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Reduction of Psychopathology Among Individuals Participating in Non-Treatment Drug Abuse Residential Studies

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Abstract

The psychological repercussions in drug abusing individuals of their participation in non-treatment residential drug abuse research protocols have been uncertain. To study this, the average raw scores of the Symptom-Check List-90 Revised (SCL-90R) at the time of recruiting and discharge (40.2 $\pm$ 15.6 days later) was studied at the Addiction Research Center of the National Institute on Drug Abuse (NIDA-ARC), in Baltimore, Maryland, in a sample of 233 drug abusers seeking no treatment. There was significant reduction in symptomatology ($p < .01$) between recruiting and discharge for Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Phobic Anxiety, Paranoid Ideation, Psychoticism, and Total Scores. These findings suggest that participation of drug abusers in non-treatment residential studies is safe and may improve their psychological status, which may be a therapeutic outcome of disengaging individuals from their drug environment and offering a safe and structured milieu.

Introduction

The growing knowledge of the etiology, effects, and complications of drug abuse has been made possible in part by research on volunteer human subjects. Some of the studies have been conducted on individuals who have no explicit interest in treatment and for whom no conventional therapeutic intervention has been provided. The psychological effects in drug abusing subjects of their participation in studies that do not include a direct therapeutic intervention have not been investigated.

The results from studies looking at the differences between treatment-seeking and non-treatment-seeking drug abusers are inconclusive. It has been reported that cocaine abusers seeking treatment have higher rates of psychiatric disorders,¹⁻⁴ and more severe drug use than the untreated cocaine abusers.⁵ However, a recent study⁶ showed that cocaine abusers seeking treatment did not differ from untreated addicts on measures of severity and chronicity of cocaine use, use of self-control strategies to restrict cocaine use, and overall rates of current and lifetime psychiatric disorders.

Studies with opiate addicts have shown less severe substance use and psychosocial impairment among untreated addicts than in treatment-seeking individuals,⁷ suggesting that untreated addicts have greater ability to control their substance use, less prolonged use, and more chances of improving drug use without a formal intervention. Other authors have shown that untreated opiate addicts have more adequate social functioning, fewer drug-related problems, and lower rates of depression.⁸

The data presented here is the first study to determine the psychological safety and the changes in psychopathology among drug abusing individuals before and after their participation in non-treatment residential research studies.

Methods

The sample consisted of 233 drug abusing individuals admitted for non-treatment residential research studies at the National Institute on Drug Abuse - Addiction Research Center (Baltimore, MD), between 1989 and 1992. Subjects consented in writing and received monetary compensation for their participation in the primary studies, but not specifically for answering the SCL-90R questions. Subjects were recruited for the primary studies by newspaper advertisement, referral, or word-of-mouth, and they expressed no interest in treatment.

Inclusion criteria for this study were: (1) current diagnosis of drug abuse/dependence according to the criteria established in the primary study; (2) consent in writing to be tested; and (3) SCL-90R administered during recruitment and discharge. Exclusion criteria were: (1) illiteracy; (2) major medical or psychiatric disorders; (3) pregnancy or lactation; and (4) clinical evidence of drug intoxication.

The instrument used to evaluate psychopathology was the Symptom Check List-90 Revised.⁹ It was administered at the time of intake and discharge from the primary studies when subjects were not intoxicated or in drug withdrawal. This is a self-administered scale that consists of 90 items which measure distress or psychopathology on a 5-point scale for the 7 days prior to completing the questionnaire. The sub-scales are: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. Also, "Additional Items" and Total results are scored. Demographic and drug abuse information was obtained from the Addiction Severity Index (ASI)¹⁰ administered by a counselor at the time of admission to the primary studies.

During the time that subjects stayed on the locked residential ward they received no explicit drug abuse treatment. Subjects had recreation activities like arts and sports, access to TV and video-games, and free meals, non-alcohol drinks, and snacks. Subjects had to follow written rules for bedtime, loud music, aggression, sexual behavior, etc. Prior to admission to the ward, subjects were informed about fines for breaking the rules. Subjects could leave the ward (e.g., for sports) only escorted by a staff member. Coffee and cigarette use were allowed, but partially restricted for some studies. Illicit drug use was monitored by random urine toxicology tests. There were no subjects in treatment living in the facility.

Comparisons between recruitment and discharge data were made using t-tests for repeated measures. The analysis examined the SCL-90R sub-scales, additional items and total scores.

Results

Of the 233 drug abusing subjects, 228 were males (97.8%) and 5 (2.2%) were females. Mean (SD) age was 31.8 (± 5.6) years, and 11.7 $\pm$ 1.6 years of education. There were 135 (57.9%) subjects who were black, 91 (39.1%) white, 3 (1.3%) native American, 2 (0.9%) Hispanic, and 2 (0.9%) not classified. The self-reported "drug of choice" was cocaine in 68 (29.2%) subjects, heroin in 62 (26.6%), marijuana in 53 (22.7%), and other 37 (21.5%).

The usual employment status over the last 3 years was full-time employment in 147 (63.1%) subjects, part-time regular in 32 (13.7%), part-time irregular in 27 (11.6%), and unemployed in 15 (6.4%), 3 (1.3%) were students and 1 came from a controlled environment. For 8 (3.4%) subjects the employment status was unknown. The marital status was single in 137 (58.8%)

subjects, divorced in 54 (23.2%), separated in 26 (11.2%), married in 6 (2.6%), widow in 4 (1.7%), and unknown for 6 (2.6%) subjects. The length of stay of subjects on the residential ward was 40.2 ± 15.6 days.

There was a significant ($p < .01$) symptom reduction between recruitment and discharge for Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Phobic Anxiety, Paranoid Ideation, Psychoticism, and Total Scores; and no change for Somatization, Anxiety, Hostility, and “Additional Items” scores (Table 1).

Comparisons between recruitment and discharge by “drug of choice” showed that for subjects who reported cocaine as their “drug of choice,” there was significant score reduction ($p < .01$) for Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Paranoid Ideation, Psychoticism, and Total Scores (Figure 1). For subjects whose “drug of choice” was heroin, there was significant score reduction ($p < .01$) for Interpersonal Sensitivity, Depression, and Paranoid Ideation (Figure 2). For subjects who reported marijuana as the “drug of choice” there was significant score reduction ($p < .01$) for Obsessive-Compulsive, Interpersonal Sensitivity, and Psychoticism (Figure 3). There were no significant differences at admission or discharge when “drug of choice” groups were compared (data not presented).

Discussion

This investigation evaluated the psychopathology of drug abusers who participated in drug research studies on a non-treatment residential ward. A reduction of psychological symptoms between admission and discharge was present for the sample as a whole as well as for subjects reporting cocaine, marijuana or heroin as their primary drug of choice.

This reduction of psychological symptoms may suggest that (1) subjects' participation in non-treatment drug abuse studies does not involve psychological harm, and/or (2) separating drug abuse subjects from their unsafe and sometimes hostile environment, in which drugs are available, into a safe and restricted research ward has a therapeutic effect.

Some psychological symptoms, such as Paranoid Ideation, Inter-Personal Sensitivity, Obsessive-Compulsive, and Depression may be the result of isolation, lack of social support, drug use and drug-seeking behaviors, and/or drug withdrawal. By changing the environment of the drug abusing subjects, some of the factors that trigger these symptoms are removed, consequently improving their psychological status.

Studies comparing treatment seeking and untreated drug abusers generally show lower psychopathology among untreated drug abusers.⁷ Although it is not within the scope of this study to determine differences between treatment seeking and research subjects, the reduction in psychopathology at discharge may indicate that non-treatment seeking individuals have psychological problems at admission to research studies for which the residential confinement may contribute to their improvement.

The high scores during recruitment for Interpersonal Sensitivity, Depression, and Paranoid Ideation sub-scales among individuals whose drug of choice was either cocaine or heroin may be interpreted as the result of the effects of these drugs and/or the consequences of stressful living conditions associated with the use of cocaine or heroin.

It has been reported that cocaine-dependent patients seeking treatment have more psychopathology at treatment entry than opiate-dependent¹¹ or “speedball” user¹² patients seeking treatment. Although in this study there were no significant differences at admission or discharge between “drug of choice” groups, a score reduction for more sub-scales among individuals who reported cocaine as their drug of choice than opiates or marijuana was

observed. These differences should be further investigated to determine whether cocaine abusers may benefit more from treatments involving a greater psychosocial component.

Comparing the intake scores from this study with a normative population¹³ matched by gender, it was found that Interpersonal Sensitivity, Depression, Paranoid Ideation, and Psychoticism scores were higher; Somatization, Obsessive-Compulsive, Anxiety, and Hostility scores were lower; and Phobic Anxiety scores were the same. All discharge scores were lower than the scores reported for normative population. Both the intake and discharge scores were lower than those reported for psychiatric outpatient or methadone maintained populations.¹³

This study demonstrated the psychological safety and possible therapeutic effect of research participation in non-treatment drug abuse residential studies. One limitation of this study was the very small number of female subjects in the sample. This is an important factor that restricts the generalization of the results. Further studies are needed to determine whether there are differences between non-treatment subjects and patients participating in residential or non-residential treatments, and whether symptomatology would be any different in drug abuse research volunteers and drug abusers in the community who have not sought treatment.

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FIGURE 1.
SCL-90R Mean Raw Scores at Recruitment and Discharge for Subjects Reporting Cocaine Use as "Drug of Choice" (n = 68).

FIGURE 2.
SCL-90R Mean Raw Scores at Recruitment and Discharge for Subjects Reporting Heroin as
“Drug of Choice” (n = 62).

FIGURE 3.
SCL-90R Mean Raw Scores at Recruitment and Discharge for Subjects Reporting Marijuana as “Drug of Choice” (n = 53).

Table 1

SCL-90R Scale Raw Scores.

	Recruitment		Discharge		T	P
	M	SD	M	SD		
Somatization	0.16	0.29	0.18	0.28	0.9	ns
Obsessive-Compul.	0.32	0.44	0.15	0.24	6.5	*
Interp. Sensit.	0.34	0.49	0.14	0.24	6.8	*
Depression	0.41	0.55	0.2	0.28	6.0	*
Anxiety	0.20	0.40	0.15	0.18	1.8	ns
Hostility	0.17	0.40	0.12	0.28	1.6	ns
Phobic Anxiety	0.13	0.36	0.04	0.13	4.1	*
Paranoid Ideation	0.46	0.60	0.18	0.35	7.9	*
Psychoticism	0.20	0.37	0.08	0.17	5.7	*
Additional Items	0.33	0.44	0.29	0.35	1.6	ns
Total Score	0.27	0.37	0.14	0.17	4.6	*

* p < .01