, I., Kuldija, A., & Delić, A. (2012). Medically assisted treatment for opiate addiction--Buprenorphine/Naloxon method as prevention of social exclusion of youth--Tuzla model. *Psychiatr Danub.*, 24(3), 398-404. [Online] Available: http://www.hdbp.org/psychiatria_danubina/pdf/dnb_vol24_sup3/dnb_vol24_sup3_398.pdf

Čulig, J., & Sakoman, S. (2005). *Farmakoekonomska analiza ukupnih troškova liječenja ovisnika o opijatima u kojih se liječenje ovisnosti provodi buprenorfinom, odnosno metadonom*. Zavod za javno zdravstvo grada Zagreba.

Colombo, G, L., Faillace, G, & Ferdico, M. (2003). Analiza troškova (cijene) buprenorfina u odnosu na metadon (buprenorfin vs. metadon) u liječenju ovisnika o opijatima. *Farmaeconomia e percorsi terapeutici*, 4, 185-192.

Ling, W., Jacobs, P., Hillhouse, M., Hasson, A., Thomas, C., Freese, T., Sparenborg, S., McCarty, D., Weiss, R., Saxon, A., Cohen, A., Straus, M., Brigham, G, Liu, D., McLaughlin, P., & Tai, B. (2010). From research to real world: buprenorphine in the decade of the Clinical Trials Network. *J Subst Abuse Treat*, 38(1), 53-60. [Online] Available: [http://www.journalofsubstanceabusetreatment.com/article/S0740-5472\(10\)00020-6/abstract](http://www.journalofsubstanceabusetreatment.com/article/S0740-5472(10)00020-6/abstract)

Hasanović, M., Pajević, I., Kuldija, A., Delić, A., Sutović, A. (2012). Some Edemiological Characteristics of Opiate Addicts with Hepatitis C who are in Substitution Maintainance Therapy with Buprenorphine/Naloxone (Buprenorphine/Naloxon) in Bosnia-Herzegovina. *European Psychiatry*, 27(1), 35-36 [Online] Available: <http://www.sciencedirect.com/science/article/pii/S0924933812742025>

Kakko, J., Grönbladh, L., Svanborg, K., D., von Wachenfeldt. J., Rück, C., Rawlings, B., Nilsson, L., H., & Heilig, M. (2007). A stepped care strategy using buprenorphine and methadone versus conventional methadone maintenance in heroin dependence: a randomized controlled trial. *Am J Psychiatry*, 164, 797-803. [Online] Available: <http://ajp.psychiatryonline.org/article.aspx?articleid=98375>

Kakko, J., Svanborg, K., D., Kreek, M., J., & Heilig, M. (2003). 1-year retention and social function after buprenorphine-assisted relapse prevention treatment for heroin dependence in Sweden: a randomised, placebo-controlled trial. *Lancet*, 361(9358), 662-668. [Online] Available: <http://www.sciencedirect.com/science/article/pii/S0140673603126001>

Hasanović, M., & Sinanović, O. (2007). *Liječenje ovisnosti bazirano na duhovnosti i vjeri* (pp. 407-414). U: Cerić I, Mehić-Basara N, Oruč L, Salihović H (urednici). *Zloupotreba psihoaktivnih supstanci i lijekova*. Sarajevo: Medicinski fakultet Univerziteta u Sarajevu.

Maremmani, I., & Gerra. G. (2010) Buprenorphine-based regimens and methadone for the medical management of opioid dependence: selecting the appropriate drug for treatment. *Am J Addict*, 19, 557-568. [Online] Available: <http://www.ncbi.nlm.nih.gov/pubmed/20958853>

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