



BEST PRACTICE FOR RETAINING PATIENTS IN SUBSTITUTION THERAPY

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Abstract. Objective: To emphasize the best practice approach issues for retaining addicted patients on substitution treatment in an outpatient center. I have done a literature search of MEDLINE/PUBMED, CINAHAL and COCHRANE COLLABORATION using the following search terms: retention, substance abuse outpatient treatment, best practice. Study Selection: Pertinent English-language human studies and book chapters from 01.01.2004 until 31.12.2008 were reviewed. Data Synthesis: The main issues found in the literature regarding the improvement of retention in treatment and correlated with treatment management are: higher rather than lower doses of methadone, multiple interdisciplinary assessment approach with concomitant psychotherapy and rehabilitation counseling, family or close relatives involvement and location of the unit nearby or better within a hospital. We want to emphasize that other existent factors correlated with better retention like older age, less contact with the criminal justice system and former participation in an MMT cannot be improved in designing the model for a best practice facility. Conclusions: Best issues for retaining patients on maintenance treatment are mainly: integrated multidisciplinary approach, usage of rather higher doses of treatment, family or close ones involvement and placing the facility within a hospital.

Keywords: substance abuse, substitution treatment, retention, psychosocial interventions, continuum of care

Introduction

Even though the American Medical Association officially declared alcoholism and addiction as diseases over 50 years ago, in 1957, **stigmatization** remains the main issue that prevents society and even doctors from properly caring for addicted patients. The majority of the medical community is still thinking first of abstinence when they speak about "treatment" for addicts. It was only in the past decade that the staff working in

the field of addiction understood how disrupting for the patient is the total abstinence approach, that it produces more damage, it lowers the self esteem and it induces more relapses.

Since 1964 when methadone maintenance began as a research project for treating heroin withdrawing addicts, continuous data has accumulated to support the existence and need for treatment for such patients.

Over the years, the evidence based practice and cost efficiency studies have shown that, among the many evolving therapeutic approaches, the substance abuse outpatient maintenance facilities tend to be more efficient in a majority of cases.

As drug abuse has already reached a relatively high prevalence in Romania in the past 17 years since the fall of the communism and health expen-

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ditures are relatively low, it is important to try to develop a best practice model for more efficient treatment facilities.

Current State of Opioid Addiction Treatment

The models and level of care for addicted patients in the USA were last **assessed and rewritten** between **2004** and **2006** when the Substance Abuse and Mental Health Services Administration's (SAMHSA's) Center for Substance Abuse Treatment (CSAT) elaborated four new TIPs. Treatment Improvement Protocols (TIPs) are best-practice guidelines for the treatment of substance use disorders, provided as a service of the CSAT's Office of Evaluation, Scientific Analysis and Synthesis. Four panels of specialists were assigned as follows: one to write the TIP 40 - **Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction** [1]; another to update and rewrite data from former TIPs 1, 10, 20 and 22 to bring up to date the TIP 43 - **Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs** [2]; the third one to assess TIP 46 - **The Administrative Issues in Outpatient Treatment** [3] and the last one to write TIP 47 - **Clinical Issues in Intensive Outpatient Treatment** [4]. There are two main modalities for the treatment of opioid addiction: pharmacotherapy and psychosocial therapy.

Pharmacotherapies now available for opioid addiction include (a) agonist maintenance with methadone or LAAM (SAMHSA 2002a); (b) partial-agonist maintenance with buprenorphine or buprenorphine plus naloxone; (c) antagonist maintenance using naltrexone; and (d) the use of antiwithdrawal ("detoxification") agents (e.g., methadone, buprenorphine, and/or clonidine) for brief periods, and in tapering doses, to facilitate entry into drug-free or antagonist treatment.

Psychosocial approaches (e.g., residential therapeutic communities), mutual-help programs (e.g., Narcotics Anonymous), and 12-Step-or abstinence-based treatment programs are important modalities in the treatment of addiction to heroin and other drugs, either as stand-alone interventions or in combination with pharmacotherapy [2].

Current State of other Non-opioid Addiction Treatment

There are many non-opioid drugs of abuse on the streets but the main focus is on stimulants

like cocaine and amphetamines and, because of the larger number of consumers, marijuana abuse is also beginning to be assessed in clinical trials. In some places prescription drugs are the main problem of abuse.

Because of the absence so far of a good substitution or alleviating therapy for stimulants, the only available treatment approach is using the psychotherapy tools [4].

Chronic Disease Management

Recognizing that substance abuse is a chronic disorder similar to diabetes, hypertension, and asthma led specialists to question the acute care model of service delivery that has characterized substance abuse treatment for the past 50 years (Mc Lellan et al. 2000). Addiction doctors felt strongly that intensive outpatient treatment (IOT) providers — like providers in the rest of the health care system — should rethink the acute care approach to treating substance use disorders. Increasingly, IOT programs are involved in substance abuse treatment beyond the initial 4 to 12 weeks [2].

Importance of Retention

Studies of patients who left medical assisted treatment (MAT) prematurely have determined that the length of retention was the most important indicator of treatment outcome (e.g., Simpson, D.D., et al. 1997b). Patients who stayed in treatment for a year or longer abused substances less and were more likely to engage in constructive activities and avoid criminal involvement than those who left treatment earlier, although all patients benefited from treatment, for instance, through less exposure to and transmission of infectious diseases (Hartel and Schoenbaum 1998). Their communities benefited as well [2].

Improving Patient Retention

Factors affecting patient retention

Patient characteristics, behavior, and other factors unrelated to treatment have been found to contribute relatively little to retention in MAT. One comprehensive study found that retention was determined almost entirely by what happened during treatment, not before, although two factors, older age and less involvement with the criminal justice system, predicted longer retention (Magura et al. 1998, 1999 *2). Another factor found to affect reten-

tion was motivation or readiness for treatment (Joe et al. 1998 *2).

Recommended steps to improve patient retention

- Individualize medication dosages.
- Clarify program goals and treatment plans.
- Simplify the entry process.
- Attend to patients' financial needs.
- Reduce the attendance burden.
- Provide useful treatment services as early as possible.
- Enhance staff-patient interactions.
- Improve staff knowledge and attitudes about MAT.
- Counseling and Case Management, Behavioral Treatments, and Psychotherapy.
- Other Approaches: acupuncture, meditation classes; exercise programs; classes in diet, nutrition, and health; and trauma groups – still need more evaluation.

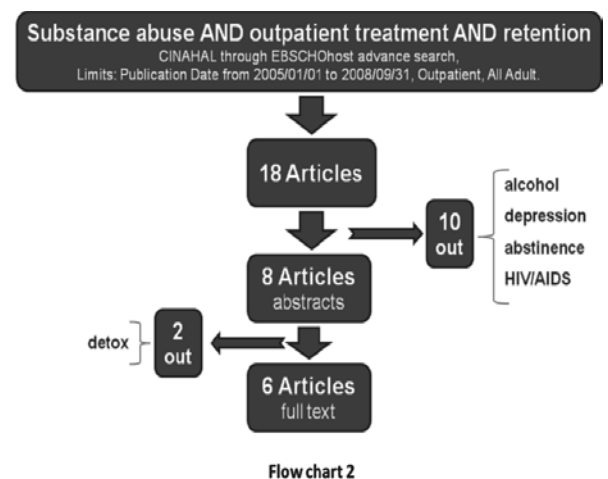
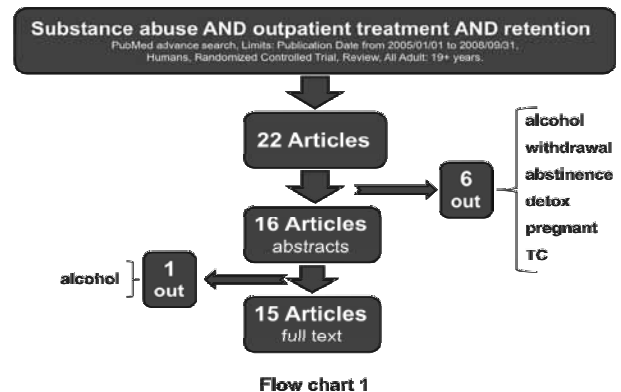
Methods

Since the data from the literature between 1993 and 2005 were analyzed in the four above mentioned TIPs (TIP 40, TIP 43, TIP 46 and TIP 47), we have first started by analyzing the data from these sources and then searching newer English literature data between 2005 and 2008, accessing the following databases: MEDLINE/PUBMED, CINAHAL, and COCHRANE COLLABORATION. The used search terms were: substance abuse, outpatient treatment retention and evidence based medicine.

The PUBMED search with the above terms and applying limits for humans, randomized clinical trials, reviews, +19 years of age and the January 2005 to December 2008 interval, provided a total of 22 articles. The exclusion criteria were: articles related only to alcohol consumption, to withdrawal treatment, to detox treatment, to severe co-occurring diseases, only to women or to abstinence centered approaches, except for cocaine. All the extracted titles were reviewed and six articles were removed because one was related to alcohol abuse, one was about adolescents, one about detox, one related only to pregnant women, one was about therapeutic communities and one related to withdrawal treatment. We read the abstracts of the remaining 16 articles and excluded one analyzing alcohol abuse. Finally the remaining 15 articles were selected for further full evaluation (flow chart 1).

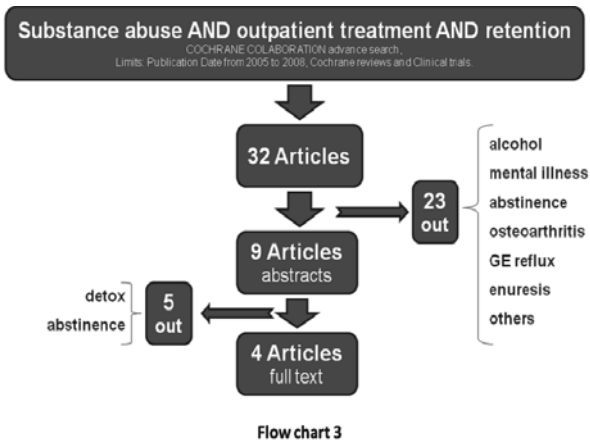
The CINAHAL search through the EBSCHO-

host engine applying the same search terms and the limits: all adults, outpatients and same time interval, provided 18 articles. Applying the same exclusion criteria we excluded 4 articles related to alcohol abuse, 4 to abstinence, 1 to depression and 1 to HIV/AIDS aspects. The remaining 8 articles abstracts were then analyzed and another 2 were removed because of being related to detox. The remaining 6 articles were retained for further full evaluation (flow chart 2).



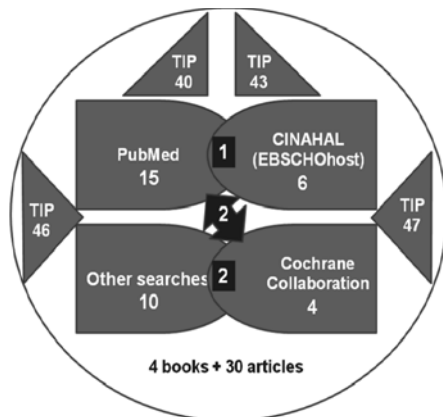
Finally, the search in the COCHRANE COLLABORATION with the same search words and same time period yield to a number of 32 articles from which we excluded 4 related to alcohol abuse, 6 related only to mental illness treatment, 2 related to detox, 2 to withdrawal, 1 to enuresis, 1 to osteoarthritis, 1 to gastro-esophageal reflux, 1 to tobacco, 1 to abstinence, 1 to therapeutic communities, 1 for severe mental illness and substance misuse, 1 to benzodiazepines and 1 to Methaqualone. The abstracts of the remaining 9 articles were assessed and 2 related only to pregnant heroine users and 2 related to naltrexone detox and 1 abstinence oriented article, were also excluded. The remaining 4

systematic reviews were retained for full evaluation (flow chart 3).



The finally selected articles were compared and from the 25 retrieved articles only three were duplicated.

Manual search for the related articles lead to 10 supplementary articles that are included in the final bibliography. Because one of the supplementary articles was an update from a Cochrane Collaboration retained article, we replaced it and another retrieved article was included in one of the Cochrane meta-analyses, so we removed it. The final number of articles is 30 (Fig. 1).



Results

Outpatient Treatment Programs

The data synthesized in the above mentioned TIPs analyze the Intensive Outpatient Treatment (IOT) and the Outpatient Treatment Programs (OTPs), discussing several issues. Outpatient Treatment Programs (OTPs), the most frequent facilities seen nowadays, differ from the ideal model, mainly in the extension of services because of inappropriate funding and/or lack of personnel. OTPs can still

provide several treatment options and the consensus panel [4] recommends that OTPs offer at least the following services:

- Comprehensive psychosocial assessment;
- Initial and yearly medical assessment (physical examination and laboratory testing);
- Medication dispensing;
- Drug tests;
- Identification of co-occurring disorders and neuropsychological problems;
- Counseling to stop substance abuse and manage drug craving and urges;
- Evaluation of and interventions to address family problems;
- HIV and hepatitis C virus (HCV) testing, education, counseling, and referral for care;
- Referral for additional services as needed.

So after we have seen the 2005/2006 aspects of outpatient treatment services, the already determined best approaches in retention and the proposed fields of further development, we will analyze the new literature data available in the past four years, trying to assess the **new valuable data**.

The 30 selected articles were evaluated for overall quality and the presence of major limitations. These aspects will be discussed further for each study. The studies were grouped in the following categories:

- Studies evaluating psychotherapeutic approaches for patients in substitution therapy (8 articles);
- Studies assessing new data for opioid substitution therapy (12 articles);
- Studies evaluating pharmacologic, psychosocial and other therapies for cocaine and amphetamine addicts (7 studies);
- The other 3 articles will be assessed separately each analyzing different aspects like psychotherapy for marijuana abusers cost efficiency analysis and use of incentives for the counselors.

The 8 studies assessing different psychosocial therapies in opioid substitution are summarized in Table I.

Six of the studies have rather small group samples but being multi-sited they still offer a good perspective of the real effect of the same psychosocial technique applied in different settings by different counselors. All are of rather good quality but suffer from the sample size limitation. Even [5] is a Cochrane Review because the assessed articles are quite heterogeneous, which does not offer more strength to the data.

The remaining two articles Vanderplassen et al.[6] and Dutra et al. [7] cover more than two

Reference	No. of Patients	Primary Outcome	Question(s)	Limitations	Conclusions
Dutra, L., et al.(2008) *7	2340 34 studies	Primary retention	Psycho soc. treat. for Can. Opiat. Coc. and Poly.	Heterogeneous	Can>Coc>Opi >Poly. CM +CBT>CM >CBT
Ball, S. A., et al. (2007) *8	461 245 + 216 5 sites	Primary retention Substance use	MET vs. CAU effectiveness alcohol/drug use subgroup analyses	1/3 of pat. ineligible Concl. non generalizable MET~ use	MET = CAU Both ↓ use MET > CAU after end point alcohol>drug
Vanderplasschen W., et al.(2007) *6	48 studies	Retention Q. of Life Substance use	Is Case Manag. effective	Heterogeneous Small size	CM and ACT are effective
Sun, AP., (2006) *9	35 empirical studies	Retention	What is more effective for women	No RCT Small size	Gender spec> Child care> IOT> All inclusive>
Carroll, K. M., et al. (2006) *10	423 5 sites	Primary retention Substance use	Standard Intake evaluation versus SIV + MI	25% of pat. ineligible MI ~ training # between trainers	MI > retention SIV=MI+SIV for use
Gossop, M., et al.(2006) *11	276 31 OTP	Substance and alcohol use	DFC and AFC are better than non FC	no randomization no session evaluation	DFC/AFC=NF C alcohol and cocaine use ↓
Mayet, S., et al.(2005) *5	389 5 studies 41-175 pat./group	Substance use, craving, retention	BRBIOT + CM/Incentives/EOCP/CET versus standard	Heterogeneous Small size No clear alloc. conceal.	EOCP and BRBIOT + CM >> standard not sufficient data
Meier, PS., et al.(2005) *12	18 studies	Retention	Therapeutic alliance and retention	Heterogeneous	Early TA >67% retention

Table I. Studies evaluating psychotherapeutical models for patients in substitution therapy

thousand patients each, being also small sample sized and heterogeneous; they do not weight more than the others. Overall, the lesson offered by this data for our research question is: **even not with a great strength psychosocial approaches are useful in improving retention in maintenance treatment. The best results are in decreasing order for Cognitive Behavior Therapy + Contingency Management, Brief Reinforcement Based Intensive Outpatient Therapy or Enhanced Outreach-Counseling Program + Contingency Management and Cognitive Behavior Therapy alone. Secondly, more sessions are better than**

fewer. However data also show that all psychosocial approaches, if correctly delivered, decrease illicit substance use. Last but not least, establishing a strong and early therapeutic alliance is also important for all outcomes.

The second group of articles is assessing the opioid substitution maintenance options and their brief information is showed in Table II.

There were twelve retained articles. Five of the studies are rather medium/low quality, [13] for small sample and no control group, [14] for no randomization; [15] has 98% men in the sample; [16] also has a small sample and no clear ran-

Reference	No. of Patients	Primary Outcome	Question(s)	Limitations	Conclusions
Mattick, RP., et al. (2008) *21	4497 24 RCT's	retention drug use	Is BMT >= To MMT	heterogeneous	ret. MMT>BMT at all doses drug use med BMT> low MMT
Johansson, BA. et al. (2007)*23	1522 8 RCT's	retention drug use criminality	Is MMT better	few women	MMT >> (SS) for all outcomes
Ady, Y., et al. (2007) *20	26 RCT's	retention drug use reoffense	Naltrex. for relapse prev.	heterogeneous short follow up	ret > (not SS) drug use < (SS) reoffense (SS)
Connock, M., et al. (2007) *22	31 syst. rev. and 27 RCT's	retention cost efficiency	Is flex. MMT> than flex BMT	very strong analysis	flex. MMT > flex. BMT > no treat. for retention
Johansson, BA. et al. (2006)*19	1071 15 RCT's	retention drug use	Is Naltrex. Treat. efficient	heterogeneous	CM helps ret. in Naltrex. Treat.
Mohan, D., et al.(2006) *13	54	drug use detention ASI	Effect of 2 mg/day Bup on opiate Addicts	small sample no control group	Bup is efficient in opiate add. Even at lower doses
Vigezzi, P., et al.(2006) *14	257 121 +136	drug use retention	Bup up 32mg/day Versus methadone	no randomization	Bup = Met on retention Bup>Met on illicit drug use
Villafranca, S., et al.(2006) *15	258 In 8 OTPs	ASI SF-36V HRIPQ CSQ-8	Met > 59 mg/day Versus Met < 59 mg/day	not generalize to women	Higher Met Dose = > ret. & ↑ QOL
Minozzi, S., et al.(2006) *18	696 10 studies	retention criminality	Is NT better than placebo	heterogeneous no clear concealment	ret. NT>PT (not SS) crime. NT>PT (SS)
Nunes, EV., et al.(2006) *16	69 36/33	retention	Is BNT> than Naltrex. alone	small sample high dropouts	BNT>NT but ret at 6 month = 22%
Brady, T. M., et al. (2005) *17	428 from 31 OTPs	retention (ALOS)	Dose<60 mg/day versus Dose>60 mg/day	22% missing data	70% pat. Under 60 mg/day >60 mg = better ALOS
Amato, L., et al. (2005) *24	12,075 52 studies	retention drug use criminality Q of Life	Is MMT better than MDT BMT HMT and LMT	heterogeneous few RCT	Ret. MMT>MDT >BMT>LMT drug use LMT>MMT=HMT>WL

Table II. Studies assessing new data for opioid substitution therapy

domization, and [17], even if it has more patients and is a multi centered study, because of more than 20% lack of data, it also has no better quality. Except for study [13] in which the follow-up is 24 weeks, all the other studies have more than 12 months follow-up and for that the offered data

still have some consistency. Three of the remaining articles try to assess the efficiency of naltrexone maintenance treatment. [18] analyses ten studies, [19] covers fifteen studies, and [20] - twenty one RCTs, in total almost 4,000 patients and the results are clear despite the "great campaign" in Israel for

the magic cure of opioid dependence. Naltrexone is useful only for preventing relapse and not alone but with psychosocial help, especially CBT and case management. The four remaining articles [21,22,23,24] are all reviews and/or meta-analyses with more than 1,500 patients each, the strongest of all being the British study from Connock and al.[22]. The main idea from these studies is that methadone maintenance is better than methadone detox and buprenorphine maintenance is almost as efficient in retention as methadone, the higher cost may be outweighed by lesser interactions with other medications.

In conclusion these studies show: **even though recommendations are for rather higher dosages, methadone maintenance is still realized with rather smaller dosages, buprenorphine is as good as methadone in retention and seems to have lesser illicit drugs use and naltrexone is useful for relapse prevention.**

The next group, which includes 7 articles, is referring to stimulants abuse, mainly cocaine. The brief description of them is made in Table III.

The main limitations of four of the selected articles [25,12,27,28] are the small sample size and not clear randomization. The last three are meta-analytical reviews of RCTs and cover more consistent samples of patients, still they are only of acceptable quality because of not clear randomization and relatively small samples in the analyzed studies. Cocaine addiction is a much researched problem because of the lack of efficient pharmacotherapy and the great numbers of addicts all over the world. Castells et al. [29] article is a review that includes nine RCTs trying different pharmacological treatments and psychotherapies for cocaine addiction. None of the analyzed CNS stimulants (mazindol, dextroamphetamine, methylphenidate, modafinil and bupropion) showed better retention than placebo, but results sustained that both modafinil (a glutamate-enhancing agent that blunts cocaine euphoria under controlled conditions) and dexamphetamine in association with intensive psychosocial approaches induce more prolonged abstinence intervals. An article from Moeller et al. [27], being newer, was not included in the former mentioned review, but it shows similar potential for citalopram (a selective serotonin reuptake inhibitor). The Knapp et al. [30] article, also a Cochrane collaboration review, analyzes the intensive psychosocial approaches such as Cognitive-Behavioral Therapy, Contingency management, Community

Reinforcement Approach, Coping Skills Training, and Reinforcement-Based Therapy showing that all of these alone, but especially in association with incentives, can induce longer abstinence periods.

The last included article [31], also a Cochrane library review, is trying to assess the most debated problem of auricular acupuncture for cocaine dependency. Even though the authors have managed to gather more than 1,400 patients in 7 studies, because of the already mentioned limitations, they either cannot rule out or prove some effect.

In conclusion, the lessons learned from these studies are: **Cognitive-Behavioral Therapy, Contingency management, Community Reinforcement Approach, Coping Skills Training, and Reinforcement-Based Therapy alone but especially in association with incentives are the single evidence-based medicine approaches for stimulant abuse treatment.**

As we have presented initially, there are three articles that did not fit the other groups, and could only be analyzed separately. The first is briefly summarized in Table IV.

The authors use the much debated incentive approach in retaining mainly cocaine addicts in outpatient treatment facilities from a new perspective: offering incentives to counselors. Study [32] has limitations because in the beginning, they offered some small incentives to the patients and their effect is not assessed in the study, then they randomized the incoming patients to counselors. The other possible confounder is that the site was a former inpatient facility and that can in a way bias the patients' attendance to the sessions. The study shows that a relatively small sum of money (100\$ for each patient attending at least 5 sessions) can get better retention and decrease of illicit use.

The next retained article is briefly summarized in Table V. The article [33] is a Cochrane library review that tries to assess a very important aspect namely the marijuana addiction. As we know, this is the most popular addiction all over the world, and because of the "classical" belief that it is not harmful, it was neglected by the researchers until relatively recently. The main limitations of the included studies are the use of money deposits at the entrance in the OTPs (in 3 of the 6 trials), the relative homogeneity (white, relatively rich) and the self-referral approach in all studies.

The main lesson from the study is: **a psychosocial approach is useful for reducing abuse. Better results are observed as in cocaine abuse with**

Reference	No. of Patients	Primary Outcome	Question(s)	Limitations	Conclusions
Carroll, K., et al.(2008) *25	77	drug use	CBT4CBT versus Standard care	only 65% finished not comparing	CBT ↓ cocaine use
Secades-Villa, R., et al. (2008) *28	43 In 2 groups	cocaine use	CRA + voucher versus standard therapy	small sample	CRA + vouch. >> Standard therapy
Knapp W. P., et al. (2007) Coch.C.*30	3663 In 27 RCT	drug use craving ASI severity	CBT/CRA/CM CST/RBT/RP SOAR/12S	not clear rand. most single blinded	CBT>DC allover +CM seems >
Garcia-Rodriguez, O., et al. (2007)*26	66 In 3 groups	cocaine use retention	Standard versus S + incentive I S + incentive II	small sample	Inc I>Inc II>S
Castells, X., et al.(2007) *29	640 9 RCTs	drug use retention	are CNS stimulants useful	heterogeneous small sample	dexamphetamine and modafinil need research
Moeller, F. G., et al. (2007) *27	76 In 2 groups	cocaine use alcohol use	Citalopram + CBT + CM versus CBT+CM	not clear rand small sample	Cit + CBT+ CM >> CBT + CM
Gates, S., et al. (2006) *31 Coch.Colab.	1433 In 7 studies	cocaine use ASI severity	Sp.Acc. versus Sham Acc. or No Acc.	not clear rand. relat. small sample	No clear evidence but not ruled out

Table III. Studies evaluating different therapies for stimulants dependence
CBT=cognitive-behavioral therapy; CM=contingency management

Reference	No. of Patients	Primary Outcome	Question(s)	Limitations	Conclusions
Shepard, D. S., et al.(2006) *32	220 124+76	80% attendance for 5 RP	100\$ for 5 RP will ↑ retain 80%	loc. possible confounder also pat. incentives	Couns. Incent. ↑ retention from 33% to 59%

Table IV. Study regarding incentives for the counselors
RP=relapse prevention aftercare

Cognitive-Behavioral therapy or Motivational intervention + Contingency management and more sessions have better results.

The last article [34] is a cost efficiency meta analysis of 110 programs that were using Drug Abuse Treatment Cost Analysis Program (DATCAP) and was included because it offers irrefutable proof of the cost efficiency of the MMT outpatient programs. The DATCAP (Bradley, French, & Rachal,

1994; French, Bradley, Calingaert, Dennis, & Karuntzos, 1994; French, Dunlap, Zarkin, McGeary, & McLellan, 1997; French & McGeary, 1997; Roebuck, French, & McLellan, 2003; (www.DATCAP.com) is a program-level data collection instrument that is designed to estimate the costs of a substance abuse treatment program based on standard economic principles. It can be used in a variety of treatment settings. By using only DATCAP estimates, we can

Reference	No. of Patients	Primary Outcome	Question(s)	Limitations	Conclusions
Denis Cecile et al.(2006) Coch.Colab. *33	1297 In 6 trials	retention relapse ASI/SDS	Does CBT MET or SS help outcome	Self-referred \$ deposit ethnicity	CBT+CM>CBT >MET>SS and more CBT sessions>

Table V. Study regarding psychosocial treatments for Cannabis dependence
CBT=cognitive-behavioral therapy; MET=motivational intervention; SS=social support

Reference	No. of Programs	Primary Outcome	Question(s)	Limitations	Conclusions
French, MT., et al. (2008) *34	110	weekly cost	actual cost bands	few programs for some bands different length of treatment	MMT and Drug courts are the most cost effective

Table VI. Cost efficiency analysis through DATCAP

ensure a standard method of cost data collection and calculation among all programs included in the cost bands. Using the weekly and episode cost estimates obtained through DATCAP for each program, everyone can estimate its own cost and compare it to the existing upgraded cost bands for eight different treatment modalities. DATCAP was developed first in 1994 and was then twice upgraded in 1997 and 2003. The analyzed article, briefly described in table VI, is the last correction proposed for new cost bands based on the 2006 \$.

The main information offered by this cost efficiency analysis is that among all existing programs for substance use treatment, the methadone/buphrenorphine maintenance treatment and the drug courts are the most cost-efficient.

Discussions

If we analyze the 2005 recommended steps to improve patient retention and the seven shown challenges, we can see that:

- stigma is still the major problem, creating obstacles for solutions in all other aspects;
- we still need more facilities - the waiting period being more than 20 days;
- staff is still a problem with high fluctuation and mobility rates;
- we still use rather small doses of treatment;
- the number of services in prisons is still small

but it is better to use the drug courts that are cheaper rather than increase the prison system;

- some studies were developed but we still lack concluding data for aspects such as acupuncture and many others.

Lessons learned in the past four years for better retention:

1. Psychosocial tools such as: Cognitive Behavior Therapy + Contingency Management, Brief Reinforcement Based Intensive Outpatient Therapy or Motivational Enhancement Therapy + Contingency Management and Cognitive Behavior Therapy alone offer better retention for addicts, especially stimulants and marijuana abusers.

2. More sessions are better than fewer (5 being the minimum).

3. For stimulants abuse in particular, using incentives improves the effect of the psychosocial tools.

4. Incentives can be successfully used also for counselors.

5. Buphrenorphine is as good as methadone in retention and seems to induce lesser illicit drugs use.

In conclusion I want to say that, being a chronic disease, Addiction needs:

- a CONTINUUM of CARE;
- which must be adapted to the NEEDs of the patient;
- so the first step is a GOOD ASSESSMENT.

The Continuum is valid both for pharmacological and psychosocial interventions and recent data sustain that the best approach is with higher intensity in the beginning of treatment.

My proposed option for the pharmacotherapy continuum is: Methadone maintenance → Suboxone maintenance → Naltrexone maintenance → Abstinence.

My proposed option for the psychotherapy continuum is: Community Reinforcement Approach/ Cognitive Behavioral Therapy/ Motivational Enhancement Therapy + Contingency Management +/- Family support → Relapse prevention Group/ Peer Support Group → Abstinence.

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