

Additional Effect of Hypnosis in an In-Patient Detoxification Program: Results of a Pilot Clinical Trial

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Abstract

The present study aims to examine the additional effects of hypnosis in the reduction of withdrawal syndrome in an in-patient detoxification treatment program. Thirty-two in-patients aged between 18 and 65 meeting the DSM-IV criteria for multiple substance dependence were randomly assigned to hypnosis condition (two sessions of standardized Ericksonian technique) or control condition (two sessions of standardized support interview). The primary outcome measures were the Short Opiate Withdrawal Scale (SOWS) and Visual Analogue Scales (withdrawal symptoms, craving, depressive mood, anxiety and nervousness). Significant reductions for most outcome measures were found for the total sample. Hypnosis was effective in reducing withdrawal symptoms, however, without significant differences compared to control group (German J Psychiatry 2006; 9: 22-26).

Keywords: hypnosis, substance abuse, withdrawal syndrome, randomized clinical trial, alternative treatment

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Introduction

Dependence on illicit drugs is a major public health issue and a growing social problem throughout the world. Detoxification is an important step in substance abuse treatment to initiate abstinence. One of the major issues in the detoxification process is to reduce withdrawal symptoms and severe complications. Therefore, managing withdrawal syndrome is a real challenge and an important aspect in retaining drug dependent patients in treatment (Seivewright & Greenwood, 1996; Wodak, 1994).

Withdrawal syndrome consists of a large variety of adverse physiological responses depending, among other things, on the drugs involved. However, initial symptoms of opioid or stimulant withdrawal, like dysphoria, anxiety, irritability, agitation, insomnia, and tachycardia are similar (Kosten & O'Connor, 2003). Opioid-withdrawal syndrome is compara-

ble to a severe case of influenza, including lacrimation, dilation of pupils, piloerection, tachycardia, nausea, vomiting, yawning, and diarrhea (Himmelsback, 1941). Stimulant-withdrawal syndrome appears clinically and neurobiologically similar to depressive symptoms, including dysphoria, sleep disturbances, appetite, and motor disorders (Markou, et al., 1998). Traditional approaches to drug withdrawal in an in-patient setting are mainly based on pharmacotherapy.

During in-patient detoxification, complementary interventions may be useful as adjuvant treatments to reduce suffering due to the withdrawal symptoms, especially nervousness, anxiety, depressive mood and agitation. A large variety of complementary approaches claim to improve health by producing a relaxed state. Hypnosis, an approach that has shown its usefulness in pain management since the mid-1800s, is the induction of a deep level of relaxation associated with increased suggestibility and suspension of critical faculties (Vickers & Zollman, 1999). It has been shown to be an effective intervention for reducing pain, anxiety and stress

symptoms like tachycardia in fundamental and clinical research (Buchser, et al., 1994; Kiernan, et al., 1995; Schulz-Stubner, 1996), even if the underlying mechanism of the hypnotic processes remains questioned (Loitman, 2000). The present randomized clinical trial aims to examine the additional effects of hypnosis in the reduction of withdrawal syndrome in an in-patient detoxification treatment program for substance abusers.

Method

Subjects

The study participants were 32 drug dependent patients aged 18-65 years meeting the DSM-IV criteria for multiple drug dependence, admitted to the drug detoxification unit of the Lausanne University Psychiatric Hospital between March 2002 and January 2003. Table 1 shows their demographic and drug use characteristics. The study had local ethics committee approval by the Lausanne University Psychiatric Research Ethics Committee, and all participants had given signed informed consent to participate.

A senior psychiatrist screened all eligible participants in an initial assessment prior to the study. Patients with major psychiatric disorders (psychosis or major depression) were excluded. Participants, who gave their consent, were randomly assigned either to the hypnosis or the control condition.

Table 1: Sample characteristics

	Hypnosis (n=16)	Controls (n=16)	Total (n=32)
Gender (%)			
Male	6 (37.5)	11 (68.8)	17 (53.1)
Female	10 (62.5)	5 (31.3)	15 (46.9)
Age (SD)	26.4 (3.3)	29.4 (5.9)	27.9 (5.0)
Substance dependence (%)			
Opioids	14 (87.5)	13 (81.3)	27 (84.4)
Cocaine	11 (68.8)	11 (68.8)	22 (68.8)
Sedatives, hypnotics, or anxiolytics	12 (75.0)	11 (68.8)	23 (71.9)
Cannabis	9 (56.3)	8 (50.0)	17 (53.1)

Procedure

Sixteen patients were randomly assigned to the hypnosis condition and sixteen to the control condition. The same trained experienced and regulated psychiatric nurse (J.R)

conducted both types of intervention. These consisted of two sessions with seven days interval and lasted approximately 45 minutes.

The hypnosis procedure was based on Erickson's technique. The first hypnosis session was preceded by a preparatory session in which the patient was extensively informed about the procedure and given the opportunity to ask questions. Hypnotic sessions started with a standardized induction. Once in the hypnotic state induced through imagery activity, patients were given therapeutic suggestions constructed with the therapist beforehand in the preparatory session. The control condition consisted of supportive counseling sessions. During these sessions, patients' efforts toward goals of abstinence were valued and patients were encouraged to express fears and hopes about abstinence.

All interventions were recorded in order to control for differences between the two approaches. Investigators other than the therapist, who were blind to the randomization of the patients, evaluated the tape recordings. The type of approach was attributed correctly in all cases.

Measures

Withdrawal syndrome severity was assessed with the Short Opiate Withdrawal Scale (SOWS) (Gossop, 1990) and visual analogue scales (VAS) rated by the patient before and after each session. The SOWS is a 10-item self-reported questionnaire presented in a four point Likert format ranging from 0 (none) to 3 (severe). Typical items are "aches and pain", "muscular tension" or "feeling sick". VAS ask patients to rate, on five 70-mm visual analogue scales (from 0: not at all to 70: more than even), the occurrence of withdrawal symptoms, the strength of the desire to use drugs (craving), anxiety, nervousness and depressed mood (Bertschy, et al., 1997).

Statistical Analyses

Baseline variables were compared by the Student t-test for continuous data and the χ^2 test for dichotomous data. Means and mean confidence intervals before and after therapeutic sessions were calculated. Therapeutic results were analyzed with two (condition) by two (time) mixed analyses of variance (ANOVA) with repeated measures. Moreover, to evaluate the magnitude of the session response, pre-post session standardized effect sizes (ES) were computed following Becker's procedures (Becker, 1988). We set the alpha level at 0.05 and confidence intervals of 95%. All analyses were computed using the statistical software SPSS 11.0.

Results

The two groups were comparable with regard to patients' characteristics and withdrawal syndrome (SOWS and VAS) at baseline.

Table 2: Changes in withdrawal symptoms after first hypnosis or supportive counseling sessions (means/95% CI; pre-post effect sizes)

	Pre-therapeutic evaluation	Post-therapeutic evaluation	Pre-post effect size
<i>Hypnosis (n=16)</i>			
SOWS	8.3 (4.7-11.8)	4.3 (1.7-6.9)	0.63
VAS			
Withdrawal symptoms	2.1 (1.1-3.0)	0.5 (0.1-0.9)	0.90
Craving	2.4 (1.3-3.6)	1.5 (0.2-2.8)	0.32
Anxiety	2.9 (1.8-4.1)	1.8 (0.5-3.1)	0.54
Nervousness	3.1 (1.8-4.4)	1.5 (0.3-2.7)	0.72
Depressed mood	2.6 (1.4-3.8)	2.1 (0.6-3.5)	0.22
<i>Supportive counseling (n=16)</i>			
SOWS	7.9 (4.9-10.9)	5.6 (3.3-7.9)	0.42
VAS			
Withdrawal symptoms	2.2 (1.2-3.2)	1.8 (0.7-2.8)	0.22
Craving	2.4 (1.2-3.7)	2.1 (1.0-3.2)	0.16
Anxiety	3.5 (2.4-4.6)	2.3 (1.5-3.1)	0.61
Nervousness	3.4 (2.2-4.6)	2.2 (1.2-3.3)	0.58
Depressed mood	2.6 (1.3-3.8)	2.7 (1.4-3.9)	-0.06

Regarding the first therapeutic session, the results of the mixed ANOVA revealed no significant condition effect and no significant condition x time interaction for any of the outcome measures. However, a significant main effect for time was detected for most outcome measures (SOWS, $F(1, 30)=10.91$, $p<.05$; Withdrawal symptoms, $F(1, 30)=11.71$, $p<.05$; Anxiety, $F(1, 30)=12.21$, $p<.05$; Nervousness $F(1, 30)=8.31$, $p<.05$), except for Craving and Depressed mood. In order to examine the main effect of time in better detail, the means, 95 % confidence intervals for means, and pre-post ES on the outcome measures for both conditions are presented in Table 2.

Except for Anxiety, results of pre-post session effect sizes were numerically higher in the hypnosis condition than in the control condition. In fact, the mean ES for change in withdrawal syndrome from pre- to post-session was 0.56 (95 % CI = 0.29 – 0.82) in hypnosis condition and 0.32 (95 % CI = 0.05 – 0.60) in control condition.

Sixteen patients did not complete the treatment and left the detoxification unit before the second therapeutic session (7 hypnosis and 9 control; $\chi^2 = 0.5$, $p>.05$). Regarding the

sixteen remaining patients who attended the second therapeutic session, the results of mixed ANOVA reveal no significant condition effect and no significant condition x time interaction for any of the outcome measures. However, a significant main effect for time was detected for all outcome measures (SOWS, $F(1, 14) = 11.32$, $p<.05$; Withdrawal symptoms, $F(1, 14) = 11.99$, $p<.05$; Craving, $F(1, 14) = 7.90$, $p<.05$; Anxiety, $F(1, 14) = 15.69$, $p<.05$; Nervousness, $F(1, 14) = 13.27$, $p<.05$; Depressed mood, $F(1, 14) = 7.36$, $p<.05$). Subsequent pre- post-session effect size analyses (presented in Table 3) indicate that, except for Anxiety, the magnitude of change is more important in the hypnosis condition. Furthermore, the mean ES for change in withdrawal syndrome from pre- to post-session were larger than after the initial session (Hypnosis: 0.75, 95 % CI = 0.43 – 1.06 ; Control: 0.47, 95 % CI = 0.01 – 0.94).

Discussion

This pilot randomized controlled study provides preliminary results regarding the additional effect of hypnosis in reducing withdrawal related symptoms during detoxification treatment. A considerable number of publications report the effect of hypnosis in pain management in different contexts (burn treatment, surgery, chronic pediatric pain) (Faucher, 2003; Faymonville, et al., 1997; Zeltzer, et al., 2002), but few of them are controlled or randomized trials and, to our knowledge, none of them has tested hypnosis during detoxification treatment.

The present data indicates significant withdrawal symptom reductions for both hypnosis and supportive counseling, but fails to differentiate the impact of hypnosis and supportive counseling sessions. Unfortunately, an insufficient power may result in statistically insignificant findings. Therefore, the statement that there were no significant between-group differences may reflect use of a small sample rather than treatment equivalence. However, the reduction of withdrawal symptoms was generally more effective in the hypnosis condition. According to Cohen (1988), mean gain effect size was indeed categorized as “medium” for first session of hypnosis, whereas it was considered as “low” in control condition. Interestingly, patients seemed to benefit better from the second session, and the mean gain effect sizes were categorized as “large” in the hypnosis condition and “medium” in the control condition.

As the withdrawal syndrome may be particularly unpleasant for patients and may discourage them from completing the detoxification process, hypnosis may be an interesting additional approach to enhancing retention in treatment. However, in our study, the retention in treatment was similar in both groups.

Table 3: Changes in withdrawal symptoms after second hypnosis or supportive counseling sessions (means/95% CI; pre-post effect sizes)

	Pre-therapeutic evaluation	Post-therapeutic evaluation	Pre-post effect size
<i>Hypnosis (n=9)</i>			
SOWS	10.8 (5.7-15.8)	4.1 (1.4-6.9)	1.20
VAS			
Withdrawal symptoms	3.3 (1.8-4.9)	2.0 (0.0-4.0)	0.52
Craving	2.3 (0.6-4.1)	0.8 (0.0-1.9)	0.70
Anxiety	2.9 (1.1-4.8)	1.0 (0.0-2.6)	0.83
Nervousness	3.3 (1.4-5.3)	1.2 (0.0-2.7)	0.89
Depressed mood	2.0 (0.3-3.7)	1.2 (0.0-2.8)	0.33
<i>Supportive counseling (n=7)</i>			
SOWS	8.6 (2.9-14.2)	7.7 (1.6-13.9)	0.36
VAS			
Withdrawal symptoms	1.8 (0.1-3.4)	1.3 (0.0-2.7)	0.46
Craving	0.5 (0.0-1.5)	0.5 (0.0-1.3)	0.02
Anxiety	3.0 (0.9-5.0)	1.0 (0.1-1.8)	1.26
Nervousness	2.6 (0.4-4.8)	1.7 (0.0-3.4)	0.61
Depressed mood	0.9 (0.0-2.2)	0.5 (0.0-1.4)	0.13

These preliminary results may be of clinical interest, but methodological limitations of the current study should be noted when considering the findings reported here. First, beliefs and expectations about the efficacy of the randomized therapeutic intervention were not evaluated. As severity of the withdrawal syndrome was assessed via self-report, it is possible that patients may have intentionally exaggerated or underreported withdrawal severity, depending on their beliefs and expectations. Secondly, hypnotisability may be related to successful treatment outcome (Tausk & Witmore, 1999). We did not assess patients' hypnotisability. Thirdly, it is very unfortunate that 50 % of the patients left the detoxification unit before the end of the therapeutic program. This high drop-out rate might be explained by greater accessibility and a very developed social system in Switzerland. Consequently, a high level of care from substance abuse programs reaches a wide range of patients (Krenz, et al., 2002), including patients with Axis II comorbidity who are more susceptible to treatment noncompliance and relapse (Thomas, et al., 1999). Finally, there are concerns about the modest sample size, associated with a lack of power, a common limitation in studies recruiting patients. Further research is warranted to clarify the effectiveness of hypnosis on the short-

term course of withdrawal severity during the detoxification process.

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