Category: Heroin

Title: Use of Antiretroviral Therapies by HIV-Infected Persons Receiving Methadone Maintenance.

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Background: Methadone maintenance is the most common form of treatment for patients with heroin addiction. Because of the use of needles, heroin addicts are at high risk for developing HIV infection. The majority of methadone maintenance treatment programs (MMTP) provide methadone on a daily basis, but provide limited medical care. Patients with HIV infection are most often referred to medical sites outside of the clinics for the HIV treatment. Frequently, there is little integration between treatment for heroin addiction and other medical problems.

Objective: To study whether methadone maintain patients with HIV infection receive treatment for their HIV from outside clinics.

Type of Article: Study design survey

Setting: Outpatient Treatment Centers

Patients: 75 Methadone maintain patients who were stable in their treatment setting for at least 6 months. Sample was 60% men, 43% African American, 31% Caucasian, and 14% Hispanic. 76% were 45 years old or younger. 87% had some form of health insurance
during the last 6 months and 99% had one site they visited for HIV care. Mean duration of time in methadone was 40.3 months. The mean time since HIV diagnosis was 83.8 months. The patients were recruited from private clinics.

**Intervention:** 45-minute face-to-face interview with study staff. Questionnaire included sections on demographics, insurance, health service use, CD-4 cell counts were taken at the time of the interview.

**Outcomes Measures:** Patient’s compliance with HIV treatment, knowledge and attitudes about HIV treatment, influence on the decision to initiate treatment.

**Main results or findings:** 83% of the subjects with CD-4 cell counts under 500 reported they had received antiretroviral therapy. 56% had used three-drug combination drug therapy. 96% of subjects believe that the therapy increased survival, decreased viral load 87%, decreased HIV related infections 87%, and 29% believed the therapy could cure HIV. Major influences for receiving antiretroviral therapy were positions CD-4 count and others with HIV infection.

**Conclusion:** The model of the model for HIV care off site for methadone maintenance programs does not appear to impede access to antiretroviral therapy for HIV infected injection drug users in methadone men.

**Commentary - Impact on Internal Medicine:** The majority of methadone maintenance clinics did not provide comprehensive medical care, meaning that patients have to go off site. The clinics studied in this paper were private clinics, therefore, higher percentage of patients with insurance and means to obtain therapy off site. The majority of clinics are public clinics where patients have less capability of receiving off site therapy. In addition, the subjects in this study have been stable and in treatment 6 months with the average treatment over 40 months,
excludes patients who are less stable and are less likely to follow up on outside treatment and are very likely to continue the use of drugs, which places them at high risk for spreading HIV infection. Further studies of this type are needed in public clinics to see if the findings can be generalized. This may result in the necessity to more closely integrate medical care with the methadone maintenance treatment programs.
Background: Methadone maintenance is the most common form of treatment for heroin dependent individuals. This treatment involves the daily administration of methadone to reduce the consequences of continued heroin use. Consequences include risk of HIV, hepatitis C, and other infectious diseases.

Objective: To describe methadone maintenance therapy and other opioid therapies in the treatment of heroin dependence.

Type of Article: Review

Main Points:
1) Detoxification is often the first step in treating abstinence. However, there are very high relapse rates among those who are withdrawing from opiates.

2) Methadone maintenance is the most extensively researched form of maintenance therapy. Methadone is a long acting drug, given once daily. In appropriate doses, reduces craving for heroin and blocks its euphoric effects.
3) The effectiveness of treatment for opioid dependence has been demonstrated in 5 controlled studies of methadone maintenance. Although the numbers were small, these randomized tests produced positive results. In addition, there had been a large number of observational studies that corroborate these findings. Methadone maintenance is associated with the substantial reduction in mortality among heroin users, lower rates of HIV infection, decreased rates of other illicit drug use, greater attention in treatment than other forms of treatment for heroin addiction, and higher rates of attraction patients to treatment, and greater retention.

4) There are several risks that have to be kept in mind during methadone maintenance treatment. These include overdose during induction, accidental poisoning of children if there are take home doses, and diversion of take home doses. These can be reduced by utilizing a slow induction and only providing take home doses to those patients who are performing well in treatment.

5) Components of effective treatment include maintaining patients on higher doses, usually greater than 60 mg per day, adequate duration of treatment so that premature withdrawal does not take place, psychosocial services to deal with social and psychiatric problems, trained staff, and affordable costs. Methadone can be used in special populations such as pregnant women and those with comorbid psychiatric disorders. These populations appear to have better outcomes when provided methadone treatment and other alternative treatments.

6) Alternative forms of opioid maintenance are becoming available in the United States. Lambda-alpha-acetylmethadol is currently available and is longer acting, the methadone requiring dosing only 3 times a week. Buprenorphine is being intensively studied and should become available shortly for opioid maintenance and it also can be provided 3x a week. Naltrexone, an opioid antagonist, has been shown to be effective in opioid dependent people for whom failure to comply with treatment has major personal consequences such as opioid dependent health professionals. It has not been demonstrated to be effective in other
populations. European studies on the use of injectable heroin maintenance have shown that the patients can be attracted and retained in treatment and that these patients show significant reductions in a recent heroin use and crime, and substantial improvements in health and social studies.

7) The major challenge today is to provide opioid maintenance treatment to as many people as possible by reducing the obstacles to this treatment. These may include increasing the number of programs available for treatment and to make treatment available through private practitioners in the community.

**Conclusion:** Opioid maintenance therapies have proven to be most effective treatment for heroin dependent individuals. When placed on a proper dose, there is a significant decrease in crime, injection related infections, and increases in social functioning. To provide greater service to more opioid dependent individuals, effective treatment must be provided through sources other than clinics, which will include private practitioner’s offices.

**Commentary - Impact on Internal Medicine:** Injection drug users, the majority of whom are heroin abusers, create a significant burden on the health care system. Because of the injection drug use, there are high rates of infection, including HIV, bacterial endocarditis, and more recently, hepatitis C. More aggressive efforts to get patients into treatment and retaining them in treatment for longer periods of time have proven to be effective in reducing the infections and increasing social function. To provide greater accessibility, federal regulations are changing to allow methadone and other maintenance therapies to be provided in private practitioner’s offices. This will provide greater accessibility and also better integration of maintenance therapies with other health care needs. Because of the wide range of premorbid health care problems that would be addressed by internists, a large number of internists may
become involved in providing maintenance therapies. Therefore, they should be cognizant of the most effective process to the treatment of these patients.

**Category:** Heroin

**Title:** The cost-effectiveness of methadone maintenance as a health care intervention

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**Background:** Cost effective analysis using life-years of survival is a measure of treatment benefit that is widely used to determine cost-effectiveness of treatment. This has not been applied to substance abuse treatment. Cost-effectiveness analysis has been adopted as the standard method for evaluating new medical care interventions. Interventions that cost less than $50,000 for quality adjusted life-year are considered cost-effective. The most appropriate way to determine this would be randomization of subjects to treatment vs lack of treatment. However, this would be unethical. Therefore, literature review was used to determine mortality rates of those who were in treatment vs those out of treatment. Mortality rates were determined from articles published prior to the advent of methadone therapy and from sites where methadone therapy was discontinued. These included studies from Australia, Sweden, New York City.

**Objective:** To study the cost-effectiveness of methadone maintenance as a health care intervention and comparison with other health care interventions.

**Type of Article:** Study

Design: Statistical analysis based on review of the literature.
Methods: A model was used to develop an estimate of the cost-effectiveness of methadone maintenance based on differences in mortality rates of treated and untreated heroin addicts, expected mortality over time, cost of methadone maintenance in 1996 dollars, and incrementals of discount rate over time.

Major Findings: Providing opioid addicts with access to methadone maintenance has an incremental cost-effectiveness ratio of $5,915 per light year gained. The one-way sensitivity analysis determined that the ratio was less than $10,000 per-life year over a wide range of modeling assumptions. Utilizing this model, it was determined that the ratio for methadone was less than many common medical therapies and was well within the $50,000 threshold for judging cost-effectiveness. For example, incremental cost-effectiveness of bypass surgery compared to medical therapy for left-main coronary artery disease at $7,600 per year, severe hypertension $21,700, and for renal failure $38,00 per life-year.

Conclusion: Methadone maintenance treatment has a favorable cost-effectiveness in comparison with other medical treatments.

Commentary - Impact on Internal Medicine: This study utilized data that was available prior to the development of high rates of HIV and hepatitis C among injection drug users. It has been demonstrated that methadone maintenance therapy reduces the incidence of both of these infections plus other infectious disease among methadone maintained patients. Therefore, if this study was done utilizing more recent data taking into account HIV and hepatitis C, then cost-effectiveness of methadone would be even more significant. Although there are significant biases held by many against methadone maintenance therapies, the overwhelming majority of studies to date have demonstrated that it is an effective treatment reducing complications of injection drug use and as this article demonstrates is an extremely cost-effective treatment.