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Running head: addictions and treatment readmissions

Profile of addicted patients who re-enter treatment programmes

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Title: Profile of addicted patients who re-enter treatment programmes

Abstract

Objective. This study explored the differential profile of addicted patients who re-enter

treatment programmes.

Method. A sample of 252 addicted patients (203 male and 49 female) who sought

outpatient treatment was assessed. Data regarding socio-demographic factors, drug

consumption factors (assessed using the EuropAsi), psychopathological factors

(assessed using the Symptom Checklist 90 Revised [SCL-90-R]), and personality

variables (assessed using the Millon Clinical Multiaxial Inventory II [MCMI-II]) were

collected.

Results. 65.9% (n=166) of drug-addicted patients were re-admitted into treatment

programmes. All of the variables for which we collected data were compared between

these treatment repeaters and patients who were admitted for the first time. Significant

differences between the two groups of patients were found for some of the variables that

we examined. Treatment repeaters were generally older and had a poorer employment

situation than first-time admits. Treatment repeaters were also more likely to report

poly-consumption and to have sought treatment for alcohol abuse. Moreover, some of

the scores for several EuropAsi, SCL-90-R, and MCMI-II variables were statistically

significantly different from those of the first-time admits.

Conclusions. According to these results, patients who re-enter treatment programmes

often present with more severe addiction problems. The implications of these results for

further research and clinical practice are discussed.

Keywords: addiction; treatment; re-entry; dropout; assessment.

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Introduction

Drug addiction is a multidimensional problem that affects all facets of the lives of those who suffer from it. Some of the areas that are most seriously affected during the course of an addiction are the physical and mental health of the addicted individuals as well as their family and social relationships or employment ¹⁻³, although the manner in which each individual is affected varies ⁴. Addiction treatment programmes attempt to respond to the needs of patients who fail to overcome periods of drug use by themselves, and to the extent that it is possible, these programmes attempt to minimise the negative impact that an addiction may have on the lives of their participants. In general, an adequate treatment course that is aimed at meeting the needs of a patient favours the completion of therapy ^{5,6}. The completion of treatment is one of the best predictors of the absence of subsequent relapses ⁷⁻⁹.

However, clinical experience shows that some patients who suffer from drug addiction are re-admitted to treatment programmes multiple times because of relapses that occur after they leave these programmes ¹⁰. In recent decades, the interest in a subtype of patients who, despite receiving treatment, alternate between periods of abstinence (or more controlled drug use) and periods of relapse and re-admission into treatment programmes has increased ^{11,12}. Scott, Dennis and Foss describe three common situations in the recovery process of patients with addictions: relapse, re-entry into a treatment programme, and abstinence ¹³. These authors followed a cohort of 448 patients for a two-year period, and they found that approximately 1/3 of the patients changed from one of these states (relapse, treatment programme re-entry, or abstinence) to another every four months; 82% changed at least once during the 2-year period, and 62% moved between recovery states several times. Similarly, Dennis et al. ¹⁴, found that over half of the patients who participated in their study had entered into treatment

programmes at least twice, and that, on average, each person had received three or four therapeutic interventions to obtain a 1-year period of abstinence during an 8-to-9 year interval.

For this reason, some programmes that involve systematic contact with previous patients have been developed. In some cases, the aim of this contact is to evaluate the conditions of these patients and to provide the patients with care without waiting for the patients to demand treatment ^{11,13,15-17}. In other cases, systematic contact is intended to offer ongoing support beyond that provided in the actual treatment ¹⁸. The results that have been found to date are promising. Among other benefits, fewer episodes of use and shorter durations of these episodes were found among the subjects who were included in these studies. Thus, these patients presented fewer psychological problems and fewer risk behaviours for HIV. Moreover, the treatment programmes in which they participated were shown to be profitable from an economic standpoint ¹⁹.

It is important to remember, however, that the patients who re-enter treatment programmes repeatedly may do so because they have problems or difficulties that were not addressed or that were not satisfactorily solved during previous treatment periods. Perhaps, then, an effective first intervention may prevent future problems and situations in which a patient requires multiple treatment programme re-admissions, which could explain the reason that the first admission is a good predictor of therapeutic success in some programmes ⁵.

Despite the high prevalence of re-admission into treatment programmes, only a few studies have examined the general profile of patients who re-enter these programmes and the possible differences between re-entering patients and patients who respond to first-time treatment; moreover, most of these studies have been conducted on patients of Anglo-Saxon ethnic backgrounds. The few studies that have been conducted

show that re-admitted patients generally have a more severe profile than those who respond to first time treatment. In general, patients who re-enter treatment programmes are older and less educated than first-time admits; re-admitted patients also have less job stability, more problems with the law, and more medical, psychiatric, and family problems than patients who seek treatment for the first time ²⁰⁻²³.

It is known, however, that one of the best predictors of success is the completion of an entire treatment programme. Various studies have suggested that patients who abandon treatment prematurely (regardless of the treatment period in question) present with, among other factors, more anxiety problems ²⁴, more severe addictions ^{6,25}, greater cognitive deficits ^{26,27}, more personality disorders ^{25,28}, greater psychopathological problems ²⁹, less social or familial support, or different combinations of these factors ^{4,30}. The combination of withdrawal from a previous treatment programme and the presence of a more severe addiction profile requires that the protocols that are used in the treatment of a re-admitted patient have specific adaptations that are designed to make therapeutic interventions more efficient.

For all of the aforementioned reasons, and keeping in mind the goal of understanding the specific characteristics of patients who are admitted into addiction treatment programmes more than once, the present study aims to first establish the percentage of re-admitted patients in addiction treatment programmes and to then evaluate the differences between patients who re-enter treatment programmes and patients who seek treatment for the first time. The main hypothesis of the study is that those patients who re-enter treatment programs will present a more severe profile of addiction.

Method

Participants

The initial sample consisted of 284 consecutive addicted patients who came to the XXXX XXXXX XXXXX de XXXXXX (Spain) to obtain outpatient treatment between October 2008 and July 2010. This is a cognitive-behavioral intervention on an outpatient basis, aimed at abstinence, and it is not required to pay for treatment. The main therapeutic techniques are related to stimulus control and *in vivo* exposure, as well as relapse prevention. Successful program completion typically requires around 12 months, and it is achieved when a patient completes all therapeutic sessions. This program has shown effective in the treatment of addictions ²⁵.

The current study's admission criteria were that the patients had to a) meet the diagnostic criteria of substance dependence according to the *DSM-IV-TR* (American Psychiatric Association, 2000); b) be between 18 and 65 years old; c) give their informed consent to participate in the study; and d) complete the three assessment sessions. According to these criteria, 252 patients were selected for the study (88.7% of the initial sample). The rest of them (32 patients) did not meet the admission criteria for the study.

The mean age of the individuals included in the study was 37.6 years (SD=9.5); the sample included 203 (80.6%) men and 49 (19.4%) women. The socioeconomic level was middle to lower-middle class. The main substances that motivated treatment were cocaine (49.6% of the sample) and alcohol (43.3% of the sample), followed by other substances (e.g., heroin, cannabis, amphetamine, etc.) in smaller numbers (7.1% of the sample).

Assessment measures

The *EuropAsi* ³¹ is the European version of the Addiction Severity Index ³². This interview assesses the need for treatment in the following six areas: a) general medical state; b) labour and economic situation; c) drug consumption (alcohol included); d) legal problems; e) family and social relationships; and f) psychiatric state. Severity

scores range from 0 (no problem) to 9 (extreme problem) in each area, and the cut-off point for each area is 4. These areas are directly related to the severity of consumption ⁴. In this study we have also used the "Composite scores" (CS) of the EuropASI. The composite scores were developed for research purposes; they are arithmetically-based indicators of current (last 30 days) problem severity and range between 0.00–1.00, with higher values denoting higher degrees of severity. The composite scores have been calculated according to the proposal by Koeter & Hartgers ³³. The Spanish version of the *EuropAsi* was developed by Bobes, González, Sáiz and Bousoño ³⁴. The short-term test–retest reliabilities of the ASI severity ratings have been reported to be greater than or equal to 0.92 for all domains.

The *Symptom Checklist-90-Revised (SCL-90-R)* (Derogatis, 1992;³⁵ Spanish version by González de Rivera, 2002) ³⁶ is a self-administered general psychopathological assessment questionnaire. It consists of 90 questions that are answered on a 5-point Likert-type scale, ranging from 0 (none) to 4 (*very much*). The questionnaire aims to assess the respondent's psychiatric symptoms. The *SCL-90-R* has been shown to be sensitive to therapeutic change, and thus may be used for either single or repeated assessments. The *SCL-90-R* measures nine areas of primary symptoms: somatisation, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. It also provides three indices that reflect the subject's overall level of severity. The internal consistency ranges from .70 to .90.

The *Millon Clinical Multiaxial Inventory (MCMI-II)* ³⁷ is a self-report questionnaire with 175 true/false items. It was designed to identify clinical states and personality disorders that are similar to those contained in the *DSM-IV-TR*. The MCMI-II contains 10 basic personality scales: 1) Schizoid, 2) Phobic, 3) Dependent, 4)

Histrionic, 5) Narcissistic, 6) Antisocial, 7) Aggressive/sadistic, 8) Compulsive, 9) Passive-aggressive, and 10) Self-destructive. In addition to the basic personality patterns, there are three pathological personality scales: Schizotypal (S), Borderline (B) and Paranoid (P). The nine symptom scales of the *MCMI-II* were not taken into account in this study as they are not relevant to the purposes of our research. According to the conservative criteria of Weltzer ³⁸ regarding the *MCMI-II*, a base rate score above 84 for the personality scales is considered to be significant for the existence of a personality disorder. The internal consistency ranges from .66 to .89.

Procedure

The protocol for this study was approved by the ethics committees of the XXX XXXX and of the XXX XXX de XXX.

Once the clinical sample was selected using the previously described criteria, the assessment of the sample was carried out in three sessions before beginning the treatment. Each session took place once a week for three weeks; the time interval between sessions was the same for each participant. In the first session, data related to socio-demographic characteristics and drug consumption were collected using the *EuropAsi*. In the second session, the presence of psychopathological symptoms was assessed using the *SCL-90-R*. Finally, in the third session, the prevalence of personality disorders was assessed using the *MCMI-II*.

After the assessment sessions, patients began the standard treatment of *Proyecto Hombre* for addiction. Detailed tracking treatment history of each subject's was made. In this study they were considered as re-admitted patients those who had previous treatment experiences, independently of where they had been received, during a minimum period of 1 month.

Data analysis

Descriptive analyses were conducted for all variables. Bivariate analyses were employed using χ^2 or t-test statistics, depending on the nature of the variables studied. A difference of p < .05 was considered significant. Statistical analyses were carried out using SPSS (version 15.0 for Windows).

Results

Of the subjects who participated in the present study, 65.9% had previous treatment experiences and were therefore considered re-admitted patients. In contrast, 34.1% of the patients in the sample (n=86) were being treated for their addictions for the first time. Comparisons between the two types of patients regarding various sociodemographic variables and substance consumption are shown in Table 1.

Please insert Table 1 here.

In general, patients who are receiving treatment for the first time are younger and more likely to be employed than those who have received treatment more than once. Differences between the groups also exist regarding the particular type of substance addiction that resulted in admission. Most first-time patients were admitted because of cocaine abuse (67.4%), followed by alcohol abuse (27.9%) and the abuse of multiple substances (4.7%). However, re-admitted patients were most often admitted for alcohol use (51.2%), then cocaine use (40.4%) and poly-use (8.4%).

The severity of each patient's addiction was evaluated using the EuropAsi (Table 2), and the patients who had multiple periods of treatment generally presented with greater severity than first-time admits in five of the seven areas that were scored by an interviewer (medical, employment, alcohol and drug use, legal, family/social and psychiatric) and in three of the nine areas that were evaluated by means of the composite scores (medical, financial, and family situation).

Please insert Table 2 here.

The entire sample showed moderate-high scores on the Symptom Checklist 90 Revised (SCL-90-R) (approximately 60th percentile), which was used to assess psychopathological symptoms (Table 3). The only significant difference between both groups was observed in psychoticism. Patients who had multiple treatment periods generally had higher psychoticism scores than those who were receiving treatment for the first time.

Please insert Table 3 here.

Compared with patients who were receiving treatment for the first time, patients with multiple periods of treatment also had higher Millon Clinical Multiaxial Inventory II (MCM-II) scores that were indicative of phobic, anti-social, self-destructive, and schizotypal personality disorders (see Table 3). However, we did not find any categorical differences between the two groups of patients that were statistically significant (see Table 4).

Please insert Table 4 here.

Finally, there were several differences between the two patient groups regarding various adaptation variables (Table 5). Re-admitted patients had significantly greater numbers of medical problems, including depression and suicidal ideation, than first-time admits, and they were more often dissatisfied with their current living situations. There was also a significant difference in the income sources of the two patient groups: whereas 79.1% of the patients who were in their first admission were employed, only 59.0% of the re-admitted patients were employed. Thus, a higher proportion of members in the latter group was either unemployed or in other situations. Lastly, a greater proportion of re-admitted patients indicated that they had not had close friends during the courses of their lives.

Please insert Table 5 here.

Discussion

In the therapeutic programme that was analysed in the present study, two of every three patients had received previous treatment for their addictions, which is similar to the proportion of readmitted patients previously been found in other (non-Spanish) contexts ¹⁷. From an institutional perspective, this is an alarming finding because it implies that a great deal of therapeutic effort is directed towards individuals who have already been treated (via one of many possible mechanisms), and it implies that, at least to some extent, the treatment failed. In this situation, it is necessary to continue to conduct studies that, similar to the present study, will help improve the care that is given. This is particularly important because patients with multiple treatment periods generally present an addiction profile that is different from and more severe than that of patients who are being treated for the first time ^{22,23}.

The present study highlights the elevated severity of alcohol abuse among patients with multiple treatments. In previous studies, the role of alcohol has been described as a predictor of treatment withdrawal ³⁹ or relapse ⁹. However, cocaine is often the gateway drug that prompts first treatment. From a clinical perspective, it is known that few patients only consume cocaine. Rather, cocaine is often used in conjunction with large quantities of alcohol ⁴⁰. These data present the possibility of finding patients who substitute cocaine use with alcohol use, thereby developing an alcoholic dependence that later requires another treatment. Another possibility (given the size of the standard deviation in the age of the sample) is related to the influence of older participants who are known to prefer alcohol as a primary substance due to generationally related cultural factors.

From a psychopathological perspective, re-admitted patients presented more severe psychopathology than first-time recipients of addiction therapy, according to several personality scales, including the scales for phobic, antisocial, self-destructive, and schizophrenic personalities. In addition, these patients presented with a higher proportion of depressive episodes and severe suicidal ideation throughout their lives than first-time admits. These data support the particular need of treatment focused on psychopathological symptoms simultaneously to the addiction problem among those reentering treatment. As a matter of fact, previous studies have shown that all of these problems are associated with poor treatment outcomes and high rates of early withdrawal from treatment programmes, which in turn are associated with new relapses ^{25,28}. Thus, it is necessary to develop an early and specific intervention that addresses addiction at a psychopathological level and that will prevent early withdrawal from treatment programmes.

Patients with multiple treatments were also observed to have more problems in various relational areas than patients who sought treatment for the first time. Compared with first-time admits, re-admitted patients generally felt dissatisfied with their current living situations; 30% of them did not have close friends, and they had frequently had less work activity during the previous 3 years. All of these problems could be related to repeated relapses in substance use, which in turn make obtaining the necessary support to remain abstinent difficult. The familial and social relationships of addiction patients are severely affected during periods of substance abuse, which makes supporting the patient difficult ¹. Social and family problems are frequent in drug abusers. The relationship between both problems can be bidirectional. In some cases it is a direct consequence of drug abuse, which isolates the affected patients. In other cases, consumption is a way to cope the social and family isolation.

All of the aforementioned problems could create a vicious cycle that makes therapeutic intervention difficult, particularly given that patients only seek treatment when they are having serious problems. Some interventions that have been developed in recent years may improve the access to treatment and thereby improve the results of subsequent treatments because they prevent the further deterioration of the patient. For example, some of the proposals that have been developed in recent years focus on treatment programmes that include reaching out to patients and inquiring about their situations ^{16,17} or extending the care of a patient over time ¹⁸.

The problems with treatment compliance that were observed in the present study are not unique to patients with addictions. It is estimated that 20 to 40% of chronic patients fail to follow the medical recommendations that have been made to them and that dysfunctional social support is detrimental for treatment adherence and may result in withdrawal from treatment ⁴¹. This similarity allows for a search for interventions for addiction to be conducted via the review of successful interventions that have been observed in areas other than addiction

Several limitations of the present study must be taken into consideration. The first is related to the sample that was evaluated. Although our study included a relatively large sample of patients who were being treated for drug abuse, it was composed of patients who sought treatment for the use of a variety of substances. In addition, only 19.4% of the sample comprised women. There are reasons to believe that women who suffer from drug addictions have problems different from those of addicted men. The general profile of women who are participating in treatment programmes is more severe than the profile of men in these programmes, but women also tend to have a better prognosis 5. Moreover, the present study only included patients who had finished the assessment; patients who did not complete the three assessment sessions were not considered. We assume that patients who withdraw from a treatment programme at an early stage have profiles that are different from those of the patients who were analysed

in this study. On the other hand, this study did not take into account neither characteristics of previous treatments in re-admitted patients, nor time elapsed since the beginning of the consumption until the arrival to treatment. These variables could affect the differences found. For all of these reasons, we must be cautious when attempting to generalise our results.

In the future, it would be interesting to conduct follow-up studies regarding the predictive validity of prior treatment admission with respect to relapses after the completion of an entire treatment programme. Ultimately, the main goal of a treatment programme should be the recovery of the patients who participate in it, not their fulfilment.

In conclusion, the results of this study show that patients with multiple treatment periods generally have more severe problems than patients who are first-time admits. Previous studies have shown that patients with more severe or numerous problems are more likely to withdraw from treatment ²⁵. All of these data suggest that at least two types of improvements must be included in future treatment protocols: (1) treatment programmes should incorporate a detailed analysis regarding the existence and nature of prior treatments into the baseline protocols that are used for the evaluation of addiction patients ¹²; and (2) treatment programmes should offer follow-up services to patients who have completed their treatments ^{11,18}.

References

- 1. Hussaarts P, Roozen HG, Meyers RJ, van de Wetering BJM, McCrady BS.

 Problem areas reported by substance abusing individuals and their concerned significant others. *The American Journal on Addictions*. 2012;21(1):38-46.
- 2. Carroll KM, Rounsaville BJ. On beyond urine: Clinically useful assesment instruments in the treatment of drug dependence. *Behaviour Research and Therapy*. 2002;40(11):1329-1344.
- 3. Ana EJS, Martino S, Ball SA, Nich C, Frankforter TL, Carroll KM. What is usual about "treatment-as-usual"? Data from two multisite effectiveness trials.

 **Journal of Substance Abuse Treatment. 2008;35(4):369-379.
- López-Goñi JJ, Fernández-Montalvo J, Menéndez JC, Yudego F, García AR, Esarte S. Group and individual change in the treatment of drug addictions: A follow-up study in Therapeutic Communities. *Spanish Journal of Psychology*. 2010;13(2):906-913.
- López-Goñi JJ, Fernández-Montalvo J, Illescas C, Landa N, Lorea I.
 Determining socio-demographic predictors of treatment dropout: Results in a therapeutic community. *International Journal of Social Welfare*.
 2008;17(4):374-378.
- 6. Sánchez-Hervás E, Secades R, Santonja FJ, et al. Abandono del tratamiento en adictos a la cocaína. *Adicciones*. 2010;22(1):59-64.
- 7. Grella CE, Hser YI, Joshi V, Douglas Anglin M. Patient histories, retention, and outcome models for younger and older adults in DATOS. *Drug and Alcohol Dependence*. 1999;57(2):151-166.

- 8. Ravndal E, Vaglum P, Lauritzen G. Completion of long-term inpatient treatment of drug abusers: A prospective study from 13 different units. *European Addiction Research*. 2005;11(4):180-185.
- 9. Fernández-Montalvo J, López-Goñi JJ, Illescas C, Landa N, Lorea I. Evaluation of a therapeutic community treatment program: A long-term follow-up study in Spain. *Substance Use & Misuse*. 2008;43(10):1362-1377.
- 10. Fernández-Montalvo J, López-Goñi JJ, Illescas C, Landa N, Lorea I. Relapse precipitants in addictions: results in a therapeutic community. *Journal of Addictive Diseases*. 2007;27(4):55-61.
- 11. Dennis ML, Scott CK. Managing addiction as a chronic condition. *Addiction Science & Clinical Practice*. 2007;4(1):45-55.
- 12. Hser Y, Longshore D, Anglin MD. The life course perspective on drug use. A conceptual framework for undestanding drug use trajectories. *Evaluation Review*. 2007;31(19):515-547.
- 13. Scott CK, Dennis ML, Foss MA. Utilizing recovery management checkups to shorten the cycle of relapse, treatment reentry, and recovery. *Drug and Alcohol Dependence*. 2005;78:325-338.
- Dennis ML, Scott CK, Funk R, Foss MA. The duration and correlates of addiction and treatment careers. *Journal of Substance Abuse Treatment*. 2005;28:S51-S62.
- 15. Rush BR, Dennis ML, Scott CK, Castel S, Funk RR. The interaction of cooccurring mental disorders and recovery management checkups on substance abuse treatment participation and recovery. *Evaluation Review*. 2008;32(1):7-38.

- Dennis ML, Scott CK, Funk R. An experimental evaluation of recovery management checkups (RMC) for people with chronic substance use disorders. *Evaluation and program planning*. 2003;26:339-352.
- 17. Scott CK, Dennis ML. Results from two randomized clinical trials evaluating the impact of quarterly recovery management checkups with adult chronic substance users. *Addiction*. 2009;104(6):959-971.
- Lash SJ, Timko C, Curran GM, McKay JR, Burden JL. Implementation of evidence-based substance use disorder continuing care interventions. *Psychology* of Addictive Behaviors. 2011;25(2):238-251.
- 19. Dennis ML, French MT, McCollister KE, Scott CK. The economic costs of quarterly monitoring and recovery management checkups for adults with chronic substance use disorders. *Journal of Substance Abuse Treatment*. 2011;41(2):201-207.
- 20. Hser Y, Grella CE, Hsieh S, Anglin MD, Brown BS. Prior treatment experience related to process and outcom in DATOS. *Drug and Alcohol Dependence*. 1999;57:137-150.
- 21. Hser Y, Joshi V, Anglin MD, Fletcher B. Predicting posttreatment cocaine abstinence for first-time admissions and treatment repeaters. *American Journal of Public Health*. 1999;89(5):666-671.
- 22. Cacciola JS, Leggett K, Camilleri AC. Treatment history: Relationship to treatment outcomes. *Substance Use & Misuse*. 2009;44:305-321.
- 23. Moos RH, Moos BS, Finney JW. Predictors of deterioration among patients with substance-use disorders. *Journal of Clinical Psychology*. 2001;57(12):1403-1419.

- 24. Lejuez CW, Zvolensky MJ, Daughters SB, et al. Anxiety sensitivity: A unique predictor of dropout among inner-city heroin and crack/cocaine users in residential substance use treatment. *Behaviour Research and Therapy*. 2008;46(7):811-818.
- Fernández-Montalvo J, López-Goñi JJ. Comparison of completers and dropouts in psychological treatment for cocaine addiction. *Addiction Research & Theory*. 2010;18(4):433-441.
- 26. Aharonovich E, Hasin DS, Brooks AC, Liu XH, Bisaga A, Nunes EV. Cognitive deficits predict low treatment retention in cocaine dependent patients. *Drug and Alcohol Dependence*. 2006;81(3):313-322.
- 27. Streeter CC, Terhune DB, Whitfield TH, et al. Performance on the Stroop predicts treatment compliance in cocaine-dependent individuals.

 *Neuropsychopharmacology. 2008;33(4):827-836.
- 28. Fernández-Montalvo J, López-Goñi JJ, Landa N, Illescas C, Lorea I, Zarzuela A. Trastornos de personalidad y abandonos terapéuticos en pacientes adictos: resultados en una comunidad terapéutica. *International Journal of Clinical and Health Psychology*. 2004;4(2):271-283.
- 29. Chan Y-F, Dennis ML, Funk RR. Prevalence and comorbidity of major internalizing and externalizing problems among adolescents and adults presenting to substance abuse treatment. *Journal of Substance Abuse Treatment*. 2008;34(1):14-24.
- 30. López-Goñi JJ, Fernández-Montalvo J, Arteaga A. Predictive validity of the EuropAsi: Clinical diagnosis or composite scoring? *Journal of Substance Abuse Treatment*. 2012;42(4):392-399.

- 31. Kokkevi A, Hartgers C. European adaptation of a multidimensional assessment instrument for drug and alcohol dependence. *European Addiction Research*. 1995;1:208-210.
- 32. McLellan AT, Luborsky L, Woody GE, O'Brien CP. An improved diagnostic evaluation instrument for substance abuse patients: The Addiction Severity Index. *The Journal of Nervous and Mental Disease*. 1980;168(1):26-33.
- 33. Koeter MWJ, Hartgers C. European addiction severity index europasi. Cost a6.

 Preliminary procedure for the computation of the europasi composite scores.

 Amsterdam: The Amsterdam Institute for Addiction Research; 1997.
- 34. Bobes J, González MP, Saiz PA, Bousoño M. Índice Europeo de Severidad de la Adicción: EuropASI. Versión española [European Index of Severity of Addiction: EuropASI. Spanish Version]. Paper presented at: Actas de la IV Reunión Interregional de Psiquiatría, 1996.
- 35. Derogatis LR. *The SCL-90-R*. Baltimore: Clinical Psychometric Research; 1992.
- 36. González de Rivera JL. Versión española del SCL-90-R. Madrid: TEA; 2002.
- Millon T. Millon Clinical Multiaxial Inventory- II (MCMI II). Minneapolis:
 National Computer Systems; 1997.
- 38. Weltzer SJ. The Millon Clinical Multiaxial Inventory (MCMI): A review. *Journal of Personality Assessment.* 1990(55):445-464.
- López-Goñi JJ, Fernández-Montalvo J, Arteaga A. Addiction treatment dropout:
 Exploring patients' characteristics. *American Journal on Addictions*.
 2012;21(1):78-85.
- Lorea I, Fernández-Montalvo J, Tirapu-Ustarroz J, Landa N, López-Goñi J.
 Rendimiento neuropsicológico en la adicción a la cocaína: una revisión crítica

- [Neuropsychological performance in cocaine addiction: A critical review]. Revista de Neurología. 2010;51(7):412-426.
- Martos MJ, Pozo C. Apoyo funcional vs. disfuncional en una muestra de pacientes crónicos. Su incidencia sobre la salud y el cumplimiento terapéutico.
 [Functional versus non-functional social support in a sample of chronic patients.
 Repercussion on health and treatment compliance]. *Anales de Psicología*.
 2011;27(1):47-57.

Table 1. Comparisons in socio-demographic and drug abuse characteristics

	All N= 252		Readmitted patients (n = 166)		First-time admits (n = 86)			
	Mean	(SD)	Mean	(SD)	Mean	(SD)	t (df)	
Mean age	37.6	(9.5)	38.6	(9.5)	35.5	(9.1)	2.4 (250)*	
	N	(%)	n	(%)	n	(%)	X^2 (df)	
Sex							-	
Men	203	(80.6%)	136	(81.9%)	67	(77.9%)	0.6 (1)	
Women	49	(19.4%)	30	(18.1%)	19	(22.1%)	0.0 (1)	
Marital Status								
Single	122	(48.4%)	72	(43.4%)	50	(58.1%)		
Married	76	(30.2%)	53	(31.9%)	23	(26.7%)	(2)	
Divorced	50	(19.8%)	38	(22.9%)	12	(14.0%)	5.5 (3)	
Widower	4	(1.6%)	3	(1.8%)	1	(1.2%)	•	
Education			(n =	: 165)	(n :	= 86)		
None	28	(11.2%)	20	(12.1%)	8	(9.3%)		
Primary school	135	(53.8%)	93	(56.4%)	42	(48.8%)	7.2 (2)	
Secondary school	62	(24.7%)	41	(24.8%)	21	(24.4%)	7.3 (3)	
University	26	(10.4%)	11	(6.7%)	15	(17.4%)	-	
Employment situation			(n = 166)		(n = 86)			
Employed	166	(65.9%)	98	(59.0%)	68	(79.1%)		
Unemployed	68	(27.0%)	56	(33.7%)	12	(14.0%)	11.7 (2)**	
Others (student. retired. etc.)	18	(7.1%)	12	(7.2%)	6	(7.0%)	-	
Substance that motivated treatment								
Alcohol	109	(43.3%)	85	(51.2%)	24	(27.9%)		
Cocaine	125	(49.6%)	67	(40.4%)	58	(67.4%)	16.6 (2)***	
Others (heroin. cannabis)	18	(7.1%)	14	(8.4%)	4	(4.7%)	-	
Poly-consumption	64	(25.4%)	49	(29.5%)	15	(17.4%)	4.4 (1)*	
Drug overdose	29	(11.5%)	23	(13.8%)	6	(7.0%)	2.6 (1)	

p < .05; **p < .01; ***p < .001

Table 2. Comparisons in drug addiction severity variables

	All (N = 252)	Readmitted patients (n = 166)	First-time admits (n = 86)		
	M (SD)	M (SD)	M (SD)	t	df
EuropASI (ISR)					
Medical	2.0 (1.4)	2.2 (1.5)	1.5 (1.0)	4.1***	250
Employment/Support	2.4 (1.7)	2.7 (1.8)	1.8 (1.3)	3.9***	250
Alcohol use	3.9 (2.0)	4.3 (2.0)	3.1 (1.7)	4.9***	250
Drugs use	3.4 (2.1)	3.4 (2.3)	3.4 (1.6)	0.1	249
Legal	1.8 (1.5)	1.9 (1.6)	1.6 (1.0)	1.5	250
Family/Social	3.7 (1.7)	4.0 (1.8)	3.1 (1.4)	3.9***	249
Psychiatric	3.2 (1.7)	3.5 (1.8)	2.8 (1.5)	3.2**	250
EuropASI (CS)	M (SD)	M (SD)	M (SD)	t	df
Medical	.22 (.25)	.25 (.26)	.16 (.23)	2.9**	250
Economic situation	.38 (.45)	.46 (.46)	.23 (.40)	3.9***	250
Labour satisfaction	.27 (.32)	.30 (.32)	.22 (.33)	1.7	250
Alcohol	.31 (.24)	.32 (.23)	.31 (.25)	0.3	250
Drug use	.13 (.12)	.11 (.12)	.16 (.11)	2.1*	250
Legal	.12 (.21)	.12 (.21)	.12 (.21)	0.1	249
Family	.27 (.23)	.29 (.23)	.23 (.24)	2.0*	250
Others	.15 (.18)	.16 (.18)	.13 (.18)	1.0	248
Psychiatric	.21 (.19)	.22 (.20)	.19 (.16)	1.2	242

ISR = Interviewer Severity Ratings

CS = Composite Scores

p* < .05; *p* < .01; ****p* < .001

Table 3. Comparisons in clinical variables

	All (N = 252)	Readmitted patients (n = 166)	First-time admits (n = 86)		
	M (SD)	M (SD)	M (SD)	t	df
SCL-90-R (percentiles)					
Global Severity Index	64.6 (33.0)	66.7 (32.4)	60.5 (33.9)	1.4	250
Positive Symptom Distress Index	46.6 (31.7)	47.4 (31.7)	45.1 (31.9)	0.5	250
Positive Symptom Total	69.0 (31.6)	70.8 (31.0)	65.4 (32.7)	1.2	250
Somatisation	57.8 (32.2)	58.2 (32.3)	57.1 (32.3)	0.2	250
Obsessive-compulsive	61.9 (32.8)	64.1 (31.8)	57.6 (34.4)	1.5	250
Interpersonal sensitivity	63.1 (33.3)	65.9 (32.1)	57.8 (35.1)	1.8	250
Depression	60.2 (33.1)	62.7 (32.6)	55.3 (33.8)	1.7	250
Anxiety	57.1 (33.7)	57.8 (34.1)	55.6 (33.0)	0.5	250
Hostility	52.5 (33.2)	52.3 (33.2)	53.0 (33.4)	0.2	250
Phobic anxiety	52.2 (36.8)	54.3 (36.7)	48.1 (36.9)	1.3	250
Paranoid ideation	61.8 (33.0)	66.7 (32.4)	60.5 (33.9)	1.2	250
Psychoticism	68.2 (33.0)	71.2 (31.7)	61.1 (34.5)	2.5*	250
MCMI-II					
Schizoid	58.1 (27.8)	59.5 (29.6)	55.4 (23.9)	1.1	250
Phobic	49.3 (27.9)	52.3 (27.4)	43.7 (28.1)	2.3*	250
Dependence	59.9 (24.2)	61.3 (23.5)	57.0 (25.3)	1.3	250
Histrionic	54.2 (20.2)	54.7 (19.6)	53.2 (21.3)	0.6	250
Narcissistic	50.7 (23.6)	51.5 (22.9)	49.2 (25.0)	0.7	250
Antisocial	53.2 (23.4)	56.0 (22.8)	47.9 (23.9)	2.6**	250
Aggressive–sadistic	52.5 (22.7)	53.7 (22.6)	50.1 (23.0)	1.2	250
Compulsive	54.2 (21.0)	54.0 (21.6)	54.5 (20.0)	0.2	250
Passive-aggressive	45.3 (30.5)	46.5 (31.3)	42.8 (28.9)	0.9	250
Self-destructive	48.0 (24.2)	51.1 (23.3)	42.2 (24.9)	2.8**	250
Schizotypal	41.8 (23.3)	44.1 (23.4)	37.4 (22.5)	2.2*	250
Borderline	39.5 (25.9)	41.6 (25.5)	35.5 (26.4)	1.8	250
Paranoid	56.0 (16.7)	57.1 (16.3)	53.9 (17.2)	1.5	250

p* < .05; *p* < .01

Table 4. Comparison in the rate of personality disorders

	All (N = 252)	Readmitted patients (n = 166)	First-time admits (n = 86)	
MCMI-II	N (%)	n (%)	n (%)	$X^{2}\left(df\right)$
Schizoid	23 (9.1%)	17 (10.2%)	6 (7.0%)	0.7 (1)
Phobic	19 (7.5%)	15 (9.0%)	4 (4.7%)	1.6 (1)
Dependence	29 (11.5%)	21 (12.7%)	8 (9.3%)	0.6 (1)
Histrionic	7 (2.8%)	6 (3.6%)	1 (1.2%)	1.3 (1)
Narcissistic	17 (6.7%)	11 (6.6%)	6 (7.0%)	0.0 (1)
Antisocial	18 (7.1%)	15 (9.0%)	3 (3.5%)	2.6 (1)
Aggressive-sadistic	21 (8.3%)	16 (9.6%)	5 (5.8%)	1.1 (1)
Compulsive	18 (7.1%)	12 (7.2%)	6 (7.0%)	0.0(1)
Passive-aggressive	28 (11.1%)	18 (10.8%)	10 (11.6%)	0.0(1)
Self-destructive	12 (4.8%)	9 (5.4%)	3 (3.5%)	0.5 (1)
Schizotypal	6 (2.4%)	5 (3.0%)	1 (1.2%)	0.8 (1)
Borderline	6 (2.4%)	5 (3.0%)	1 (1.2%)	0.8 (1)
Paranoid	6 (2.4%)	6 (3.6%)	0 (0.0%)	3.2 (1)
TOTAL ¹	118 (46.8%)	82 (49.4%)	36 (41.9%)	1.3 (1)

^{*}*p* < .05

¹The total number of people affected by personality disorders is inferior to the total sum of disorders because there are patients who present more than one personality disorder.

Table 5. Comparison of maladjustment variables

			All (N = 252)	Readmitted patients (n = 166)	First-time admits (n = 86)	
		N	N (%)	n (%)	n (%)	$X^{2}\left(df\right)$
Medical problems						
Infected with hepatitis		248	48 (19.4%)	38 (22.9%)	10 (11.6%)	4.5*(1)
Family maladjustment						
	Mother	249	75 (30.1%)	47 (28.7%)	28 (32.9%)	0.5 (1)
	Father	242	86 (35.7%)	57 (35.4%)	29 (36.3%)	0.0(1)
Problems with the patient's	Brother(s)/sister(s)	241	79 (32.8%)	53 (33.1%)	26 (32.1%)	0.0(1)
	Sexual partner	239	146 (61.1%)	102 (64.6%)	44 (54.3%)	2.4 (1)
	Son(s)/daughter(s)	120	15 (12.5%)	11 (12.5%)	4 (12.5%)	0.0(1)
	Yes		156 (62.2%)	96 (58.2%)	60 (69.8%)	
Satisfaction with the typical living arrangement	No	251	63 (25.1%)	50 (30.3%)	13 (15.1%)	7.9*(2)
nving arrangement	Indifferent		32 (12.7%)	19 (11.5%)	13 (15.1%)	
Social maladjustment						
Lacking close friends		252	66 (26.2%)	51 (30.7%)	15 (17.4%)	5.2*
	Close friends	177ª	63 (35.6%)	34 (29.6%)	29 (40.8%)	2.5 (1)
Problems with the patient's	Neighbours	248	31 (12.5%)	22 (13.4%)	9 (10.7%)	0.4(1)
	Work colleagues	249	71 (28.6%)	49 (29.9%)	22 (26.2%)	0.4(1)
Labour maladjustment						
Lacking a permanent job during the previous 3 years		252	38 (15.1%)	28 (16.8%)	10 (11.8%)	1.2 (1)
Main income source	Employment		158 (62.7%)	93 (56.0%)	65 (75.6%)	
	Colleagues and/or relatives	252	37 (14.7%)	30 (18.1%)	7 (8.1%)	10.7* (3)
	Social services		42 (16.7%)	30 (18.1%)	12 (14.0%)	
	Illegal		15 (5.9%)	13 (7.8%)	2 (2.3%)	
Psychiatric maladjustment						
Depression		252	131 (52.0%)	96 (57.8%)	35 (40.7%)	6.7** (1)
Suicidal ideation		252	100 (39.7%)	74 (45.6%)	26 (30.2%)	4.9*(1)

p* < .05; *p* < .01