

## FACTORS ASSOCIATED WITH THE OUTCOME OF DRUG ADDICTION TREATMENT

Mirjana Delic<sup>1</sup> & Peter Pregelj<sup>1,2</sup>

<sup>1</sup>University Psychiatric Hospital Ljubljana, Slovenia

<sup>2</sup>University of Ljubljana, Faculty of Medicine, Department of Psychiatry, Slovenia

### SUMMARY

Despite different treatment approaches many patients with drug addiction continue to use drugs during and after treatment. Approximately 50 percent of the patients in substance abuse treatment do not complete the first month of treatment, and this is associated with poor outcome. Attempts have been made to improve outcomes of addiction treatment by addressing patient characteristics that predict continued drug use. Appropriate instruments have been developed in order to facilitate assessment and outcome research. It could be concluded that different psychosocial factors could serve as a predictor of drug addiction treatment outcome. However the interplay of these factors is still poorly understood and further research is needed.

**Key words:** drug addiction - treatment outcome - substitution therapy - drug abuse

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### INTRODUCTION

Treatment outcome can be defined as an effect on the health of an individual, group of people or population, which is attributable to an intervention or series of interventions. According to this, positive treatment outcome for some individuals may be the maintenance of a given level of functioning rather than a measurable improvement in functioning (Andrews et al. 1994). Despite different treatment approaches many patients with drug addiction continue to use drugs during and after treatment. In the field of substance abuse treatment, and mental health care in general, noncompletion of treatment is a general problem. Approximately 50 percent of the patients in substance abuse treatment do not complete the first month of treatment, and this is associated with poor outcome (Stark 1992). Attempts were made to improve outcomes of opiate addiction treatment by addressing patient characteristics that predict continued drug use (Brewer et al. 1998). Outcomes research is applied clinical and population based research that seeks to study and optimize the end results of healthcare in terms of advantages to the patient and society (Clancy & Eisenberg 1998). Studies of long-term behavioural outcome of populations of patients with substance abuse are rare and initially focused on the careers of opioid addiction. In the USA most of these studies evidence a follow-up interval of fewer than six years. Included in these are studies based on the Drug Abuse Reporting Program (DARP) (Simpson 1982, Simpson 1990), a therapeutic community in New York (Phoenix House), and the Treatment Outcome Prospective Study (TOPS) (Hubbard et al. 1989). Others include those of returning Vietnam veterans (Robins 1974), addicts treated in the California Civil Addict Program (McGlothlin et al. 1977) and those in the Administration hospitals (Baker & Lorei 1978). There is The National Treatment Outcome

Research Study (NTORS) as the first prospective national study of treatment outcome among drug misusers in the United Kingdom (Gossop et al. 2003). In Australia, an on-going data collection system commenced on the first of July 2000 is known as the 'National Minimum Data Set on Clients of Alcohol and Other Drug Treatment Services (NMDS:CAODTS) (Copeland et al. 2000).

### MEASURES OF TREATMENT OUTCOME

Since monitoring individual outcomes has become an important part of treatment, appropriate instruments have been developed in order to facilitate assessment and outcome research. It raised the issue of how to keep client time to a minimum, and make the initial assessment as efficient as possible from the client perspective. Some forms and questionnaires used historically for assessment purposes are discarded in favour of evaluative instruments that may have stronger reliability and validity data (Conroy & Copeland 1998). Few instruments are available that measure not only alcohol drug problems but associated issues as well (Marsden et al. 1998, McLellan et al. 1980). The development of such an instrument was first proposed at the National Institute of Drug Abuse Conference on Treatment Efficacy (O'Brien 1975). Addiction Severity Index (ASI) has been developed for treatment research (McLellan et al. 1992). The ASI has been criticized for its lengthy interview, failure to address risk-taking behaviours, and omission of drug use intensity (Marsden et al. 1998, McLellan et al. 1992). It has been especially criticized for its composite drug use score (Wells et al. 1988). Scale validity has been questioned by authors themselves if the ASI were to be given to younger sociopaths with a history of criminal activity

(McLellan et al. 1985). The Maudsley Addiction Profile (MAP) was the first instrument developed in the United Kingdom at the Maudsley Institute that measures treatment outcomes for people with alcohol and drug problems and associated issues (Marsden et al. 1998). It has been designed specifically for outcome research. It is a multi-dimensional measure which can be administered at intake as well as at other points during the treatment period. The MAP has been validated on European samples (Mandersen et al. 2001). Advantages of the MAP are brevity, assessment of health risk behaviours, combined measures of frequency and intensity of substance abuse. The Treatment Outcome Profile (TOP) has been developed by The National Treatment Agency for Substance Misuse (NTA) and, since 2007, is being implemented throughout the drug treatment system in England to monitor and assess the effectiveness of the national drug treatment system. The TOP is a 20 item measure that focuses on four important treatment domains as defined in the NTA care planning practice guide. The TOP should be completed at the start of each client's treatment journey to record a baseline of behaviour in the month leading up to starting a new treatment journey. Follow up scores should be recorded every three months during treatment to capture changes in behaviour. It should also be completed at discharge and may be used by some services to measure post-discharge outcomes (TOP).

## **FACTORS ASSOCIATED WITH TREATMENT OUTCOME**

The first major outcome study was conducted by DARP between 1982 and 1983 as a follow-up interview six years after their first follow-up and 12 years after admission of 27,214 daily opioid users to 25 different DARP agencies between 1969 and 1972. Participants were 697 individuals from the original pool. The DARP and other treatment evaluation studies have shown that positive behavioural outcomes are associated with treatment. It is suggested that three basic factors are involved, and they should serve as the basis for further research. First, it is reasonable to expect that a drug abuse treatment client should commit to changing his or her life in order to benefit from the treatment experience. Second, successful treatment requires that counsellors establish rapport with and influence over their clients. Third, the client must remain in the therapeutic relationship for a sufficient period of time in order to benefit from the treatment experience (Tims et al. 1988). McLellan and co-workers criticised that the DARP study did not attempt to assess severity of psychological problems or psychiatric diagnoses. Those patients with fewest and least severe psychological problems did quite well in all treatment programs while those with the most problems did poorly in all (McLellan et al. 1983).

The Treatment Outcome Prospective Study (TOPS) was a long-term, large-scale longitudinal investigation of the natural history of drug abusers before, during, and after receiving services in publicly funded drug abuse treatment programs. TOPS consisted of the in-treatment Study and the Follow-up Study. The in-treatment study included 11,750 clients in three annual admission cohorts 1979, 1980, and 1981. Also post-treatment studies have been conducted. TOPS measured drug- and alcohol-related problems based on the clients' attribution of problems to drug abuse. Analysis of the TOPS data indicated that clients abusing multiple substances have more problems and a poorer treatment prognosis (Hubbard et al. 1989). The National Treatment Outcome Research Study (NTORS) was the first prospective national study of treatment outcome among drug misusers in the United Kingdom. NTORS investigated outcomes for 418 drug misusers from 54 agencies and four treatment modalities. The study used a longitudinal, prospective cohort design. Data were collected by structured interviews at intake to treatment, 1 year, 2 years and at 4-5 years. They found reductions across a range of problem behaviours 4-5 years after patients were admitted to national treatment programmes. Less satisfactory outcomes for heavy drinking and use of crack cocaine were found. Despite differences between the United Kingdom and the United States in patient populations and in treatment programmes, there were many similarities between the two countries in outcomes from large-scale, multi-site studies (Gossop et al. 2003).

Marsden and co-workers followed all adults with a heroin or crack cocaine addiction, or both, who started pharmacological treatment (n=18 428 patients) or psychosocial treatment (n=2647) between Jan 1 and Nov 30, 2008, received at least 6 months' treatment or were discharged by the study endpoint (May 31, 2009). They concluded that the first 6 months of pharmacological or psychosocial treatment is associated with reduced heroin and crack cocaine use, but the effectiveness of pharmacological treatment is less pronounced for users of both drugs. They also concluded that new strategies are needed to treat individuals with combined heroin and crack cocaine addiction (Marsden et al. 2009). It was also suggested that time spent in treatment is the most important predictor of therapeutic community treatment outcomes. Results of an Australian study of four hundred and twenty-seven ex-residents, stratified according to their highest level of treatment in the Melbourne Odyssey House therapeutic community between 1984 and 1988 suggest that it may be level progress rather than simply time spent in treatment that best explains improved functioning following exit from the therapeutic community (Toumbourou et al. 1998). Brewer and co-workers made a meta-analysis of 69 studies that reported information on the bivariate association between one or more independent variables and continued use of illicit drugs during

and after treatment for opiate addiction. They have found ten statistically significant variables with longitudinally predictive relationships (average  $r$  0.1) with continued use (high level of pre-treatment opiate/drug use, prior treatment for opiate addiction, no prior abstinence from opiates, abstinence from/light use of alcohol, depression, high stress, unemployment/employment problems, association with substance abusing peers, short length of treatment, and leaving treatment prior to completion (Brewer et al. 1998). Greenfield and co-workers searched the English language literature from 1975 to 2005 using Medline and PsycInfo databases and found 280 articles about treatment outcome in women with substance use disorders. A convergence of evidence suggests that women with substance use disorders are less likely, over their lifetime, to enter treatment compared to their male counterparts. Once in treatment, however, gender is not a significant predictor of treatment retention, completion, or outcome (Greenfield et al. 2006). It was also reported that, having a more stable family background, an intact marriage, a job, and a history of minimal criminality predicts a better outcome in most programs (Jaffe 1988). Copeland and co-workers from the Australian National Drug and Alcohol Research Centre suggested predictor variables that are good candidates for inclusion in an outcome monitoring system for alcohol and other drug treatment services: Demographics (gender, age, country of birth, indigenous status, employment status, living arrangement); Drug Use (principal drug of concern/other substances of concern, severity of dependence, frequency/extent of last month use of: alcohol, opioids, cannabis, cocaine, amphetamines, tranquilizers; route of administration of principal drug of concern, experience of overdose, previous drug treatment history); Health (general health, psychological health); Social functioning (financial problems, conflict with partner/relatives/employer/ school, amount of time spent with other drug –users, recent arrest history); Treatment characteristics (source of referral to treatment, setting of treatment, length of treatment, additional services provided, reason for cessation of treatment); Additional variables relevant to substitution therapy (where substitution medication is prescribed, dosing point, dose) (Copeland et al. 2000).

## CONCLUSIONS

It could be concluded that different psychosocial factors could serve as a predictor of drug addiction treatment outcome. However the interplay between those factors is still poorly understood and further research is needed.

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Correspondence:

Assoc. Prof. Peter Pregelj  
University of Ljubljana, Medical Faculty, Department of Psychiatry  
Zaloska 29, SI-1000 Ljubljana, Slovenia  
E-mail: peter.pregelj@psih-klinika.si