Hypnotherapy in the Treatment of Chronic Combat-Related PTSD Patients Suffering From Insomnia: A Randomized, Zolpidem-Controlled Clinical Trial

Eitan G. Abramowitz *, Yoram Barak *, Irit Ben-Avi *, Haim Y. Knobler *

* Israel Defense Forces, Mental Health Department, Israel


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HYPNOTHERAPY IN THE TREATMENT OF CHRONIC COMBAT-RELATED PTSD PATIENTS SUFFERING FROM INSOMNIA: A Randomized, Zolpidem-Controlled Clinical Trial

EITAN G. ABRAMOWITZ, YORAM BARAK, IRIT BEN-AVI, AND HAIM Y. KNOBLER

Israel Defense Forces, Mental Health Department, Israel

Abstract: This study evaluated the benefits of add-on hypnotherapy in patients with chronic PTSD. Thirty-two PTSD patients treated by SSRI antidepressants and supportive psychotherapy were randomized to 2 groups: 15 patients in the first group received Zolpidem 10 mg nightly for 14 nights, and 17 patients in the hypnotherapy group were treated by symptom-oriented hypnotherapy, twice-a-week 1.5-hour sessions for 2 weeks. All patients completed the Stanford Hypnotic Susceptibility Scale, Form C, Beck Depression Inventory, Impact of Event Scale, and Visual Subjective Sleep Quality Questionnaire before and after treatment. There was a significant main effect of the hypnotherapy treatment with PTSD symptoms as measured by the Posttraumatic Disorder Scale. This effect was preserved at follow-up 1 month later. Additional benefits for the hypnotherapy group were decreases in intrusion and avoidance reactions and improvement in all sleep variables assessed.

The treatment of insomnia is well researched and reported (Maczai, 1993; Rosekind, 1992); however, there are few clinical research studies on the hypnotherapeutic treatment of sleep disorders. Stanton (1989) conducted a controlled clinical study with 45 subjects matched on their baseline sleep-onset latency and then randomly assigned to one of three treatment conditions: hypnotherapy, stimulus control, and placebo treatment. A significant reduction in sleep-onset latency was found only in the hypnotherapy group.

The treatment of posttraumatic stress disorder (PTSD) is one of the most challenging areas for hypnotherapy. Therapists are required to adopt and to compare very different treatment models at different stages of the treatment. The goals of treating patients suffering from trauma were lineated by Janet as early as 1924 (Janet, 1924). Hypnosis...
COMBAT-RELATED PTSD INSOMNIA CLINICAL TRIAL

is associated with the treatment of PTSD for two reasons: the similarity between hypnotic phenomena and the symptoms of PTSD and the utility of hypnosis as a tool in treatment (Spiegel, 1992; Spiegel & Cardeña, 1990; Spiegel, Hunt, & Dondershine, 1988).

Sleep complaints are frequent and persist in patients with PTSD (Germain, Buysse, Shear, Fayyad, & Austin, 2004). There is no randomized clinical research on the hypnotherapeutic treatment of insomnia and sleep disorders in chronic combat-related PTSD patients. The purpose of this study was to subjectively evaluate hypnotic responsiveness of chronic combat-related PTSD patients, to evaluate and compare the efficacy of symptom-oriented hypnotherapy, and to compare it with pharmacotherapy by zolpidem in a group of chronic combat-related PTSD patients with insomnia.

METHOD

Patients

Forty-two male combat veterans consecutively admitted to a PTSD military clinic were assessed for symptoms of PTSD, depression, and sleep disorders. All patients, despite maintenance treatment by selective serotonin re-uptake inhibitor (SSRI) antidepressants and supportive psychotherapy, were suffering from chronic difficulties in initiating and maintaining sleep, night terrors, and nightmares. Patients that satisfied inclusion criteria were randomized to receive either additional zolpidem treatment or hypnotherapy.

Inclusion criteria were: (a) diagnosis of PTSD according to DSM-IV (American Psychiatric Association, 2000) criteria; (b) age range of 21 to 40 years; and (c) competence to endorse informed consent. Exclusion criteria were: (a) evidence of traumatic brain injury (n = 2); (b) prescription of hypnotics for the last 4 weeks (n = 1); (c) regular alcohol and cannabis consumption (n = 2); (d) prominent depressive symptoms (n = 2); (e) chronic pain (n = 2). Thus, only 32 of 42 screened patients were included in analysis.

All patients had been treated for a minimum of 2 months with antidepressant treatment but mean duration of treatment was 9 months. The SSRI treatment included: paroxetine, fluvoxamine, citalopram, and sertraline. SSRI doses were equally distributed between the two groups of patients. Severity of PTSD symptoms was assessed with the Posttraumatic Diagnostic Scale (PDI; Foa, Cashman, Jaycox, & Perry, 1997) and the Impact of Event Scale (IES; Sundin & Horowitz, 2002). Severity of depression was assessed with the Beck Depression Inventory (BDI; Beck & Steer, 1984).

The assessment of patients from both groups involved the administration of the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C; Weitzenhoffer & Hilgard, 1962). This is a standardized assessment of
hypnotic susceptibility that involves hypnotic inductions followed by five hypnotic suggestions (hand lowering, age regression, dream, posthypnotic suggestion, and posthypnotic amnesia). Each item is scored by the hypnotist as “passed” or “failed” on the basis of the observed and reported response of the subject. Scale scores are normally distributed and correlate strongly with established measures of hypnotizability. Patients were informed that the SHSS:C was administered to assist “our understanding of how combat trauma influences the way people feel and sleep.”

According to our clinical experience, moderately hypnotizable patients are best suited to hypnotherapy for insomnia. For that reason we chose patients with midrange scores only and randomized them between the two groups; the mean hypnotizability score in both groups was 6.5.

The IES, PDS, and BDI were administered again to both groups at the end of the study and 1 month after the study ended.

This study was approved by the Ethical Committee for Experimentation in Human Subjects of the Israel Defense Forces. After a detailed description of the study, patients’ written informed consent was obtained.

**Procedure**

During the treatment period and 1 month after the study patients completed a daily Morning Questionnaire. This is a visual analog scale ranging from 0 to 100 assessing the following parameters: quality of sleep, total sleep time, number of awakenings during the night, ability to concentrate upon awakening, and morning sleepiness (Saletu-Zyhlarz et al., 2002).

Sleep hygiene instructions consisting of maintenance of a reasonably constant bedtime, no napping during the day, no alcohol use, and no food or caffeinated beverages after 7 p.m. were given to all participants and encouraged throughout the study.

Patients who met the inclusion criteria were randomly assigned to receive zolpidem 10 mg (Group 1, \( n = 16 \)) or symptom-oriented hypnotherapy (Group 2, \( n = 17 \)).

The treatment period for the zolpidem group was 14 nights; each patient received 14 tablets of zolpidem (10 mg). One patient experienced drowsiness after the first treatment with zolpidem and discontinued after the second day of treatment.

Hypnotherapy was administered in two 1.5-hour sessions per week for 2 weeks by a specialist in psychiatry, who was certified experienced in hypnotherapy. In a pretreatment interview, details relevant for age-regression were collected and an ideomotor response channel of communication using finger-signaling was established. At the beginning of each hypnotherapy session, 15 to 20 minutes were focused on
production and widening of trance phenomena with emphasis on disso-
ociative bodily features. Using age-regression, participants were
returned to earlier periods in which normal restorative sleep was
present (e.g., after an exhausting day of games with friends during
childhood). Details of these past experiences were enhanced and asso-
ciated with the “here and now” feelings of the participant. Direct,
open-ended hypnotic work was performed to deal with present-day
symptoms of sleep disturbances. Permissive and coping posthypnotic
suggestions both overt and hidden were used for strengthening ego.
The choice and timing of ego-strengthening procedures were based on
the therapist’s understanding of many factors, such as patient history,
his or her communication style, etc. The final part of each session was
devoted to reviewing the session and repetition of symptom-oriented
posthypnotic suggestions.

None of the patients in the zolpidem group had received this drug
in the past, and none of the hypnotherapy group patients had been
hypnotized or treated by hypnotherapy in the past.

Statistical Analyses

A repeated measures two-way ANOVA was performed to compare
the zolpidem and the hypnotherapy treatment effects on PTSD symp-
toms, depression, and sleep disorders across the time: pretreatment,
posttreatment, and at 1-month follow-up. In addition, the effects of
treatment and assessment time were tested. All tests were two-tailed,
and \( p < .05 \) was considered to be significant.

RESULTS

Demographics and Pretreatment Comparisons

The two treatment groups did not differ significantly with respect
to age (mean, 31.7 years, range, 21–40 years) or gender. Both groups
were also equal with respect to prestudy scores in severity of post-
traumatic and depressive symptoms (\( p = .65 \) and \( p = .67 \)), stress reac-
tions (\( p = .56 \)), or subjective ratings of quality of sleep (\( p = .35 \)). In
addition, there were no differences in the mean doses of antidepres-
sants between groups.

PTSD Symptoms

There was a significant main effect in the treatment group, \( F(1, 30) = 
4.96; p = .034 \), with PTSD symptoms as measured by the PDS being
lower in the hypnotherapy group (HT) compared to the zolpidem
group (ZT). There was also a significant main effect of the assessment
time, \( F(2, 60) = 43.32; p < .0005 \). Post hoc tests indicated that PTSD
symptoms reduced from a mean of 36.7 (\( SD = 9.4 \)) at pretreatment to a
mean of 31.7 (\( SD = 9.8 \)) posttreatment. This effect was preserved at
follow-up 1 month later; a mean of 31.5 ($SD = 9.9$). There was a significant interaction between the treatment type (HT versus ZT) and the different assessments (pretreatment, posttreatment, and 1-month follow-up), $F(2, 60) = 30.59, p < .0005$. Table 1 demonstrates the more pronounced response for the HT group.

**Stress Reactions**

IES scores were similar in both treatment groups. A significant main effect for the assessment time was found, $F(1.4, 43.3) = 16.24; p < .0005$. Stress reactions reduced from a mean of 50.5 ($SD = 12.5$) at pretreatment to a mean of 44.9 ($SD = 12.2$) posttreatment, and a mean of 43.9 ($SD = 13.3$) at 1-month follow-up. There was also an interaction between the treatment type and the assessment time, $F(1.4, 43.3) = 11.2; p < .0005$, indicating that intrusion and avoidance reactions decreased in the HT group but not in the ZT group (see Table 2).

**Depression**

Equal levels of depression were found in both treatment groups. Looking at the effect at different time points, there was a significant main effect of the assessment time, $F(1.5, 45.5) = 17.9; p < .0005$. The depression scores reduced from a mean of 14.6 ($SD = 6.7$) at pretreatment to a mean of 12.5 ($SD = 6.8$) posttreatment, and a mean of 12.2 ($SD = 7.1$) at 1-month follow-up. An interaction was found between the treatment type (HT versus ZT) and the different assessments (pretreatment, posttreatment, and 1-month follow-up), $F(1.5, 45.5) = 16.5, p < .0005$. As Table 1 shows, responding for HT was more pronounced than for ZT.

**Sleep Variables**

**Total sleep time.** Total sleep time was identical for both treatment groups. A significant main effect was also found for the assessment time, $F(2, 60) = 23.4; p < .0005$. Sleep improved between the first and second assessment and maintained the same level at the third assessment. Treatment efficacy for both groups was similar (i.e., a Treatment × Assessment time interaction was not found).

**Quality of sleep.** Quality of sleep was higher in the HT group compared to the ZT group, $F(1, 30) = 10.7; p = .003$, and was improved from the first to the second assessment, $F(2, 60) = 24.2; p < .0005$. In addition, sleep quality significantly improved in the HT group in comparison to the ZT group, $F(2, 60) = 30.9, p < .0005$.

**Number of awakenings.** Awakenings were identical for both treatment groups. The number of awakenings decreased from the first to the second assessment time, $F(1.6, 46.5) = 13.5, p < .0005$. Awakenings decreased more pronouncedly in the HT group than in the ZT group, $F(1.6, 46.5) = 6.7, p = .006$. 

Table 1
Mean (SE) Values from PDS, IES, BDI* Scales, and Morning Questionnaires Completed by Patients Treated by Zolpidem or Hypnotherapy

<table>
<thead>
<tr>
<th></th>
<th>Pretreatment</th>
<th>Posttreatment</th>
<th>1-month follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Zolp (n = 15); Hypno. (n = 17)</td>
<td>Zolp (n = 15); Hypno. (n = 17)</td>
<td>Zolp (n = 15); Hypno. (n = 17)</td>
</tr>
<tr>
<td>PDS</td>
<td>37.5 ± 2.5</td>
<td>36.5 ± 2.6</td>
<td>36.9 ± 2.5</td>
</tr>
<tr>
<td>IES</td>
<td>49.1 ± 3.0</td>
<td>47.8 ± 3.1</td>
<td>48.2 ± 2.8</td>
</tr>
<tr>
<td>BDI</td>
<td>15 ± 1.6</td>
<td>14.9 ± 1.6</td>
<td>14.9 ± 1.7</td>
</tr>
<tr>
<td>Total sleep time</td>
<td>6.1 ± 0.3</td>
<td>6.9 ± 0.2</td>
<td>6.6 ± 0.1</td>
</tr>
<tr>
<td>Number of awakenings</td>
<td>1.5 ± 0.3</td>
<td>1.3 ± 0.2</td>
<td>1.3 ± 0.2</td>
</tr>
<tr>
<td>Quality of sleep</td>
<td>3.2 ± 0.1</td>
<td>3.2 ± 0.1</td>
<td>3.3 ± 0.1</td>
</tr>
<tr>
<td>Ability to concentrate</td>
<td>3.0 ± 0.2</td>
<td>3.0 ± 0.1</td>
<td>3.1 ± 0.1</td>
</tr>
<tr>
<td>Morning sleepiness</td>
<td>51.9 ± 4.0</td>
<td>50.0 ± 3.8</td>
<td>47.7 ± 3.1</td>
</tr>
</tbody>
</table>

*PDS — Posttraumatic Diagnostic Scale, IES — Impact of Event Scale, BDI — Beck Depression Inventory.
Morning Effects

*Ability to concentrate.* Concentration was higher for the HT group compared to the ZT group, \( F(1, 30) = 5.65, p = .024 \), and was improved mainly between the first and the second assessment, \( F(1.6, 46.5) = 4.4, p = .026 \). Concentration ability stayed relatively unchanged in the ZT group while in the HT group it was improved, \( F(1.6, 46.5) = 9.47, p = .001 \).

*Morning sleepiness.* Sleepiness was lower in the HT group compared to the ZT group, \( F(1, 30) = 15.4, p < .0005 \). Morning sleepiness was lower at posttreatment compared to pretreatment and 1-month follow-up assessments, \( F(1.4, 43.2) = 15.3; p < .0005 \). The treatment groups differed significantly in morning sleepiness, \( F(1.4, 43.2) = 25.6, p < .0005 \). While in the ZT group sleepiness did not change significantly, patients in the HT group reported a significant improvement, especially between pretreatment and posttreatment assessments.

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**Table 2**

*Posttreatment Clinical Global Impression Scale: Zolpidem Versus Hypnotherapy*

<table>
<thead>
<tr>
<th></th>
<th>Zolpidem (&lt;i&gt;n = 15&lt;/i&gt;) (%)</th>
<th>Hypnoth. (&lt;i&gt;n = 17&lt;/i&gt;) (%)</th>
<th>( p^* )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of sleep</td>
<td></td>
<td></td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Excellent or good</td>
<td>26.6</td>
<td>88.2</td>
<td></td>
</tr>
<tr>
<td>Fair or poor</td>
<td>73.3</td>
<td>11.7</td>
<td></td>
</tr>
<tr>
<td>Change in sleep:</td>
<td></td>
<td></td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Improvement a lot or somewhat</td>
<td>26.6</td>
<td>76.4</td>
<td></td>
</tr>
<tr>
<td>No change</td>
<td>46.6</td>
<td>17.6</td>
<td></td>
</tr>
<tr>
<td>Somewhat or a lot of worse</td>
<td>26.6</td>
<td>5.8</td>
<td></td>
</tr>
<tr>
<td>Change in amount of sleep:</td>
<td></td>
<td></td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Increase</td>
<td>66.6</td>
<td>82.3</td>
<td></td>
</tr>
<tr>
<td>No change</td>
<td>13.3</td>
<td>17.6</td>
<td></td>
</tr>
<tr>
<td>Decrease</td>
<td>20</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Strength of treatment:</td>
<td></td>
<td></td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Too strong or strong</td>
<td>13.3</td>
<td>11.7</td>
<td></td>
</tr>
<tr>
<td>Just right</td>
<td>13.3</td>
<td>82.3</td>
<td></td>
</tr>
<tr>
<td>Weak or too weak</td>
<td>73.3</td>
<td>5.8</td>
<td></td>
</tr>
<tr>
<td>Change during posttreatment days:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Much or somewhat better</td>
<td>20</td>
<td>56.4</td>
<td>0.002</td>
</tr>
<tr>
<td>No change</td>
<td>33.4</td>
<td>43.6</td>
<td></td>
</tr>
<tr>
<td>Worse or much worse</td>
<td>46.6</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

*Cocran-Mantel-Haenszel test.*
DISCUSSION

The present study is the first to report the benefit of hypnotherapy in patients with chronic combat-related PTSD who are concurrently suffering from persistent chronic insomnia and sleep disorders. The participants chosen for this intervention were receiving supportive psychotherapy and pharmacotherapy at the time of enrollment and still were disturbed by insomnia, frequent awakenings, and night terrors. In essence, the participants thus represent a “real life” challenge for physicians and health care professionals.

Unfortunately, relegation of sleep disturbances to secondary importance among patients suffering from PTSD may needlessly prolong patients’ distress by engendering fatigue from lost sleep, fear of falling asleep and sleep avoidance, and deepening anxiety and depression as carryovers from the sense that the therapy is not effective, which may reinforce demoralization (Frank, 1991).

Both direct and indirect ego-strengthening procedures can be found in the therapeutic repertoire of most successful hypnotherapists. The effect of ego-strengthening can be perceived as improved therapeutic alliance, heightened insight, increased clarity of thinking, and/or improved self-esteem on the part of the patient (McNeal & Frederick, 1993). We are using some powerful projective/evocative procedures that can be a significant adjunct to other therapeutic modalities, whether they are other hypnotherapy techniques or more traditional psychodynamic methods.

There are several mechanisms by which definitive treatment of sleep disturbances exerts a favorable impact upon other related problems in the cluster of symptoms that make up the diagnosis of chronic PTSD. The successful treatment of sleep disturbances positively influences other areas of functioning. Indeed, in the present study, the improvement in sleep directly affected concentration and mood and contributed to a decrease in severity of PTSD symptoms.

The present study has several limitations that need to be acknowledged. The sample size is relatively small. The hypnotherapeutic intervention was added to ongoing treatment and thus its sole contribution is difficult to tease out of the overall effects.

We decided to select only patients in the midrange of hypnotizability because of our clinical experience and understanding of hypnotherapy for chronic PTSD patients.

According to our clinical experience, patients with minimal trance capacity do not benefit from hypnotherapeutic interventions, and some severe and chronic PTSD patients lose trance capacity. On the other hand, chronic PTSD patients who are highly hypnotizable frequently experience strong trance capacity with negative emotions (abreaction or unpleasant dissociative symptoms) (Benningfield, 1992).
To our understanding, this kind of patient often needs “de-hypnotization” interventions, rather than learning how to dissociate even more.

The participants were all treated rather intensively and this is not a reflection of daily practice wherein subjects receive a diluted menu of treatments in most public settings. Participants had been suffering from PTSD for many years and so are representative of a group that suffers from chronic sleep disturbances. Selection of patients suffering from recent exposure to trauma may have added to our knowledge about intervening during the acute phase of the disorder.

Finally, we have demonstrated a positive effect of hypnotherapy across all outcome measures possibly reflecting a nonspecific effect of treatment.

In conclusion, we found that symptomatic hypnotherapy is an effective adjunct to psycho- and pharmacotherapy for chronic insomnia and sleep disorders in a group of patients suffering from chronic combat-related PTSD. PTSD patients are more susceptible to hypnosis than healthy controls thus negating the need to test for this feature prior to hypnotherapy in future studies (Spiegel, 1992). As this is the first report ever to demonstrate the usefulness of hypnotherapy in sleep disturbances in PTSD, further trials are called for with larger samples as well as the use of hypnotherapy as the only treatment modality and the practice of self-hypnosis between and following the structured sessions.

REFERENCES


**JOHANNE REYNAULT**  
C. Tr. (STIBC)

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**Hypnotherapia en el tratamiento de pacientes con TEP crónico relacionado al combate y que sufren de insomnio: Un experimento clínico aleatorizado con Zolpidem**

Eitan G. Abramowitz, Yoram Barak, Irit Ben-Avi, y Haim Y. Knobler

Resumen: Este estudio evaluó los beneficios de añadir hipnoterapia con pacientes con TEP (PTSD) crónico. Tratamos a 32 pacientes con TEP con antidepresivos SSRI y psicoterapia de apoyo después de asignarlos aleatoriamente a 2 grupos: 15 pacientes en el primer grupo recibieron 10 mg de Zolpidem en la noche durante 14 noches, y 17 pacientes en el grupo de hipnoterapia fueron tratados con hipnotherapia centrada en los síntomas dos veces por semana en sesiones de hora y media durante 2 semanas. Todos los pacientes completaron antes y después del tratamiento la Escala de Susceptibilidad Hipnótica de Stanford, Forma C (SHSS:C), el Inventario de Depresión de Beck, la Escala de Impacto de Sucesos, y el Cuestionario Subjetivo Visual de Calidad de Sueño. Encontramos un efecto principal significativo del tratamiento con hipnoterapia en los síntomas de TEP de acuerdo a la Escala de Trastorno Postraumático. Este efecto se mantuvo en el seguimiento a un mes. Los beneficios adicionales del grupo de hipnoterapia fueron la disminución en reacciones de intrusión y evitación, y mejoría en todas las variables de sueño evaluadas.

**ETZEL CARDEÑA**  
*Lund University, Lund, Sweden*