DETERMINING SOCIODEMOGRAPHICAL PREDICTORS OF TREATMENT DROPOUT: RESULTS IN A THERAPEUTIC COMMUNITY

Running title: Sociodemographical predictors of dropout

José J. López-Goñi [1], PhD (corresponding author)
Javier Fernández-Montalvo[2], PhD
Cristina Illescas[1], BSc
Natalia Landa[3], PhD
Iñaki Lorea[1], PhD

[1] Fundación Proyecto Hombre de Navarra
Avda. Zaragoza, 23
31005 Pamplona
Spain
Phone: +34 948 29 18 65
Fax: +34 948 29 17 40
E-mail: investigacion@proyectohombrenavarra.org

[2] Departamento de Psicología
Universidad Pública de Navarra
31006 Pamplona
Spain

[3] Centro de Salud Mental de Estella (Navarra)
Servicio Navarro de Salud
Navarra
Spain

ABSTRACT

In this paper, a study about sociodemographic factors which predict treatment dropout from a residential substance use disorder program in Spain (*Proyecto Hombre* Therapeutic Community), is presented. A sample of 430 patients (173 treatment completers and 257 treatment dropouts) was assessed at entry to therapeutic community program in order to collect information about sociodemographic characteristics of the participants. According to the obtained results, factors that predicted treatment dropout included younger age, male gender, and to have previous treatment history in the *Proyecto Hombre* therapeutic community. Patients with these characteristics were at significantly greater risk of dropping out of treatment. Implications of these results for further research and clinical practice are commented upon.

Key words: Addiction. Treatment dropout. Predictors. Risk factors. Therapeutic community.

INTRODUCTION

Studies about treatment of addictive behaviors show that time spent in the intervention programs constitutes one of the strongest predictors of both good therapeutic results and long-term better evolution (De Leon, 1986; Marrero *et al.*, 2005; Ravndal, 2003; Sayre *et al.*, 2002). However, one of the big problems in treatment of the addictions is the high number of therapeutic dropouts, with rates ranging from 60% to 80% of the assisted patients (Fernández-Hermida *et al.*, 2002; Gossop *et al.*, 2002; Simpson *et al.*, 1997). Therefore, early dropout from drug treatment continues to be a widespread problem, limiting overall treatment effectiveness, increasing likelihood of relapse, and exacerbating health, financial, and legal consequences (King & Canada, 2004).

In the last years, there has been growing interest in the study of dropouts in drug addiction treatment programs. This kind of studies has been focused, basically, in the analysis of the personal characteristics of patients who drop out treatments prematurely. Thus, from a sociodemographical point of view, several studies show that variables as sex or age –mainly, male and younger patients- are associated to a bigger probability of early dropout of the treatment (Claus & Kindleberger, 2002; Maglione, Chao & Anglin, 2000; McKellar *et al.*, 2006).

Other studies have found several psychopathological variables which are associated with a bigger risk of treatment dropout: severity of the addiction (McKellar *et al.*, 2006), poli-dependence (Maglione *et al.*, 2000), presence of comorbid psychopathological disorders (Claus & Kindleberger, 2002) or personality disorders (Ball *et al.*, 2006; Fernández-Montalvo *et al.*, 2004). In addition, recent studies have been focused in the stages-of-change (Callaghan *et al.*, 2005) and the motivational

interview (Mullins *et al.*, 2004), as aspects associated with treatment dropout or treatment retention.

Regarding to sociodemographical results, regression logistic analysis in several previous studies have found that patients who were most likely to drop out the treatment programs were younger that those who completed it (Green *et al.*, 2002; McKellar *et al.*, 2006; Mertens & Weisner, 2000; Ravndal, Vaglum & Lauritzen, 2005). However there is no a consistence in this result. For example, in the study carried out by Justus, Burling & Weingardt (2006), with 596 homeless veterans with drug dependence, patients who were younger showed the highest rates of treatment retention and completion.

On the other hand, some inconsistency exists across studies regarding to gender. While several studies have found that female gender is a significant predictor of dropout (Arfken, *et al.*, 2001; King & Canada, 2004; McCaul, Svikis & Moore, 2001), other studies have shown that male gender is a best predictor of dropout (Justus *et al.*, 2006). These contradictory results could be related to the different kind of samples used for study dropouts (e.g. ambulatory vs. residential setting), together to the different risk factors for dropout found in men and women (Green *et al.*, 2002). For example, in the DATOS study (Drug Abuse Treatment Outcome Study) men were more likely to drop out of outpatient drug-free programs, while women were more likely to be categorized in the low-retention group for outpatient methadone treatment (Simpson *et al.*, 1997). Other studies have too explored gender differences in the factors that predict treatment retention (Green *et al.*, 2002; Mertens & Weisner, 2000). However, despite evidence that men and women have different experiences with treatment initiation and completion, the factors that predict these outcomes have not been reliably established.

Due to this inconsistence results, the present study examined the sociodemographical predictors of treatment dropout in patients treated for drug dependence in a residential setting (therapeutic community). The major purpose of this study was to identify specific data on the patients' personal characteristics associated to dropout in order to prevent the high rate of dropouts observed in the standard treatment programs for addiction recovery.

MATERIALS AND METHODS

Participants

The sample for this study included 430 participants admitted to the *Proyecto Hombre de Navarra* Therapeutic Community program (Spain) for receiving a psychological treatment for drug addition, between January 1998 and December 2002. Those selected for the sample were required to: a) be an adult person (between 18 and 65 years old); b) meet criteria for substance dependence; and c) have begun the drug-free psychological treatment in the *Proyecto Hombre de Navarra* Therapeutic Community. All participants took part voluntarily in the study, after having been properly informed of its characteristics.

The total sample of this study was divided in two groups: 173 treatment completers and 257 treatment dropouts. Sociodemographical characteristics of the sample are presented in *table 1*.

PLACE TABLE 1 HERE

Treatment program

Proyecto Hombre (PH) is the most well known and longest established therapeutic community in Spain. It is a drug-free program, present in most of the regions of the country. It is a secular program and it is supported by public resources. There is a professional staff, and the treatment is based in mutual-help therapeutic community. Briefly, the goal of treatment is abstinence from drugs and alcohol. Successful program completion typically requires 30 months approximately and is attained when a resident completes all the three therapeutic phases: reception, residential therapeutic community and reinsertion (Fernández-Montalvo *et al.,* 2008, in press).

The first phase (reception), with an estimated duration of 9 months, is outpatient-based and has two major aims: a) to enhance the motivation to change, and b) to achieve initial abstinence from both illegal drugs and the abuse of alcohol. During the reception phase, patients receive group therapy. The second phase (residential therapeutic community), with an estimated duration of 9 months, is inpatient-based and has two major aims: a) acquisition of behaviors for increasing personal independence, and b) resolving specific problems to achieve relapse prevention. During this second phase, patients receive group therapy and occupational therapy. Finally, the third phase (reinsertion), with an estimated duration of 12 months, involves a progressive reduction in the intensity of treatment. In this phase the main aim is to achieve social, family and employment reintegration through individual and group therapies.

Assessment measures

To gather information about patients, a personal clinical interview was carried out with each one of the participants of this study. All patients were interviewed during the reception phase. A trained clinical psychologist carried out the interviews.

Procedure

Patients of this study form part of a wider research about the effectiveness of the *Proyecto Hombre de Navarra* Therapeutic Community (Fernández-Montalvo *et al.,* 2008, in press). No monetary incentive was offered for participation in the study and all patients gave their informed consent to participate in the study. Sociodemographical data used in this study were obtained at time of admission via a face-to-face interview designed specifically for admissions into this program.

The statistical analyses were carried out with the SPSS (version 13.0 for Windows). At first, a descriptive analysis for all variables was made. Next, a comparison was made between completers and dropouts. Bivariate analyses were employed, using X^2 or *t-test* statistic, depending on the nature of the variables studied (discontinuous or continuous). A difference of $p<.05$ was considered significant. Finally, a logistic regression analysis (enter method) of sociodemographical risk factors for dropout was carried out.

RESULTS

Group comparisons

Results of comparison between completers and dropouts in all sociodemographical variables are presented in *table 1*. There were only two significant differences between groups. Those who dropped out the treatment were mainly men. Furthermore, the completers had more probability of being for first time in the treatment program.

Predictors of treatment dropouts

Results from sociodemographical variables revealed that individuals who were younger (OR=1.03; p<.01), were men (OR=.44; p<.001) and had previous treatment history in the *Proyecto Hombre* therapeutic community (OR=.45; p<.01) were at significantly greater risk of dropping out of treatment (*table 2*). The rest of studied variables did not show statistical significance.

PLACE TABLE 2 HERE

DISCUSSION

The present study focused on the sociodemographical risk predictors of dropout in patients treated for drug addiction in a therapeutic community in Spain. Results indicated that younger age, male gender and to have previous treatment history in the same therapeutic community were robust predictors of treatment dropout in this therapeutic community based program.

These results extend prior research demonstrating the role of age predicting treatment dropout. Thus, in several previous studies, patients who were younger were most likely to drop out the treatment programs (Green *et al.*, 2002; McKellar *et al.*, 2006; Mertens & Weisner, 2000; Ravndal *et al.*, 2005). This could be related with a lower motivation for treatment in young people, who has not experimented such serious consequences derived of the addiction as those observed in older addictive patients (Green *et al.*, 2002). Anyway, it seems necessary to implement some additional motivation strategies in young people who seek treatment in the therapeutic community

of Proyecto Hombre, in order to prevent the high rate of dropouts in this kind of patients.

On the other hand, in this study male gender is a good predictor of treatment dropout. This result is consistent with that obtained by other previous studies (Justus *et al.*, 2006). However, it should be been cautious with this result because the 75% of the sample in this study were men. In this way, there are fewer women in therapeutic communities and they suffer from a more prominent psychopathology.

Lastly, in this study the third risk factor for dropout was to have a previous treatment history in the same therapeutic community. This data is coincident with other studies (*cf.* Ravndal *et al.*, 2005). In this sense, it has been suggested that drug abusers who repeatedly apply to inpatient treatment and drop out probably should be offered another type of treatment like for example substitution treatment combined with psychosocial service. Research indicates that this group of patients stays longer in treatment and complies better with psychosocial rehabilitation in substitution treatment than in abstinence-oriented programs (Ravndal *et al*., 2005).

In any case, there are some limitations in this study. First, this is an exploratory and descriptive study in which the sample is probably not large enough. Second, in this study it has been examined only sociodemographical variables, without take into account consumption variables or psychopathological symptoms. And third, as this study was conducted among patients who initiated a treatment in a residential setting, the results cannot be generalized to a community sample. Future research should examine more detailed information on client factors, including consumption variables and psychopathological symptoms, to aid our understanding of the factors related to treatment retention and dropout. Moreover, it should be interesting to study the

sociodemographical variables in combination with others variables of the Therapeutic Community functioning, as well as to study the role played by motivation, use of senior staff, family and social network interventions in the Therapeutic Community, in order to successfully prevent drop-out.

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REFERENCES

Arfken CL, Klein C, Di Menza S & Schuster CR (2001). Gender differences in problem severity at assessment and treatment retention. *Journal of Substance Abuse Treatment, 20*, 53-57.

Ball SA, Carroll KM, Canning-Ball M. & Rousanville BJ (2006). Reasons for dropout from drug abuse treatment: Symptons, personality, and motivation. *Addictive Behaviors, 31*, 320-330.

Callaghan RC, Hathaway A, Cunningham JA, Vettese LC, Wyatt S & Taylor L (2005). Does stage-of-change predict dropout in a culturally diverse sample of adolescents admitted to inpatient substance-abuse treatment? A test of the Transtheoretical Model. *Addictive Behaviors, 30,* 1834-1847.

Claus RE & Kindleberger LR (2002). Engaging substance abusers after centralized assessment: Predictors of treatment entry and dropout. *Journal of Psychoactive Drugs, 34,* 25-31.

De Leon, G (1986). Therapeutic community research: Overview and implications. In: De Leon G, Ziegenfuss JT, eds. *Therapeutic communities for addictions.* Charles C. Thomas, Sprinfgield.

Fernández-Hermida JR, Secades R, Fernández JJ & Marina PA (2002). Effectiveness of a Therapeutic Community Treatment in Spain: A long-term Follow-Up Study. *European Addiction Research, 8,* 22-29.

Fernández-Montalvo J, López-Goñi JJ, Illescas C, Landa N & Lorea I (2008, in press). Evaluation of a therapeutic community treatment program: A long-term follow-up study in Spain. *Substance Use & Misuse, 43*.

Fernández-Montalvo J, López-Goñi JJ, Landa N, Illescas C, Lorea I. & Zarzuela A (2004). Trastornos de personalidad y abandonos terapéuticos en pacientes adictos: resultados en una comunidad terapéutica [Personality disorders and therapeutic dropouts in addictive patients: Results in a therapeutic community]. *International Journal of Clinical and Health Psychology, 4*, 271-283.

Gossop M, Stewart D, Browne N & Mardsen J (2002). Factors associated with abstinence, lapse or relapse to heroin use after residential treatment: Protective effect of coping responses. *Addiction, 97,* 1259-1267.

Green CA, Polen MR, Dickinson DM, Lynch FL & Bennett MD (2002). Gender differences in predictors of initiation, retention and completion in an HMO-based substance abuse treatment program. *Journal of Substance Abuse Treatment, 23*, 285-295.

Justus AN, Burling TA & Weingardt KR (2006). Client predictors of treatment retention and completion in a program for homeless veterans. *Substance Use & Misuse, 41*, 751-762.

King AC & Canada SA (2004). Client-related predictors of early treatment drop-out in a substance abuse clinic exclusively employing individual therapy. *Journal of Substance Abuse Treatment, 26*, 189-195.

Maglione M, Chao B & Anglin MD (2000). Correlates of outpatient drug treatment dropout among methamphetamine users. *Journal of Psychoactive Drugs, 32*, 221-228.

Marrero CA, Robles RR, Colón HM, Reyes JC, Matos, TD, Sahai H, Calderón JM & Shepard EW (2005). Factors associated with drug treatment dropout among injection drug users in Puerto Rico. *Addictive Behaviors, 30,* 397-402.

McCaul ME, Svikis DS & Moore RD (2001). Predictors of outpatient treatment retention: patients versus substance use characteristics. *Drug and Alcohol Dependence, 62*, 9-17.

McKellar J, Kelly J, Harris A & Moos R (2006). Pretreatment and during treatment risk factors for dropout among patients with substance use disorders. *Addictive Behaviors, 31*, 450-460.

Mertens JR & Weisner CM (2000). Predictors of substance abuse treatment retention among woman and men in an HMO. *Alcoholism, Clinical and Experimental Research, 24*, 1525-1533.

Mullins SM, Suarez M, Ondersma SJ & Page MC (2004). The impact of motivational interviewing on substance abuse treatment retention: A randomized control trial of women involved with child welfare. *Journal of Substance Abuse Treatment, 27,* 51-58.

Ravndal, E. (2003). Research in the concept-based therapeutic community –its importance to European treatment research in the drug field. *International Journal of Social Welfare, 12*, 229-238.

Ravndal E, Vaglum P & Lauritzen G (2005). Completion of long-term inpatient treatment of drug abusers: A prospective study from 13 different units. *European Addiction Research, 11*, 180-185.

Sayre SL, Schmitz JM, Stotts AL, Averill PM, Rhoades HM & Grabowski JJ (2002). Determining predictors of attrition in an outpatient substance abuse program. *American Journal of Drug and Alcohol Abuse, 28*, 55-72.

Simpson D D, Joe G W, Broome KM, Hiller M L, Knight K & Rowan-Szal GA (1997). Program diversity and treatment retention rates in the Drug Abuse Treatment Outcome Study (DATOS). *Psychology of Addictive Behaviors, 11,* 279-293.

López-Goñi, J.J., Fernández-Montalvo, J., Illescas, C., Landa, N. y Lorea, I. (2008). Determining socio-demographic predictors of treatment dropout: Results in a therapeutic community. *International Journal of Social Welfare, 17* (4), 374-378.

TABLE 1
SOCIODEMOGRAPHICAL CHARACTERISTICS OF THE SAMPLE

	All **N= 430** **Mean (SD)**	**Dropouts** **N= 257** **Mean (SD)**	**Completers** **N= 173** **Mean (SD)**	*t*
Mean age (SD)	28.5 (4.8)	28.5 (4.5)	28.6 (5.1)	.32
	All **N= 430** **N (%)**	**Dropouts** **N= 257** **N (%)**	**Completers** **N= 173** **N (%)**	X^2
Sex Men Women	 327 (76.0%) 103 (24.0%)	 212 (82.5%) 45 (17.5%)	 115 (66.5%) 58 (33.5%)	 14.5**
Marital Status Single Married Divorced Widower	 299 (69.5%) 83 (19.3%) 44 (10.2%) 4 (0.9%)	 187 (72.8%) 46 (17.9%) 23 (8.9%) 1 (.4%)	 112 (64.7%) 37 (21.4%) 21 (12.1%) 3 (1.7%)	 4.7
Education None Primary studies Secondary studies University	 160 (37.2%) 117 (27.2%) 142 (33.0%) 11 (2.6%)	 99 (38.5%) 72 (28.0%) 78 (30.4%) 8 (3.1%)	 61 (35.3%) 45 (26.0%) 64 (37.0%) 3 (1.7%)	 2.6
Employment situation Employed Unemployed Others (student, retired…)	 188 (43.7%) 183 (42.6%) 59 (13.7%)	 116 (45.1%) 109 (42.4%) 32 (12.5%)	 72 (41.6%) 74 (42.8%) 27 (15.6%)	 1.1
Legal problems Yes No	 242 (56.2%) 188 (43.6%)	 148 (57.6%) 109 (42.4%)	 94 (54.3%) 79 (45.7%)	 .44
Labor problems due to drug consumption Yes No	 336 (78.1%) 94 (21.9%)	 207 (80.5%) 50 (19.5%)	 129 (74.6%) 44 (25.4%)	 2.2
Previous treatment history in the same therapeutic community Yes No	 56 (13.0%) 374 (87.0%)	 42 (16.3%) 215 (83.7%)	 14 (8.1%) 159 (91.9%)	 6.2*

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

TABLE 2
LOGISTIC REGRESSION ANALYSIS (ENTER METHOD) OF
SOCIODEMOGRAPHICAL RISK FACTORS FOR DROPOUT

Risk factors	B	SE	Wald	p	OR	95% CI
Age	0.02	0.01	6,61	.01*	1.03	1.01 - 1.05
Sex (men vs. women)	-0.81	0.25	10.55	.001*	0.44	0.27 - 0.72
Marital status (single vs. others)	-0.21	0.20	1.13	.28	0.80	0.54 – 1.20
Education (none or primary studies vs. secondary studies or university)	-0.11	0.20	0.28	.59	0.89	0.60 – 1.34
Employment situation (employed vs. others)	-0.09	0.21	0.17	.67	0.91	0.60 – 1.40
Legal problems (yes vs. no)	0.004	0.21	0.0004	.98	1.00	0.66 – 1.53
Labor problems (yes vs. no)	-0.31	0.23	1.75	.18	0.73	0.46 – 1.16
Previous treatment history in PH (yes vs. no)	0.86	0.34	6.42	.01*	.45	0.24 - 0.87

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