



Drug dependence and psychological distress in Portuguese patients entering a substance abuse treatment center¹

Paulo P.P. Machado² and John M. Klein (*Universidade do Minho, Portugal*)

(Received September 21, 2005/ Recibido 21 de septiembre 2005)

(Accepted January 20, 2006/ Aceptado 20 de enero 2006)

ABSTRACT. In the current state of art of drug dependence treatment programs, psychopathological features seem to be associated with negative therapeutic outcome. Drug abuse and especially drug dependence are complex disorders that include cognitive, behavioral and physiologic signs and symptoms. The wide spectrum of symptoms that characterize these disorders are responsible for clinical heterogeneity in terms of clinical presentation, severity, vulnerability, sequelae, and comorbidity which by itself accounts for great suffering and need for help in several areas. Assessment of both drug abuse and psychological distress constitutes a major challenge for professionals working with drug addicts. In the present descriptive study we tried to explore some key characteristics of individuals with a drug addiction when starting a treatment program. A total of 107 participants visiting a large metropolitan Portuguese addiction treatment center participated in this study, 90.7% were male, aged between 22 and 55 years ($M = 34.84$, $SD = 6.44$). The results indicate the existence of some relationships between severity of drug addiction and psychopathological symptoms.

KEYWORDS. Drug addiction. Treatment center. Psychopathology. Descriptive study using questionnaires.

¹ This study was supported by a grant of Fundação para a Ciência e a Tecnologia / Foundation for Science and Technology, Portugal (FCT/POCTI/39334/PSI/2001) to the first author.

² Correspondence: Universidade do Minho. Departamento de Psicologia. Campus de Gualtar. P-4710 Braga (Portugal). E-mail: pmachado@iep.uminho.pt

RESUMEN. En el contexto de la situación actual de los programas de tratamiento de las toxicodependencias, las características psicopatológicas parecen estar asociadas con resultados terapéuticos negativos. El abuso de drogas, en especial la dependencia, es una perturbación compleja que incluye síntomas cognitivos, comportamentales y fisiológicos. El amplio espectro de síntomas que caracterizan estas perturbaciones es responsable de su heterogeneidad clínica en términos de manifestación clínica, severidad, vulnerabilidad, secuelas y comorbilidad que por sí solo implica un elevado sufrimiento y necesidad de intervención en diferentes áreas. La evolución de la toxicodependencia y de la psicopatología se constituye como un gran desafío para los profesionales que trabajan en estos contextos. El presente estudio descriptivo trata de explorar algunas características principales de los individuos con problemas de toxicodependencia que iniciaron un programa de tratamiento. Participaron en el estudio 107 sujetos, con edades comprendidas entre 22 y 55 años ($M = 34,84$; $DT = 6,44$), que frecuentan un centro metropolitano de tratamiento de las toxicodependencias, 90,7% de los cuales pertenecen al sexo masculino. Los resultados señalan la presencia de algunas relaciones entre la severidad del consumo y la sintomatología psicopatológica.

PALABRAS CLAVE. Toxicodependencia. Centro de tratamiento. Psicopatología. Estudio descriptivo mediante encuestas.

RESUMO. No contexto do actual estado da arte dos programas de tratamento de toxicodependências, as características psicopatológicas parecem estar associadas com resultados terapêuticos negativos. O abuso de drogas, mas especialmente a dependência são perturbações complexas que incluem sintomas e sinais cognitivos, comportamentais e fisiológicos. O amplo espectro de sintomas que caracterizam estas perturbações é responsáveis pela sua heterogeneidade clínica em termos da sua manifestação clínica, severidade, vulnerabilidade, sequelas e comorbilidade que só por si implica um elevado sofrimento e necessidade de intervenção em várias áreas. A avaliação da toxicodependência e da psicopatologia constitui-se como um grande desafio para os profissionais que trabalham nesses contextos. O presente estudo descriptivo procura explorar algumas características centrais dos indivíduos com problemas de toxicodependência que iniciaram um programa de tratamento. Participaram neste estudo 107 sujeitos, com idades compreendidas entre 22 e os 55 anos ($M = 34,84$; $DP = 6,44$), que frequentam um centro metropolitano de tratamento de toxicodependências, 90,7% dos quais são do sexo masculino. Os resultados indicam a existência de algumas relações entre a severidade do consume e a sintomatologia psicopatológica.

PALAVRAS CHAVE. Toxicodependência. Centro de tratamento. Sicopatología. Estudo descriptivo mediante inquéritos.

Introduction

Drug abuse and dependence has become a major public health problem in Western European countries (Gómez-Fragela, Luengo-Martín, Romero-Triñanes, Villar-Torres, and Sobral-Fernández, 2006). People with a drug addiction present increased mortality rates and exhibit a considerable variety of acute and chronic medical conditions, including

dependence symptoms, infectious diseases, and drug-related accidents and disabilities (see Frischer *et al.*, 1993). Unemployment or homelessness, disruption of family structure, and criminal activities are also highly associated with drug addiction. In addition high rates of comorbidity between substance use disorders and other mental disorders have been shown both in several epidemiological and clinical samples (Appleby, Dyson, Altman, and Luchins, 1997; Drake and Brunette, 1998; Lambert *et al.*, 1996; Landa, Fernández-Montalvo, López-Goñi, and Lorea, 2006). Nearly 70% of opiate users have concurrent psychiatric diagnosis or exhibit some psychiatric symptomatology (Kebler, 1995). Similarly, findings of the Epidemiologic Catchment Area (Regier *et al.*, 1990) study, based on a sample of 20,291 individuals drawn from the community at large indicate that more than half of those who met the medical criteria for diagnosis as drug abusers also suffered from one or more mental disorders at some point during their lifetime. This included 28% with anxiety disorders, 26% with mood disorders (*e.g.*, depression), 18% with antisocial personality disorder, and 7% with schizophrenia. Some had multiple disorders. The prevalence of mental disorders varied with the drug being abused, ranging from 50% of marijuana abusers to 76% of those who abused cocaine. Almost half of the drug abusers also suffered from alcohol abuse at some point during their lifetime.

Drug abuse and specially drug dependence are complex disorders that include cognitive, behavioral and physiologic signs and symptoms. They are characterized by clinical heterogeneity in terms of clinical presentation, severity, vulnerability, sequelae, and comorbidity which by itself accounts for great suffering and need for help in several areas (Ziedonis and D'Avanzo, 1998). This heterogeneity increases the difficulty in establishing the etiology of these multifaceted disorders, apply suitable treatments, and predict treatment outcome over time. All these issues are crucial for drug abuse and/or dependence treatment centers, which in their search for the highest treatment efficacy are often confronted with a host of biopsychosocial needs far beyond drug use itself. Therefore, treatment centers are confronted with the challenge of selecting the most appropriate treatment strategy in the absence of empirically derived procedures to match a particular patient's drug abuse history and personal characteristics to the treatment method most likely to be successful for that person. As a result, treatment programs are broadly ranged and usually multifaceted in an attempt to cope with the complexity of the disorder. Treatment is offered in a wide variety of settings including residential and outpatient units, with diverse expected frequency and duration of clinical contact, in both group and individual format, providing professionals with diverse levels of experience, and training (*e.g.*, psychiatrist, psychologist, social workers, and counselors), with or without pharmacotherapy support, varying in the specific content and approach of psychosocial therapy offered and in the number and types of ancillary services (*e.g.*, medical, psychiatric, psychological, occupational, vocational) available to patients (National Institute on Drug Abuse, 1999).

It is within this context diversity that everyday services struggle with treatment difficulties seeing that successful treatment depends in part on the amount of time spent in the treatment program. Six to twelve months of treatment are often needed, as those who remain in a program for one year are less likely to return to regular drug use than

those in treatment less than one year (Hubbard *et al.*, 1989). Improving the quality of treatment is an endeavor that not only involves the search for new and more effective treatments, but also continuing reshaping and monitoring of treatment delivery. Undoubtedly, treatment enhancement requires a substantial effort across many contexts: the scientific community, society, public officials, treatment programs, health professional, and the patients themselves (Zanis, McLellan, Belding, and Moyer, 1997).

Potthoff (1995) has provided a conceptualization of the consumer characteristics that are central to an understanding of the outcomes of substance abuse treatment for managed care providers. This approach is broad and includes, social functioning with family and friends, participation in community activities and hobbies, employment status, perceived health status, recent and past history of substance use, psychiatric comorbidity, etc. Recent research showed that individual characteristics, rather than the drug, play a dominant role in vulnerability to drug abuse. The social and psychological maladjustment frequently precedes the first drug use (Glantz, 1992). A study that tracked children from an early age to adulthood identified predictors of future serious drug use that could be identified in children's behavior as early as age seven (Shedler and Block, 1990). Although initial low-level involvement with drugs may result from peer pressure, drug availability or other risk factors in an individual's social or family environment. Subsequent escalation to and maintenance of higher levels of drug use is likely to result from biological, psychological or psychiatric characteristics of the individual user.

From the present descriptive study using questionnaires (Montero and León, 2005; Ramos-Álvarez, Valdés-Conroy, and Catena, 2006), we try to explore and highlight some key characteristics of individuals with a drug addiction when starting a treatment program. The purpose is to recognize the biopsychosocial factors that the patients bring to therapy and that will be of importance for treatment efficacy over time.

Method

Participants

A total of 107 participants of an Addiction Treatment Center consented to participate in the study, most of them were Portuguese (97.2%), 90.7% were male and 9.3% female, with age ranging between 22 and 55 years ($M = 34.84$, $SD = 6.44$). Among the 107 patients, 29.9% were referred to this service by their family and/or friends, 15% by self-initiative, and 10.3% by hospitals and/or health service. Most had the basic educational level: 42.5% completed grammar school, 29.2% finished high school. Most were single (42.5%), 37.7% married or living together, and 18.9% separated or divorced. A substantial number (35.8%) were still living with their parents, 17.9% with a partner and children, and 15.1% alone. The majority (76.4%) were unemployed or looking for a job.

Most (81.1%) used drugs daily, and in 62.4% of the cases heroin was the drug of choice, in 30.1% of the cases in association with cocaine. Most patients (53.8%) smoked and/or inhaled it contrasting with the 33% who choose to inject themselves. The majority of participants (61.7%) had been involved in previous treatment programs; the interval since the last treatment ranged between 6 month and 15 years ($M = 3.93$, $SD = 4.18$).

Cannabis was the first drug used by 82% of participants. Age of first contact with drugs ranged between 11 and 36 years ($M = 16.69$, $SD = 4.66$), and the mean age of drug consumption was 20.12 years ($SD = 5.11$, amplitude: 13-36 years).

Instruments

- The Drug Abuse Screening Test (DAST) (Skinner, 1982) is a general measure of drug abuse. The DAST yields a quantitative index of drug problems, including some drug dependence symptoms and other consequences resulting from the abuse of psychoactive drugs (not including alcohol) experienced over a 12-month period. This instrument was based on the Michigan Alcoholism Screening Test (MAST) (Selzer, 1971). It was developed as a brief measure of the severity of drug involvement for both clinical case finding during assessment and use in treatment evaluation research. The DAST consist of 20 items that assess some features of drug dependence syndrome (inability to stop using drugs, inability to get through a week without drugs, and withdrawal symptoms with cessation of drug use) and other consequences related to the use or abuse of prescribed, over-the-counter and illicit drugs. Respondents indicate whether they have experienced each drug-related problem in the past 12 months. Good validity and reliability values have been reported for the DAST (Cocco and Carey, 1998; Skinner, 1982; Skinner and Goldberg, 1986). The results of the Portuguese study revealed also acceptable reliability values ($\alpha = .74$) (Machado and Klein, 2006a).
- The Outcome Questionnaire (OQ-45.2) (Lambert, Hansen *et al.*, 1996) is a brief self-report instrument, designed for repeated measurement of client status through the course of therapy and at termination. Ease of administration and scoring, low cost, sensitivity to changes in psychological distress over short periods of time, and an ability to assess a wide array of symptomatology and role functioning may make this instrument useful in a variety of clinical and counseling applications. The OQ was formulated according to Lambert's (1983) organizational scheme for outcome assessment, suggesting that three dimensions or content areas (called domains) be evaluated: intrapersonal (subjective) discomfort or symptomatic distress, interpersonal functioning, and social role performance. Due to the high inter-correlations between subscales, the total score is recommended for assessment of outcome. Three-week test-retest reliability for OQ is .84; internal consistency is .93; and correlations with similar measures range from .53 to .88 (Lambert, Burlingame *et al.*, 1996). The Portuguese study of this scale showed similar values then the original, namely, a internal consistency of .90 (Machado and Klein, 2006b).

Procedure

Participants were evaluated prior to admission, in their first contact with the treatment center, in which they manifest the intention of undergoing a treatment program. After signing the consent form a member of the research team supervised the application of the two measures. Participants who showed mental deterioration, inability to read the instructions or were agitated were excluded from the study.

Results

Table 1 shows the DAST and OQ-45 total scores and its subscales. Participants were characterized by an elevated mean DAST score ($M = 12.41$, $SD = 3.60$) which indicates the presence of significant severity in drug consumption. The mean OQ-45 total score is 82.55 which fall within a range of moderate severity in terms of functional impairment. The symptom distress scale presents a moderate impairment score ($M = 47.36$, $SD = 17.78$), as the interpersonal relationship and social role have mild impairment of functioning scores, respectively 20 ($SD = 7.37$) and 15.19 ($SD = 5.57$). Participants that had been previously involved in treatment showed a higher DAST score ($M = 13.09$, $SD = 3.32$; $t_{(105)} = 2.53$, $p = .013$) than those who had never been involved in a treatment program ($M = 11.31$, $SD = 3.80$).

TABLE 1. Descriptive statistics of severity and functioning scores.

<i>Scale</i>	<i>M</i>	<i>SD</i>	<i>min.</i>	<i>max.</i>
DAST	12.41	3.60	2	19
OQ-45 Total	82.55	27.66	6	142
OQ-45 Symptom distress	47.36	17.78	3	87
OQ-45 Interpersonal functioning	20	7.37	0	36
OQ-45 Social role	15.19	5.57	3	26

Table 2 shows the correlations between OQ-45 and DAST scores. All correlations are medium or strong. We verified that the symptom distress scale has a very strong positive correlation ($r = .97$, $p < .01$) with the OQ-45 total score and with the interpersonal relationship scale ($r = .81$, $p < .01$), and less strong with the social role scale ($r = .55$, $p < .01$) and the DAST ($r = .50$, $p < .01$). Moreover, there were medium positive correlations between the DAST and the OQ-45 and its subscales, with high levels of drug severity associated with poorer performance in social role, interpersonal relationships and more distress.

TABLE 2. Correlations between DAST and OQ-45 scales ($N = 107$).

	<i>DAST</i>	<i>OQ-sd</i>	<i>OQ-if</i>	<i>OQ-sr</i>
DAST	--			
OQ-sd	.50	--		
OQ-if	.43	.81	--	
OQ-sr	.42	.55	.52	--
OQ-total	.52	.97	.89	.69

Notes. All coefficients significant $p < .01$; OQ-sd: symptom distress; OQ-if: interpersonal functioning; OQ-sr: social role.

Discussion

Results of this preliminary study show that patients attending the drug treatment centre are characterized by significant severity of drug consumption and related problems. Additionally, they present significant psychological distress that is strongly correlated with the severity of the drug addiction. There are several limitations to this study. First, the data were based on self-report measures and their possible biases (*e.g.*, Stacy, Widaman, Hays, and DiMatteo, 1985). Others have noted that self-report measures of drug use are valid and have provided empirical tests to underscore these claims (*e.g.*, Needle, Jou, and Su, 1989). Although, error in measurement could be decreased through use of collateral and independent reports of drug use, this information was not available for these data.

Second, we did not assess psychiatric impairment with standard clinical diagnostic criteria (*i.e.*, American Psychiatric Association, 2000). Instead, we used standard and proven epidemiological assessment tools that have demonstrated validity and reliability in general community studies. Even though standard diagnostic assessment is most appropriate with clinical populations; these categorical decision criteria are less appropriate and useful with community samples. Moreover, they are dichotomous and therefore do not capture the true range of psychopathology that is subclinical in extent. In view of that, the measures in this study provided a broad, but still limited, assessment of psychopathology, as well as capturing the full range of disturbance in each type of psychopathology. In future research, we will strengthen the effects observed between drug use and psychopathology, using therefore a wider selection of assessment tools, clinical and treatment data.

Finally, data of both men and women were analyzed together. Like other studies (*e.g.*, Johnston, O'Malley, and Bachman, 1988), characteristics of drug use may differ between sexes, although we did not conduct analyses separately by sex because it would produce too small samples (especially the female sample) and compromising the robustness of statistical analyses. However, due to the lack of clinical data on severe drug addiction in Portugal, we think that this study might shed some light on such a complicated psychological and social phenomenon.

References

- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Appleby, L., Dyson, V., Altman, E., and Luchins, D.J. (1997). Assessing substance use in multiproblem patients: Reliability and validity of the Addiction Severity Index in a mental hospital population. *Journal of Nervous and Mental Disease*, 185, 159-165.
- Cocco, K.M. and Carey, K.B. (1998). Psychometric properties of the Drug Abuse Screening Test in psychiatric outpatients. *Psychological Assessment*, 10, 408-414.
- Drake, R.E. and Brunette, M.F. (1998). Complications of severe mental illness related to alcohol and other drug use disorders. In M. Galanter (Ed.), *Recent developments in alcoholism* (vol. 14) (pp. 285-299). New York: Plenum Press.
- Frischer, M., Bloor, M., Goldberg, D., Clark, J., Green S., and McKeganey, N. (1993). Mortality among injecting drug users: A critical reappraisal. *Journal of Epidemiology Community Health*, 47, 59-63.

- Glantz, M.D. (1992). A developmental psychopathology model of drug abuse vulnerability. In M. Glantz and R. Pickens (Eds.), *Vulnerability to drug abuse* (pp. 389–418). Washington, DC: American Psychological Association.
- Gómez-Fraguela, J.A., Luengo-Martín, A., Romero-Triñanes, E., Villar-Torres, P., and Sobral-Fernández, J. (2006). Estrategias de afrontamiento en el inicio de la adolescencia y su relación con el consumo de drogas y la conducta problemática. *International Journal of Clinical and Health Psychology*, 6, 581-597.
- Hubbard, R.L., Marsden, M.E., Rachal, J.V., Harwood, H.J., Cavanaugh, E.R., and Ginzburg, H.M. (1989). *Drug abuse treatment. A national study of effectiveness*. Chapel Hill, NC: University of North Carolina Press.
- Johnston, L.D., O'Malley, P.M., and Bachman, J.G. (1988). *Illicit drug use, smoking, and drinking by America's high school students, college students, and young adults: 1975-1987*. Rockville, MD: National Institute of Drug Abuse.
- Kleber, H.D. (1995). Pharmacotherapy, current and potential, for the treatment of cocaine dependence. *Clinical Neuropharmacology*, 18, 96-109.
- Lambert, M.J. (1983). Introduction to assessment of psychotherapy outcome: Historical perspectives and current issues. In M.J. Lambert, E.R. Christensen, and S.S. DeJulio (Eds.), *The assessment of psychotherapy outcome* (pp. 3-32). New York: Wiley.
- Lambert, M.J., Burlingame, G.M., Umphress, V., Hansen, N.B., Vermeersch, D.A., Clouse, G.C., and Yanchar, S.C. (1996). The reliability and validity of the Outcome Questionnaire. *Clinical Psychology and Psychotherapy*, 3, 249-258.
- Lambert, M.J., Hansen, B.N., Umphress, V., Lunnen, K., Okiishi, J., and Burlingame, G.M. (1996). *Administration and scoring manual for the OQ-45.2*. Wilmington, DE: American Professional Credentialing Services LLC.
- Landa, N., Fernández-Montalvo, J., López-Goñi, J.J., and Lorea, I. (2006). Comorbilidad psicopatológica en el alcoholismo: un estudio descriptivo. *International Journal of Clinical and Health Psychology*, 6, 253-269.
- Machado, P.P.P. and Klein, J.M. (2006a, October). *Avaliação dos antecedentes do consumo de drogas: Propriedades psicométricas do Inventário de Situações de Consumo*. Poster presented at the Congresso Internacional de Avaliação: Formas e Contextos. Braga, Portugal.
- Machado, P.P.P. and Klein, J.M. (2006b, June). *The Outcome Questionnaire-45: Portuguese psychometric data with a non-clinical sample*. Poster presented at the 37th Annual Meeting of the Society for Psychotherapy Research. Edinburgh. Scotland.
- Montero, I. and León, O.G. (2005). Sistema de clasificación del método en los informes de investigación en Psicología. *International Journal of Clinical and Health Psychology*, 5, 115-127.
- National Institute on Drug Abuse. (1999). *Principles of drug addiction treatment: A research based guide*, NIH Publication No. 99-4180. Washington, DC: NIDA.
- Needle, R.H., Jou, S.C., and Su, S.S. (1989). The impact of changing methods of data collection on the reliability of self-reported drug use of adolescents. *American Journal of Drug and Alcohol Abuse*, 15, 275-289.
- Potthoff, J.K. (1995). Adolescent satisfaction with drug/alcohol treatment facilities: Design implications. *Journal of Alcohol and Drug Education*, 41, 62-73.
- Ramos-Álvarez, M.M., Valdés-Conroy, B, and Catena, A. (2006). Criteria of the peer-review process for publication of experimental and cuasi-experimental research in Psychology. *International Journal of Clinical and Health Psychology*, 6, 773-787.
- Regier, D., Farmer, M., Rae, D., Lockie, B.Z., Keith, S.J., Judd, L.L., and Godwin, F.K. (1990). Comorbidity of mental disorders with alcohol and other drug abuse: Results from the

Epidemiologic Catchment Area (ECA) study. *Journal of the American Medical Association*, 264, 2511-2518.

- Seltzer, M.L. (1971). The Michigan Alcoholism Screening Test: The quest for a new diagnostic instrument. *American Journal of Psychiatry*, 127, 1653-1658.
- Shedler, J. and Block, J. (1990). Adolescent drug use and psychological health. *American Psychologist*, 45, 612-630.
- Skinner, H.A. (1982). The Drug Abuse Screening Test. *Addictive Behaviors*, 7, 363-371.
- Skinner, H.A. and Goldberg, A.E. (1986). Evidence for drug dependence syndrome among narcotic users. *British Journal of Addiction*, 81, 479-484.
- Stacy, A.W., Widaman, K.F., Hays, R., and DiMatteo, M.R. (1985). Validity of self reports of alcohol and other drug use: A multitrait-multimethod assessment. *Journal of Personality and Social Psychology*, 49, 219-232.
- Zanis, D.A., McLellan, A.T., Belding, M.A., and Moyer, G.A. (1997). Comparison of three methods of measuring the type and quantity of services provided during substance abuse treatment. *Drug Alcohol Depend*, 49, 25-32.
- Ziedonis, D.M. and D'Avanzo, K. (1998). Schizophrenia and substance abuse. In H.R. Kranzler and B.J. Rounsaville (Eds.), *Dual diagnosis and treatment* (pp. 427-465). New York: Marcel Dekker.