

The Use of Nightmares in PTSD Treatment

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Abstract

This study seeks to provide a comprehensive analysis of the role nightmares can play in determining the optimal treatment for each individual patient, in the treatment of Post-Traumatic Stress Disorder (PTSD). Using the combat-related PTSD Check-List (PCL), this study compared the nightmare-frequency and recovery rates of 31 patients, in order to determine whether naturally-occurring nightmares contribute to or undermine the effectiveness of any particular treatment option. While recognizing the symptomatic hardships of PTSD-related nightmares, this study did not seek to discover or analyze their detriment. Rather, the study looks to see whether such distress might be similar to the distress that has been shown to be therapeutic in exposure-based treatments. In addition, the study seeks to discover whether the two could work conjunctively to acclimate the mind to the traumatic memories. The results showed some correlation between nightmare frequency and recovery rate, but were not deemed to be statistically significant. Thus, the results support the null hypothesis that a high nightmare frequency is not beneficial in facilitating the goals of exposure-based treatments.

1. Introduction

Post-Traumatic Stress Disorder (PTSD) is a psychological condition resulting from trauma. Symptoms deal with the painful recollections of the initial trauma, which can include flashbacks or nightmares. The consistency and pain of such memories often manifests itself in a variety of personality changes, such as an inability to trust and hyperawareness (Eid 2003).

PTSD is generally classified into two categories: combat-related PTSD, or noncombat-related PTSD. As can be easily ascertained from the names, combat-related PTSD always deals with the damaging effects of an experience from combat, whereas noncombat-related PTSD deals with all other experiences, such as witnessing a death or sexual assault (Richardson, 2010).

PTSD has no cure as of yet. Rather, psychologists have taken to treating the symptoms in an attempt to bring patients into states of recovery. The most potent and damaging symptoms deal with the recollection of memories that will force the patient to relive the traumatic event, and a state of recovery is one in which the patient is able to remember his/her trauma without reliving it (Dow, 1996).

Many recent treatment options, such as Exposure Response Prevention Therapy (ERPT), or Cognitive Behavioral Therapy (CBT) have focused on allowing patients to reach such a state of recovery by repeatedly exposing them to the pertinent memories until their fight-or-flight associations are stripped away, and they are rendered merely memories (Feeny, 2010). The patients will always remember their trauma, and such memories will always be unpleasant, but new treatment has shown success in helping patients to stop from reliving them (Paunovic, 2001).

Examinations of the symptomatic effects of PTSD have shown nightmares to be integral aspects of the disorder. They present as a prominent symptom, and are often debilitating. Yet, they are rarely included in PTSD treatment. Exposure-based therapies hope to treat nightmares in the same way that they do conscious recollections: by acclimating the mind to the trauma. However, treatment has never distinctly differentiated between conscious and unconscious recollections (Dow, 1996).

Treatments that involve exposing patients to traumatic memories are gaining popularity, but research has largely ignored the fact that nightmares expose the mind to the same memories in much the same way. Although nightmares undoubtedly do not sufficiently treat PTSD on their own, and treatments like ERPT are conducted in carefully-controlled settings, both nightmares and the exposure tools used to execute such treatments will trigger the fight-or-flight reflex that forces patient to relive the trauma (Zadra 2006).

2. Statement of Purpose

This study will attempt to determine how, if at all, nightmare frequency and severity should factor into the determination as to whether exposure-based treatment is best for an individual.

This study fully recognizes the distressing effects that nightmares have on PTSD patients, and in no way seeks to further explore their consequence as a symptom. Rather, after looking at their effects and noticing many similarities to the effects that exposure-based treatments *seek* to produce (recognizing that exposure-based therapies are predicated upon an acceptance that the patient will have to withstand emotional pain to reach recovery), we look to determine whether a high frequency of nightmares could in any way enhance the effectiveness of exposure therapies. This could then suggest that PTSD patients should be instructed to be more receptive to their nightmares, as research has shown that openness-to-experience is a key factor in dream recall frequency, and that patients who already have a high nightmare frequency might do better with exposure therapies, as opposed to the others (Duval, 2010). The question is whether, if the patient has a higher frequency of naturally-occurring nightmares, they may do better with exposure-based therapies, as the conscious (therapeutic) and unconscious (nightmare) exposures

may work conjunctively to expose the mind to the traumatic memories until they lose much of their impact. However, as nightmares lack the controlled setting that is used in thematic settings, it is also possible that they could cause a digression in recovery and undermine the progress gained through treatment. Therefore, this study is predicated upon a two-tailed hypothesis that nightmares could either enhance the effects of exposure-based therapies, by continuing to expose the mind to trauma under the cover of sleep, or undermine its effects, by triggering painful memories without the benefits of the control seen in therapy.

3. Materials and Methods

A survey was designed for the purpose of determining all treatment each individual has received, determining how much their PTSD symptoms have progressed or regressed in the time since the initial trauma, collecting pertinent demographic information. This survey was then distributed through several local Veterans Service Organizations. It was filled out via hard-copies by some participants, and online by others.

In order to assess how quickly each participant has recovered, they were asked to fill out two PTSD Check-Lists (PCLs) (Forbes, 2001). The PCL comes in two versions: one for PTSD deriving from combat-related trauma, one from combat-unrelated trauma. As participants in this study only had combat-related PTSD, only the combat-related PCL was used. The PCL is a comprehensive measure of the severity of PTSD, which asks participants to rank each of 16 symptoms on a Likert Scale (1-5). The first PCL asked patients to rank the severity of their symptoms in the time immediately after the trauma. The second PCL asked for the severity of the symptoms at the present (Figure 3.1) (Forbes, 2001).

The next several questions deal with a list of problems that often result from PTSD. Next to each description, please tell, on a scale from 1-5, (1=not at all, 2=a little bit, 3=moderately, 4=quite a bit, 5=extremely), about how you were immediately after your trauma occurred (the first month or so), and how you are today.

	Immediately After Trauma (1-5)	Today (1-5)
Repeated, disturbing <i>dreams</i> of a stressful military experience?		
Suddenly <i>acting</i> or <i>feeling</i> as if a stressful military experience were <i>happening again</i> (as if you were reliving it)?		
Feeling very <i>upset</i> when <i>something reminded</i> you of a stressful military experience?		
Having <i>physical reactions</i> (e.g., heart pounding, trouble breathing, or sweating) when <i>something reminded</i> you of a stressful military experience?		
Avoid <i>thinking about</i> or <i>talking about</i> a stressful military experience or avoid <i>having feelings</i> related to it?		
Avoid <i>activities</i> or <i>talking about</i> a stressful military experience or avoid <i>having feelings</i> related to it?		
Trouble <i>remembering important parts</i> of a stressful military experience?		
Loss of <i>interest</i> in things that you used to enjoy?		
Feeling <i>distant</i> or <i>cut off</i> from other people?		
Feeling <i>emotionally numb</i> or being unable to have loving feelings for those close to you?		
Feeling as if your <i>future</i> will somehow be <i>cut short</i> ?		
Trouble <i>falling</i> or <i>staying asleep</i> ?		
Feeling <i>irritable</i> or having <i>angry outbursts</i> ?		
Having <i>difficulty</i> concentrating?		
Being " <i>super alert</i> " or watchful/on guard?		
Feeling <i>jumpy</i> or easily startled?		

Figure 3.1: The PCLs

The difference between the numbers for each of the 16 categories was measured, and that number was divided by the number of years since the trauma, to determine a rate of recovery.

The average rates of recovery were then compared to the nightmare frequencies of each participant, in order to determine whether there was any correlation between the two factors. A statistical analysis was applied in order to quantify the significance of the results.

In order to determine whether there are greater benefits in nightmares when a patient received any particular kind of therapy, as opposed to another, the data was grouped into

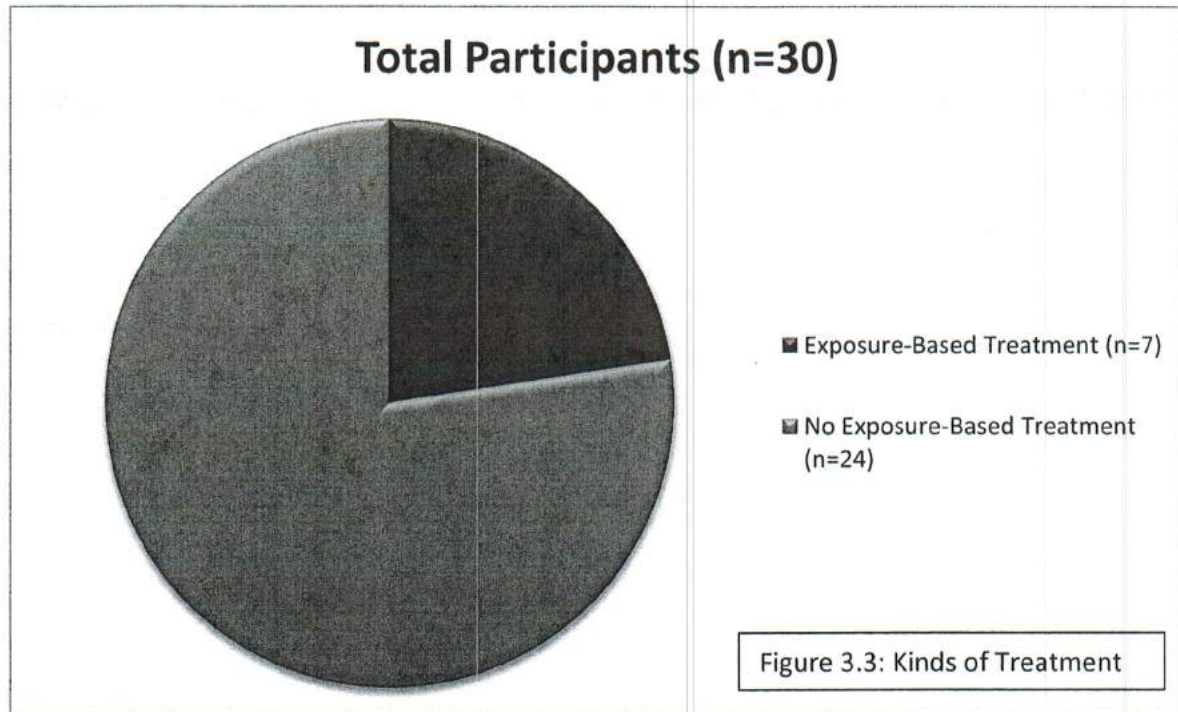
categories based on whether the patient had received exposure-based therapies, and the same analysis was applied to individual category, using the analysis on the overall data pool as a control. If there is a stronger direct correlation between nightmare frequency and recovery rate in patients receiving exposure-based therapies, that would support the hypothesis that nightmares and exposure therapies can work in conjunction to acclimate the mind to traumatic memories.

After the substantive analyses, a demographic breakdown was performed on provided information on gender, race, age, and marital status. Such information was in no way instrumental to the execution of the study, and demographic results would be expected to have no effect on the resolution of the central question. However, the break-down was still included to provide an optimally comprehensive picture of the results (See table 3.2)

Sex	Total (n=31)	Percentage
Male	31	100%
Female	0	0%
Race		
White	27	87.1%
African American	4	12.9%
Marital Status		
Married	18	58.06%
Single	4	12.9%
Widowed	1	3.13%
Divorced	8	32.26%
Mean Age	73	
Combat Experience		
Vietnam War	28	90.32%
Gulf War	3	9.68%

Table 3.2: Demographic Breakdown

Of the 31 participants, 24 had never undergone exposure-based therapies (figure 3.3).



4. Results

Out of the 32 veterans with combat-related PTSD who filled out the survey, there were no reported instances in which symptoms got worse- every symptom either improved or stayed the same. On average, 13 of the 16 symptoms would improve, while the remaining three stayed the same. In all cases except one, the symptoms that maintained the same severities over time were ranked as 5's one the Likert scale, meaning the symptoms were at the maximum severity. The average severity, among all 31 participants, for each of the 16 symptoms on the PCL, for both the period right after trauma and the present, is shown in table 4.1. On average, 42 years had elapsed since the initial trauma. Only eight participants had received exposure-based therapy.

Symptom	Average Right After Trauma	Average at Present	D (Difference Score)
1	4.8	4.3	0.5
2	3.7	2.8	0.9
3	4.2	3.4	0.8
4	3.9	3.1	0.8
5	4.8	3.5	1.3
6	4.7	3.1	1.6
7	3.8	2.5	1.3
8	4.3	3.4	0.9
9	4.5	2.9	1.6
10	4.3	3.1	1.2
11	4.9	3.9	1
12	4.6	3.2	1.4
13	3.4	2.3	1.1
14	3.7	2.8	0.9
15	4.4	3.6	0.8
16	4.7	3.9	0.8
Average			1.05625
SD			0.316161878
n			16
t=			13.36340745
p-Value			<.001

Table 4.1: Average Improvement for Each Symptom

The recovery rates for the entire population, divided up based on nightmare frequency, is shown in table 4.2.

Nightmare Frequency	Number of Participants (N=31)	Avg Recovery Rate
>2 times/week	11	0.3
2-3 times/month	15	0.5
<4 times/year	5	0.7
SD		0.163299316

Table 4.2: Recovery Rates for the Entire Population

The same analysis applied only to the group never having received exposure-based therapies is shown in table 4.3.

Nightmare Frequency	Number of Participants (N=24)	Avg Recovery Rate
>2 times/week	8	0.2
2-3 times/month	12	0.5
<4 times/year	4	0.6
SD		0.169967317

Table 4.3: Recovery Rates for the Non-exposure-Based Group

Lastly, the analysis was applied to the group that did receive exposure-based treatments (table 4.4).

Nightmare Frequency	Number of Participants (N=7)	Avg Recovery Rate
>2 times/week	3	0.4
2-3 times/month	3	0.5
<4 times/year	1	0.8
SD		0.169967317

Table 4.4: Recovery Rates for the Exposure-Based Group

The recovery rates for each respective group are compared in the bar graph in figure 4.5.

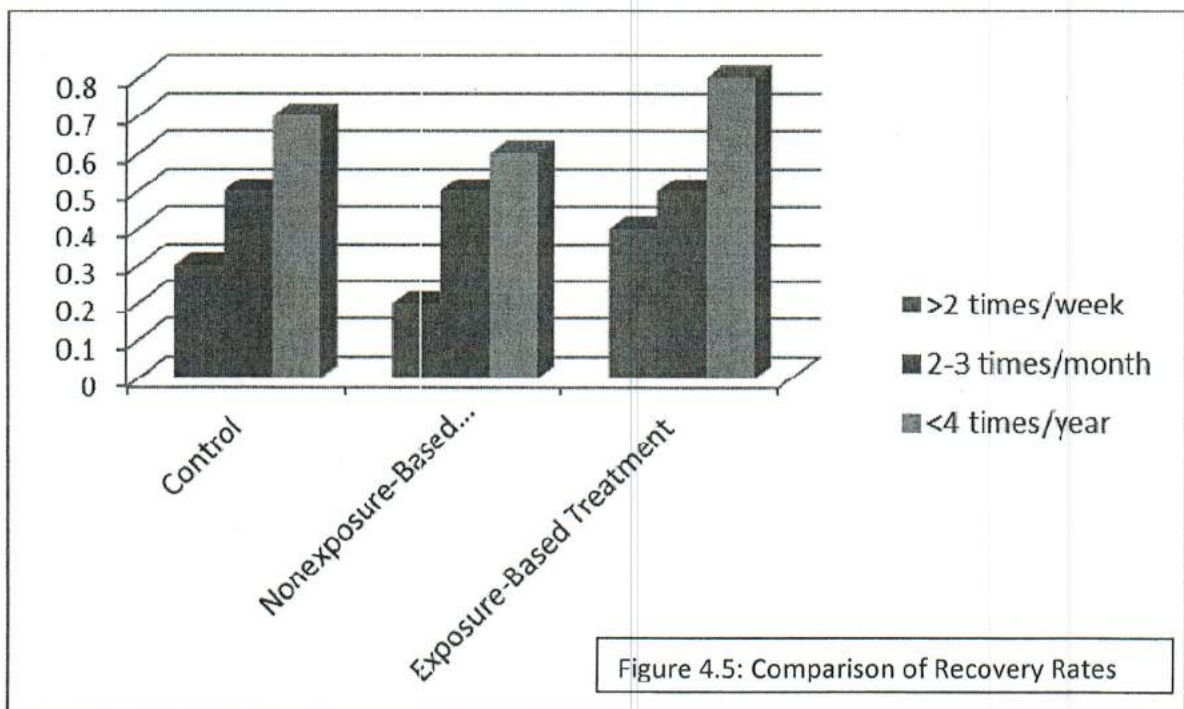


Figure 4.5: Comparison of Recovery Rates

These results clearly show that nightmare frequency corresponds inversely with recovery rate. However, there is no significant difference between the three groups (>2 times a week, 2-3 times a month, and <4 times a year), based on types of treatments. Recovery rates are significantly higher for those who had received exposure-based treatment, showing that a higher frequency of nightmares only deters progress.

Thus, the results would support the null hypothesis that nightmares do not work in conjunction with exposure-related therapies to acclimate the mind to trauma.

5. Conclusion and Discussion

There is a noticeable correlation between frequency of nightmares and recovery rates; however, because of the sample-size, no firm conclusion can be reached. The results supplied would tend to indicate that there are no benefits derived from post-traumatic nightmares, although the results are largely inconclusive, and leave room in the general trends to posit that some benefits may exist, ready for exploration, although they cannot be enumerated a present. Thus, a broader study, with a better controlled group of participants, is necessary to determine the validity and strength of any potential correlation.

The fact that such a long period had passed since the initial trauma, in most cases, likely offered very different data than a study on recently-returning veterans would have. The recovery rates probably sacrificed some accuracy in that participants had to try to remember the severity of their symptoms from many years ago.

Additionally, the subjective nature of the PCL makes it difficult to accurately compare recovery rates. Thus, if future research is to delve more deeply into this topic, it might want to

attempt to quantify recovery in a medical or psychological setting, rather than with a single survey, if such resources are available.

The results do demonstrate a trend, but since the sample size is so small, and the methodology completed outside a carefully-controlled medical or psychological setting, the numbers are too attenuated to lead to a comfortable, scientific conclusion.

Future research on this topic might emulate portions of the methodology, while using more scientifically-certain measurements and a larger sample size. Additionally, if such resources are available, a homogenous group of participants might further align the data. In this study, the single criterion in terms of qualification was the affliction of combat-related PTSD. If, in future research, every participant underwent their initial trauma during a specified set of years, or underwent reasonably similar traumatic events, that might increase the occurrences.

6. Acknowledgments

I would like to thank my teacher, Ms. Foisy, for three years of guidance, support, and the merciless heckling that was necessary to complete this project.

I would also like to thank Ms. Deidre O'Hagan for constant guidance and invaluable help with research and the acquisition of a solid knowledge base.

This project would not have been possible without the help Dr. Kelly Bulkeley, who helped me conceive the idea of this project, and then gave me the tools necessary to analyze the results.

Lastly, I would like to thank my parents for their support and commitment to the completion of this project.

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