Journal of
Qualitative Research in Health Sciences

https://jqr1.kmu.ac.ir
10.34172/jqr.2022.07
Vol. 11, No. 3, 2022, 196-205

Original Article

Open Access
Publish Free

The Effectiveness of Dream Analysis in Reducing Idiopathic Nightmares by Hermeneutic Single Case Efficacy Design (HSCED)

Masoud Bagheri[1], Maryam Arabnejad Khanuki[2*]

[1]Associate Professor, Department of Psychology, Faculty of Literature and Humanities, Shahid Bahonar University of Kerman, Kerman, Iran
[2]Ph.D. Student, Department of Psychology, Faculty of Literature and Humanities, Shahid Bahonar University of Kerman, Kerman, Iran

Abstract

Background: Nightmare is a prevalent parasomnia associated with various forms of psychological distress in both clinical and general populations. This study aimed to explain the experiences of a client regarding the effects of nightmares and effectiveness of dream analysis treatment on idiopathic nightmares.

Methods: This qualitative study was conducted on a 34-year-old woman who participated in 8 sessions of dream analysis treatment. The client was diagnosed with nightmare disorder based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria for nightmare. The hermeneutic method was used to collect and analyze quantitative and qualitative data. This study utilized a simple method for hermeneutic analysis that requires only one person while maintaining research validity.

Results: The findings of this study showed the frequency of nightmares decreased during the treatment. The client changed significantly during the treatment, and the dream analysis was responsible for this change. According to Bohart's grid, there was 72% certainty of change in the client and 87% certainty that improvements were due to therapy. Useful therapeutic factors included analyzing the hidden meaning of nightmares, expressing emotions, self-awareness, and reducing helplessness.

Conclusion: The results of the interventions showed that treatment processes made changes in the client that were unexpected and important to her and these changes would not have occurred without the treatment. This method, in addition to exposing the person to the content of the nightmare, leads to the discovery and decoding of the content of the nightmares and understanding of their message to resolve conflicts.

Keywords: Idiopathic nightmare, Dream analysis, Case study, Hermeneutic

Citation: Bagheri M, Arabnejad Khanuki M. The effectiveness of dream analysis in reducing idiopathic nightmares by Hermeneutic single case efficacy design (hsced). *J Qual Res Health Sci*. 2022;11(3):196-205. doi:10.34172/jqr.2022.07

Received: November 5, 2018, **Accepted**: December 12, 2021, **ePublished**: September 20, 2022

Introduction

A nightmare is a recurring and disturbing dream that blurs the line between sleep and wakefulness and creates unpleasant feelings; it is the dream that one remembers after waking up (1), and causes confusion and irritability (2). In addition, it has a negative effect on people (3). The prevalence of nightmares is 2%-5% in the general population (4) and 30% among psychiatric patients (5). Besides, women report more nightmares than men (2). Although studies have shown there is not always a relationship between nightmares and psychological pathology, they make no difference between the treatment of nightmares caused by the experience of trauma (symptomatic) and without trauma (idiopathic) (6,7). Perhaps these kinds of nightmares are caused by internal stresses (2) in people who have weak boundaries between thought and feeling or self and others (8) , not originated from traumatic events (2). While the content of post-traumatic nightmares is somewhat known (9), information about the content of idiopathic nightmares is limited, and studies that have examined the experience of nightmares qualitatively are very rare. Most studies in this area have investigated nightmares using quantitative methods and closed-ended questions (10). Thus, although the cause of idiopathic nightmares is not known, some of them are so distressing that they need targeted treatment (11). There are several treatments to reduce nightmares. One of the most important and widely used treatment

*Corresponding Author: Maryam Arabnejad Khanuki, Email: maryamarabnejad@yahoo.com, maryamarabnejad@ens.uk.ac.ir

methods is imagery exposure which involves cognitive reconstruction to reduce nightmares. In this method, patients change the nightmare story into an alternative and less disturbing story (12). For example, the results of a study on the treatment of nightmares with cognitive reconstruction in psychiatric patients showed the frequency and severity of nightmares decreased and the quality of sleep improved (13). Despite the effectiveness of cognitive reconstruction in treating nightmares, researches have shown that the symptoms of nightmares remain to a large extent, as in one study, 60% of people in the post-treatment phase still had nightmares. Therefore, a protocol more efficient than imagery and cognitive reconstruction is required (14). The results of a case study on a woman whose nightmares were caused by a road accident showed the treatment of nightmares with interpersonal psychodynamic style reduced the frequency of nightmares to zero (15). Moreover, treatment with mental imagery and reprocessing had an effective role in reducing nightmares (16). Due to the effectiveness of these methods in reducing symptomatic nightmares and the lack of referral of people with idiopathic nightmares for treatment, these people usually form their perceptions of nightmare experience not based on scientific literature but based on folklore and popular culture and anecdotal literature. Besides, as they think nightmares have a special function for them, they are afraid of losing them. This is one of the obstacles to finding a treatment (12). Therefore, most people who experience nightmares do not like professional help and prefer to use unscientific methods. One of the most important informal strategies is to use dream interpretation (10). Therefore, as these informal strategies do not help reduce nightmares, one of the aims of this study was to use a scientific method of dream analysis that is similar to the popular interpretation of sleep, a strategy that may stimulate people's interest in receiving professional help for treatment. Many qualitative studies use dream analysis to increase the clients' self-awareness, improve their self-understanding, change lifestyle (17,18), increase therapeutic alliance (19), and help understand the transference and countertransference (20). Structural analysis of dream meaning for identifying underlying conflicts and potential solutions to overcome life problems has also been reported (21). However, dream analysis methods have rarely been used to treat nightmares (22). Therefore, the effectiveness of dream analysis methods in treating nightmares has remained partly unknown.

One of the important approaches to determine the effectiveness of new treatments or the effectiveness of existing treatments with new populations is the hermeneutic single case efficacy design (HSCED), which is an interpretive approach to the effectiveness of treatment. This approach uses quantitative and qualitative methods to create a network of evidence that identifies the causal relationship between the treatment process and outcomes (23) and is used as a replacement for randomized clinical trials (24). As the underlying processes of treatment in randomized clinical trials remain unknown like a black box, these methods have been challenged (25). Therefore, this study aimed to discover the content of nightmares based on HSCED, an approach widely used in psychotherapy (26). It also sought to answer these questions: Has the client changed as a result of the treatment? Has the treatment caused these changes? What have been the specific processes of this change (27)?

Methods

Nowadays, qualitative methods, case studies, and hermeneutics are used to discover and recognize certain phenomena in health sciences (27-29). In general, there are three steps in HSCED:

1. Collecting rich data: The quantitative data were collected using Beck Anxiety Inventory (30) and SCL-90 (31). The qualitative data were gathered based on helpful aspects of therapy (HAT), which is a qualitative criterion for assessing the client's understanding of significant treatment events that encourage the client to write about the useful and unhelpful aspects of the treatment and evaluate them on a nine-point scale (32). Therapist Session Notes Questionnaire (TSNQ) was also used to record treatment sessions (26). In change interview (CI), the clients state how much they feel they have changed during treatment and how much they think these changes have been caused by treatment. Clients are asked to identify the major changes they have mentioned and rate them on a 5-point scale (23).
2. Hermeneutic analysis: Hermeneutic analysis is used to evaluate the outcome and effectiveness. The outcome is assessed based on quantitative measurement of the client's symptoms and problems and qualitative data on the client's perceptions of change during the treatment. This is facilitated by two competing positions including affirmative and skeptical forms. The goal of the affirmative position is to find evidence that supports the interpretation of good results, while the skeptical one seeks evidence that supports the interpretation of poor results or a non-therapeutic explanation for change (26).
3. Conclusion: The third step of HSCED includes making a general conclusion about the case information. In this study, Bohart's 56 criteria were used to make a conclusion out of affirmative and skeptical statements. This list helps clarify the client's changes. The percentage of confidence in change and the percentage of confidence in treatment with this method are measured. A ratio is obtained according to the number of items with evidence and the total

number of items (33).

Beck Anxiety Inventory was used as a qualitative tool to measure the severity of anxiety. The reliability of this test is 83% and its internal stability, calculated using Cronbach's alpha, is 92%. The validity coefficient, obtained by calculating the interclass correlation between the two variables of the scores of the questionnaire and the evaluation of the clinical specialist in the anxious population, is 72% (34). SCL-90 scale was the other qualitative tool used in this study. The tool includes somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism dimensions. The retest reliability was reported to be 77% to 90% (35). In the Iranian sample, the internal consistency was reported between 78% and 90% (36).

Results

Step 1: Developing a rich case record

Client: The client was a 34-year-old married woman who visited one of the counseling centers in Kerman in 2018. In the screening interview, she met the criteria for nightmare disorder based on Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) (1) and none of the exclusion criteria such as a history of trauma and post-traumatic stress disorder. She had an average of one nightmare each week for the past eight years and had taken no action to treat the nightmares. Stressful events in her life were educational and parenting issues. Her first experience of nightmares was at the age of 13. Before starting the treatment, the way of participating in the research and the methods were explained to her and data were collected with her written consent.

Treatment: The dream analysis approach was used for the treatment. Weiss's dream analysis method, while having a psychoanalytic basis, is consistent with many theoretical orientations (19). In this method, the apparent content of the dream is analyzed in order to achieve the hidden meaning of the dream for extracting a message. To understand the hidden meaning of the dream, this approach follows 6 steps:

Step 1: Determining a pattern: The story-like telling of a dream, the general feeling and mood of the person in the dream, the relationship between the dream feeling and the real life (examining behaviors, feelings, and needs in detail).

Step 2: Finding a focal point where questions begin: Finding the focal point as part of the dream that is less intelligible and has the most ambiguity, the part that contradicts the rest of the dream and is incomprehensible.

Step 3: Defining each symbol and associating that symbol with a part of one's life and finding the common features of the symbols.

Step 4: Rewriting the dream story and replacing the new meanings with symbols

Step 5: The therapist helping the client to get the message of the dream by recounting the new meaning of the dream.

Step 6: Transmitting the dream message to personal life and using it (19).

The following is part of the analysis of a nightmare: *"They had brought a wild lion into my house, which was in a very loose cage with thin bars. It was like a canary cage that the lion had been forced into. He tried to come out once, but I pushed him away. Then I tried to feed him to calm him down, but I was so violent that it did not suit my mood. I was upset that I was treating it violently and...."* In the first step, the client rated the intensity of the nightmare excitement from 0-100%. Its content was then examined (*Fear: 80%, helplessness 70%, and sadness: 50%*). In the second step, the analysis began where either the intensity of the nightmare excitement was too high or the images of the nightmare were strange or vague (*Loose cage with thin rods*). In the third step, the client expressed her associations and interpretations of each image she had seen, (*Home: A place of peace and comfort, where you can be your true self; Wild lion: uncontrollable, dangerous, and harmful; Cage: A device that can hold dangerous objects without destroying them; The cage with thin-bars: Inadequate control and inability to control danger and anxiety that I have to secure in other ways*). In the fourth step, the strongest association with the conflicts and recent issues of life, as identified by the client, was selected and written as a substitute for the images seen in the nightmare, (*The recent issue in the client's life was her uncontrollable, harmful, and dangerous anger. She stated, "All the time I tried to control it without an underlying thought, but sometimes I failed to do so, and it gave me a feeling of remorse"*). In the fifth step, instead of dream images, the associations with each image were read to the client in the same order as they appeared in the dream so that she could understand the hidden meaning of the nightmare, (*In a house which is the place of peace, there is a sort of anger that is likely to get out of control and hurt at any moment, eventually this happens and causes a feeling of remorse and...).* In the sixth step, the client gained insight into the conflicts that caused the recent problems to which she had paid no attention, (*The rage that caused the nightmare was that my baby had spilled black gouache on the carpet and spread it out to clean it. I could not control my anger while my standard of living was that a good mother should be powerful, not violent, and I had a guilty conscience because of this. By dream analysis I realized that one of my problems in life is related to controlling anger*).

Quantitative results

The data obtained from quantitative measurements revealed how much the client changed during the treatment. The graph analysis of the data showed (37) the

percentage of recovery (38). In graph analysis, the ups and downs of the dependent variable provided the basis for judging the amount of change. In the recovery percentage, the target problem in pretreatment was subtracted from the target problem in post treatment and divided into the pretreatment target problem. According to this formula, 50% change or more is significant in case studies: $\Delta A\% = (A0 - A1) / A0$. Table 1 shows a recovery index of clients in Beck Anxiety Inventory and SCL-90 scale.

The treatment recovery index shows hostility and anxiety scores of the client on the SCL-90 have had a significant improvement. The follow-up recovery index also indicates a significant improvement in Beck anxiety score and somatization. Also, these changes are given in Figures 1 and 2 in pre-, post-treatment and follow-up.

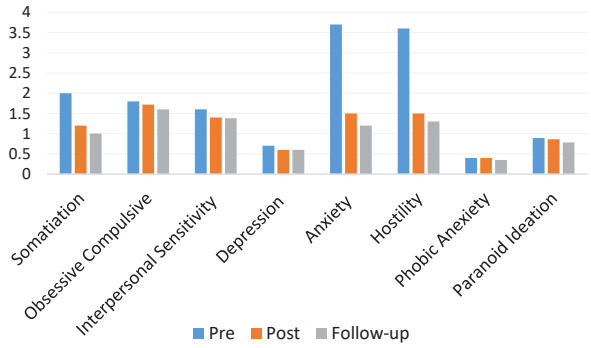

Figure 1. The process of scale change on SCL-90

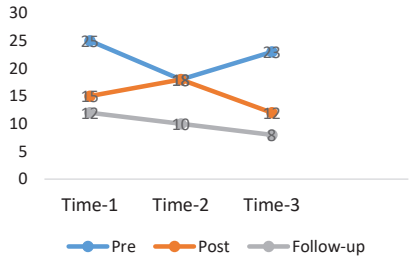

Figure 2. The process of scale change on Beck Anxiety

Qualitative results

In the first interview session, the following were mentioned by the client in order of importance: 1- Lack of comfortable and quality sleep, 2- Feelings of guilt and remorse for having nightmares, and 3- Self-criticism. At the end of the treatment, all these feelings were reduced. In addition, in the first phase of the research, 16 nightmares were analyzed and 8 main themes emerged.

The following are the main themes of the nightmares along with some parts of the nightmares:

1. Aggression and violence

Violence in various forms such as stabbing, pushing, etc. was detected in the content of some of the nightmares. An example of a nightmare with this content is as follows, *"A jinn or devil had taken the form of my mother and smiled terribly at me and stared at me. I tried to kill him with a knife, but as much as I stabbed it, it didn't die".*

2. The presence of devil, ghost, or jinn

Sometimes, in the client's nightmare, a devil, ghost, or jinn clings to different objects and is present in her life. *"Two low-quality sculptures were attached to the bag. I took them because they belonged to my husband. On the way, I realized that he was the devil, and I was very scared that he was with me all the time".*

3. Helplessness, failure, and fruitless efforts

The client felt hopeless and got involved in situations over which she had no control. *"In a hill-like cemetery, I had to go to a narrow tunnel that I could only crawl through. I entered it in the same way, but suddenly the tunnel fell behind me and my legs left out and the dirt on my legs did not allow me to move. I could neither go back nor move forward. I shouted but no one heard me, and I felt suffocated. During my struggles, I was jolted awake with fear".*

4. Vermin and animals

The experience of the client included a large number of vermin and animals such as lions and eagles in a rough, violent form. *"From inside an attic on the roof, a bunch of big black butterflies came out and flew towards me. I was running away from them, surrounded with butterflies, and when they collided each other, they were very disgusting and frightening. I was jolted awake with fear".*

5. Being wanted

An important feature of this theme is the feeling of danger

Table 1. Percentage of recovery of the client

Score	Beck Anxiety Inventory	SCL-90 Scale							
	Anxiety score	Somatization	Obsessive-compulsive	Interpersonal sensitivity	Depression	Anxiety	Hostility	Phobic anxiety	Paranoid ideation
Pre-treatment	22	2	1.8	1.6	0.7	3.7	3.6	0.4	0.89
Post-treatment	15	1.2	1.72	1.4	0.6	1.5	1.5	0.4	0.86
Follow-up	10.66	1	1.6	1.31	0.6	1.2	1.3	0.35	0.78
Treatment recovery index	31%	40%	4%	12%	14%	51%	58%	0%	3%
Follow-up recovery index	51%	50%	11%	18%	14%	67%	63%	12%	12%

or loss of security, which eventually leads to escape. *"An ISIS family was in our van, and I was extremely afraid that they would kill us at any moment. Even when we could escape from them, there was a wild ISIS child in my arms, whose hands and feet I tried to take so that he does not kill us".*

6. Health and death concerns

In this theme, the client either experienced nightmares on death and the afterlife, such as rotting and seeing bones, or one of her relatives was supposed to have this experience with the help of the client. *"My father was supposed to die, and his life was over, but he did not accept. I loved him a lot and tried to calm him down so that he would accept that he should go..... He clung to me with his bony and half-dead body. He hugged me tightly and with his angry eyes. I was very scared of him, just like when the demons and ghosts did not get off my back in other dreams and I was jolted awake".*

7. Environmental anomalies

This theme reflected experiencing nightmares with things which were beyond normal size and problems that do not occur in reality. For example, *"a genie in the shape of a very big snowman with flat feet was my child, and I had accepted him and he came with me. Even in my bed ..."*

8. Interpersonal conflicts

The client was upset and sad by the way others treated her: *"I was dying. I was buried in the grave, but I did not want to die. I remember my husband and my sister. I saw my children and did not want to die. My sister-in-law tried to convince me to accept that I had to die. They also poured a substance on me so that I could rot sooner. Eventually, I died and became a half-rotten person with squinty eyes. I saw my children don't care, as if their mother was not dead".*

The client completed the HAT form (29) and the CI as summarized in Tables 2 and 3.

To evaluate the outcome and effectiveness of the treatment, the client rated the changes. She identified eight changes at the end of the treatment.

The data obtained indicated that these changes did not occur without the treatment and the change index of the client in these items was high.

Table 2. Summary of qualitative data on helpful aspects of the treatment

	Rating	Events	No.	Percent
Helpful aspects	9	Understanding the hidden meaning of the nightmare	8	36.36
	8	Expressing negative emotions	6	27.27
	8	Understanding oneself	3	13.63
	7	Talking about painful issues and reducing helplessness	5	22.72

Step two: HSCED analysis

Affirmative case

According to Elliott (26), the affirmative case should support the claim that the client has changed and the main reason has been the treatment. Changes in the client's long-term problems, retrospective assignment (the client attributes changes to the treatment), process-consequence tracking, and event-change sequences all represent areas of affirmative case. Concerning changes in long-term problems, the results of graph analysis as well as the recovery index in the Beck Anxiety Inventory in the follow-up period and SCL-90 indicated there were changes in anxiety and anger. The client has also had nightmares for a long time (since the age of 16) and the frequency of nightmares decreased. The qualitative data also supported these changes in persistent problems which resulted in improving sleep quality, reducing negative emotions such as anger, and learning to express anger properly (CI, HAT). Regarding the retrospective assignment, the client attributed many changes to the treatment, which were mentioned in the CI. Concerning the process-outcome tracking, most of the events were evaluated in terms of the useful aspects of the treatment from moderate to extremely useful, which indicated the client's change in negative emotion awareness, self-awareness, and learning to express anger properly. They were consistent with the diagnosis, treatment plan, and interventions reported in the therapist's notes. For the event sequence-change, it seems that improving sleep quality and reducing the frequency of nightmares were the most important effects of treatment that were even maintained in the follow-up.

Skeptical case

The minor change or lack of change, the reaction effect to the treatment and therapist, and the expectation from the treatment express a skeptical case. A minor change was observed in Beck Anxiety which reached the limit of the recovery index in the follow-up step. However, the anxiety score in Beck Anxiety Inventory was not consistent with that in SCL-90. The client mentioned changes due to participating in the treatment and having stereotypical expectations from the treatment and maybe the therapist emphasized positive performance, because the client mentioned the dependence on the therapist as one of the unhelpful aspects of the treatment.

Affirmative rebuttal

As the Beck Anxiety Inventory measures anxiety more accurately, the contradiction in anxiety scores might be justified. Probably, due to the fact that the client's nightmares have gradually decreased, the client's anxiety has also decreased. Moreover, in the first interview session, the following items were mentioned in order of importance and changes were observed. The quantitative

Table 3. Change interview summary

Therapeutic consequences	Predictable or unexpected change	Probability or impossibility of change without treatment	Change importance
Reducing the guilt	5	5	5
Discovering the cause of nightmares	5	5	5
Finding a solution to the cause of nightmares (lack of anger control)	4	5	5
Reducing the negative burden of remorse caused by anger	5	5	5
Accepting anger	5	4	1
Sleeping easier	4	4	5
Reducing negative feelings	5	5	5
Reducing the suffering of being cruel	5	4	4

and qualitative data supported these changes could not be due to the reactionary effect to the treatment and the therapist. Thus, the treatment was the cause of these changes.

Skeptical rebuttal

Although nightmares caused a great deal of fear, the lack of a significant change in the recovery index in anxiety during the treatment was considered an important issue.

Affirmative conclusion

When the client learned dream analysis, the number of nightmares gradually decreased by reducing negative feelings about herself and recognizing problems and finding solutions for them. One of the most important emotions that was reduced was the sense of anger that the client had repeatedly raised in the qualitative data section. Accordingly, in this client, the most important emotional indicator seems to be the nightmare of anger. One of the mediating factors of this research was the active position of the therapist that played a role in the therapy. Of moderating factors, the motivation of the client who was actively seeking treatment, cooperative attitude, could be pointed out. In general, she had the characteristics of the YAVIS (young, attractive, verbal, intelligent, and successful) syndrome. YAVIS indicates people who are ideal for psychotherapy, are more motivated to seek treatment (39).

Skeptical conclusion

Perhaps the therapeutic effect in reducing nightmares has been due to exposure to nightmares, and it seems that exposure techniques have led to this effectiveness instead of dream analysis. In fact, part of the structure of dream analysis is exposure to disturbed imagery, and the client mentioned in the form of useful aspects of treatment that when she talked about painful issues, the discomfort and helplessness caused by them were reduced.

Step 3: Conclusion

In this section, to draw conclusions from the quantitative and qualitative data, the Bohart's criteria were used (34). In the superiority of the affirmative evidence in the change of the client from, of the first 39 items of the Bohart's criteria, there was clear evidence in 24 items, 6 items were not applicable, and for 9 items no evidence was found as summarized in Table 4. Overall, the evidence presented shows that a qualitative change has taken place in the client, and she has reported clear examples of her progress. As a result, change has been made with 72% confidence. Furthermore, in the superiority of affirmative evidence in the effectiveness of the treatment, out of the second 17 items of Bohart's criteria, clear evidence of 14 items has been reported and 2 items were not applicable. As a result, there is 87% confidence in the cure.

Discussion

The aim of this case study was to evaluate the effectiveness of dream analysis in reducing idiopathic nightmares by hermeneutic method. Thus, the main questions of this study were examined according to Elliott (26).

Hermeneutic analysis pointed to changes in the client's persistent problems that were retrospectively attributed to psychotherapy and highlighted the relationship between the result and process. Dream analysis reduced the client's anxiety, aggression, and physical complaints. Based on 56 criteria of Bohart, with 72% confidence, there was a change in the client and with 87% confidence, this improvement was due to the treatment. Concerning the specific processes of making these changes, the common image that the client had of having nightmares was that she felt her nightmares particularly those including jinn and devil were the result of her sins and bad actions. This led to self-criticism and negative feelings, created a vicious cycle, and intensified the nightmares. The most important emotional core of the nightmare was anger. Dream analysis helped her to accept her anger and express it in the right way. This process played a role in reducing the frequency of nightmares. In affirming this content, she stated that discovering the meaning of the nightmare and insight into it in this process has helped her the most. *"This method is like a CT-scan that helps you notice your problems, but when you go to a psychologist, you raise a topic that you are aware of and has caused the*

Table 4. Summary of Bohart's criteria and relevant evidence

The evidence that shows the client has changed (Case 1-39).		
	Criterion	**Source**
1	Clients themselves note that they have changed	Evidence reported in CI, HAT
2	Clients mention things that make it clear that they either did something or experienced something different from what they normally do	Evidence reported in CI
3	Clients are relatively specific about how they have changed	Evidence reported in CI, HAT
4	They provide supporting detail	Total HAT sessions
5	They show changes in behavior in the therapy session plausibly related to the kinds of changes they should be making outside the session	-
6	Plausible reports that others have noted that the client has changed	Her husband reported that the nightmares have decreased.
7	Plausible indicators reported by the client: better grades, new activities such as jogging…	-
8	They mention problems that did not change	-
9	They mention problems that did change	Sleep quality, reduction of helplessness
10	The changes mentioned seem plausible given the degree of difficulty of the problem, degree of time in therapy	Reduction of nightmare frequency
11	If there is a major change reported, it is described in rich enough detail to be plausible	Accepting anger and learning the proper way to express it (part of the analysis sessions).
12	If the client comes in depressed, they show a reasonably consistent change in mood	Not applicable
13	If they report being anxious, they report either managing it better…	-
14	If they report being unable to leave their house (agoraphobia) they report an example suggesting that they made a new and more concerted effort to go out…	Not applicable
15	If their problem is a habit problem (studying, overeating, drinking, smoking, etc) they report concrete changes.	Reducing anger, expressing it properly
16	If the problem is a demoralization problem ("I can't"), or involves demoralization, the person begins to show hope and optimism - a sense of possibility, a sense that it will be a challenge. They become challenge oriented.	Focusing on learning to express anger
17	Evidence of new-found confidence in judgment	Changing negative beliefs (CI, HAT)
18	Evidence of greater competence in judgment - as the individual thinks out the problem he or she does it more proactively, considers alternatives, weighs them, uses good intuition.	Gaining a new perspective on anger and learning ways to express it (CI)
19	Evidence of greater proactive determination and persistence in relation to a reasonable goal.	-
20	If they make a risky choice, they seem to make it in a reasonable way	-
21	Arriving at a major decision that the person was struggling with.	-
22	Coming up with a whole new plan which is innovative.	Not applicable
23	Getting a new perspective which brings greater coherence, reduces debilitating guilt, gives new positive behavioral options, helps the person let go of something from the past	Creating a new perspective on the cause of nightmares and reducing negative feelings about oneself (CI, HAT)
24	Gaining a new perspective where they seem to be acceptingly criticizing themselves, seeing their own limitations, ...	Reducing the burden of remorse and guilt (CI, HAT)
25	Gaining a perspective that "I am not my problem"	Reducing the burden of remorse and guilt (HAT)
26	Identity work: clarifies fundamental goals and values. If no goals or values, begins to confront these issues. If has adopted goals and values from parents but is beginning to question them, begins to evaluate for self. If is in an "identity crisis," or moratorium, struggles with issues and makes progress in making commitments.	Not applicable
27	Identity work: Real self-controversies - what is my real self? Movement towards some kind of reconciliation or decision.	Conflict with oneself has led to a positive feeling towards oneself (HAT)
28	Traumatic experiences - signs of letting go of it, coming to terms with it, reductions in symptoms such as flashbacks or nightmares, that these can be handled and are not so debilitating	Reducing nightmares
29	Achievement of specific goals - becoming more assertive, …	Reducing self-criticism (CI)
30	Interpersonal changes - reported changes in a positive fashion in relationships - handling anger better, less dependence, greater problem solving, greater realistic acceptance of others	Better anger expression (CI)
31	Specific changes: finished a project, made attempts to protect daughter, exercising. Made a new friend.	Not applicable
32	Greater realization that there may be some things that will take ongoing work	-
33	Changes in self-relationship. Greater realization and appreciation of accomplishments; more specific and concrete and accurate assessment of talents and effort; less global, negative self-attributions, …	More receptive conversation with oneself and reducing the suffering caused by being cruel towards oneself (HAT)
34	Reduction in any presenting symptoms, such as feeling weak, fearful, tiring quickly, blaming oneself, feeling suicidal, unfulfilling sex life, feeling lonely, frequent arguments, heart pounding, trouble getting along with others, trouble sleeping, headaches.	Reducing self-blame, remorse, reducing sleep problems (HAT)

Table 4. Continued.

The evidence that shows the client has changed (Case 1-39).		
35	Increases in positive things: self-efficacy, enjoying spare time, feeling loved and wanted, greater happiness, greater sense of direction or optimism, ...	Reducing feelings of helplessness, guilt, etc (HAT)
36	Better ability to define goals in a proactive and functional way.	Better anger expression
37	Prosocial changes - volunteering, involvement in productive activities, new projects.	Not applicable
38	Changes in physiology - less sweating, calmer in therapy.	Less anxiety and anger
39	Changes in appearance in a positive fashion.	-
Evidence that it was therapy that helped (item 40-56)		
40	Clients themselves report that therapy helped	Reducing nightmares and narratives expressed in HAT
41	Clients are relatively specific about how therapy helped, and it is described in a plausible way	Narratives expressed in CI, HAT
42	Outcomes are relatively specific and idiosyncratic to each client and vary from client to client.	Not applicable
43	In their reports, clients are discriminating about how much therapy helped, i.e. they do not in general give unabashedly positive testimonials	*"This method is like a Ct-scan that helps you find out about your problems, but when you go to a psychologist you know something about it".* (CI , HAT)
44	They describe plausible links to the therapy experience	*"My nightmares have reduced and are less frightening".* (CI)
45	To the rater a plausible narrative case can be made linking therapy work to positive changes. This includes the following (#46-56):	Evidence reported in CI, HAT
46	Therapy provides a workspace where clients have an opportunity to talk, think, express...Client notes that this helped.	*"In a house which is the place of peace, there is a sort of anger that is likely to get out of control and hurt at any moment, eventually, it happens and causes remorse. I learned to control this anger"* (Part of analysis sessions).
47	Therapist's empathic understanding, warmth, acceptance, seems to relate to client's increased engagement, willingness to try new things, productive exploration.	-
48	Therapist's encouragement, support, positive attitude seem to be related to client's overcoming demoralization, willingness to confront challenges, not be discouraged by failure. Therapist supports client productively when client fails....	*"Only with the help and support of the therapist was I able to go this way, face my problems, and find solutions".* (HAT)
49	Therapist's warmth, empathic listening, seems to provide safe atmosphere for client to confront painful experiences, and these in turn change	*"I never talked to anyone about my nightmares. I felt understood here".* (HAT)
50	Therapist's in-tune questions, reflections, interpretations, or comments, seem to facilitate clients' exploration, gaining new perspectives, developing action plans, creativity. Client feels recognized.	Understanding oneself with the help of a therapist, *"in the analysis of the dream, you subconsciously come to a subject that has been important to you and you have not understood it".*
51	Clients engage in concrete procedures in therapy and changes are congruent with what they are trying to achieve, and there is evidence of these changes. clients engage in chair work and either resolve an internal conflict, and this change persists or at least partially persists in subsequent sessions; clients challenge dysfunctional cognitions and show plausible changes in mood or behavior	The reduction of anger and excitement evoked by nightmares reflects these changes. (HAT)
52	Issues client struggles with in therapy change plausibly over time in accord with the trajectory of the client's working on them e.g. client talks about them week after week, and has ups and downs, but gradually masters them, and the mastery seems related to their ongoing struggle with it in therapy.	Considering the useful aspects of the treatment and their frequency, it is clear that recognizing the meaning of nightmares, understanding oneself, and encountering painful issues over time changed the problems of the client. (HAT)
53	Clients report changes in trajectory from their past life in the problem. Clients report something new in regard to coping with the problem, and relate it to therapy, Even if client reports having tried some of these things before, now reports that therapy has helped have confidence in the effort and helps him or her persist.	Learning to express anger, *"I learned to accept my anger and express it in the right way".*
54	There are no plausible life changes that could have assumed major responsibility for the change.	There has been no simultaneous change.
55	Topics not dealt with in therapy did not change, or, if they did change, there was a plausible reason why they changed from the therapy or from clearly independent reasons.	-
56	Clients' mastery experiences, problem actuation, and clarification and gaining of new perspectives that occurs in therapy are related to the changes.	Having a positive attitude towards oneself like reducing the suffering of being cruel and reducing negative feelings about oneself (CI)

Source: Bohart (33).

problems. In the analysis of the dream, you subconsciously reach a topic that has been important to you and you have not understood it". These findings are consistent with previous research showing that exposure to nightmares has a therapeutic effect (40). It is also consistent with the results of a study by Rousseau and Belleville showing that the sense of mastery over nightmares can correct fears, moderate beliefs, reduce arousal, and prevent avoidance, which is one of the most important underlying mechanisms of nightmares (41). Besides, it is consistent

with the finding that dream decoding can facilitate the client's access to life issues and help her gain insight (42). The insight obtained with the help of the therapist through open-ended questions and association, leads the client to discover her problems in the dream and decode the dream information and its dimensions (43). As a result, exposure to the content of the nightmare, gaining insight, and the changes made demonstrated dream analysis is more than mere encountering. In addition to confronting the person with disturbing images of nightmares, dream analysis contains the treatment methods of previous research, such as imagery exposure, has the advantage of increasing one's self-awareness with regard to the content of the nightmare content, and can help to solve problems. This approach sees the nightmare as an unfinished and scary story that has a message for the dreamer and the person can make use of the subconscious to gain insight into problems and solve them by understanding the hidden meaning of the nightmare through its obvious content (19). Moreover, it seems that by increasing self-awareness, it increases the person's sense of dominance and control and prevents the suppression of emotions and avoidance, which is one of the most important mechanisms in creating nightmares. Perhaps it reduces the frequency of nightmares by creating cognitive flexibility (44). As a result, one of the advantages of hermeneutic therapy's method of effectiveness is that the black box decodes therapeutic approaches and reveals specific processes of change. In the end, although analytical generalization is used instead of statistical generalization in case studies (45), one of the limitations of the present study was the generalizability of the research findings. Further studies are recommended to expand and understand how this method can be applied.

Conclusion

The present study showed treatment processes made changes in the client that were unexpected and important to her and these changes would not have occurred without the treatment. The most important therapeutic mechanisms were exposure to the nightmare images, discovering the hidden meaning of the nightmares, increasing self-awareness, increasing the sense of mastery, and creating insight and solving problems accordingly. In this way, the nightmare is an unfinished story that the client completes and eliminates its conflicts.

Acknowledgments

The protocol for this study was approved with the code of ethics EA97.9.12.01. We thank the dear participant of this research for helping us advance our knowledge.

Conflict of Interest

The authors acknowledge that there is no conflict of interest.

References

1. American Psychiatric Association (APA). Diagnostic and Statistical Manual of Mental Disorders. 5th ed. APA; 2013.
2. Eiser AS. Abnormal dreams and nightmare disorders. In: Montagna P, Chokroverty S, eds. Handbook of Clinical Neurology. Vol 98. Elsevier; 2011. p. 545-56. doi: 10.1016/b978-0-444-52006-7.00035-6.
3. Schubert CC, Punamäki RL. Posttraumatic nightmares of traumatized refugees: dream work integrating cultural values. Dreaming. 2016;26(1):10-28. doi: 10.1037/drm0000021.
4. Sandman N, Valli K, Kronholm E, Ollila HM, Revonsuo A, Laatikainen T, et al. Nightmares: prevalence among the Finnish general adult population and war veterans during 1972-2007. Sleep. 2013;36(7):1041-50. doi: 10.5665/sleep.2806.
5. Swart ML, van Schagen AM, Lancee J, van den Bout J. Prevalence of nightmare disorder in psychiatric outpatients. Psychother Psychosom. 2013;82(4):267-8. doi: 10.1159/000343590.
6. Hublin C, Kaprio J, Partinen M, Koskenvuo M. Nightmares: familial aggregation and association with psychiatric disorders in a nationwide twin cohort. Am J Med Genet. 1999;88(4):329-36. doi: 10.1002/(sici)1096-8628(19990820)88:4<329::aid-ajmg8>3.0.co;2-e.
7. Zadra A, Donderi DC. Nightmares and bad dreams: their prevalence and relationship to well-being. J Abnorm Psychol. 2000;109(2):273-81. doi: 10.1037/0021-843x.109.2.273.
8. Hartmann E. Dreams and Nightmares: The New Theory on the Origin and Meaning of Dreams. Plenum Trade; 1998.
9. Ellis LA. Qualitative changes in recurrent PTSD nightmares after focusing-oriented dreamwork. Dreaming. 2016;26(3):185-201. doi: 10.1037/drm0000031.
10. Lemyre A, St-Onge M, Vallières A. The perceptions of nightmare sufferers regarding the functions, causes, and consequences of their nightmares, and their coping strategies. Int J Dream Res. 2019;12(2):35-48. doi: 10.11588/ijodr.2019.2.62396.
11. Nielsen T. The stress acceleration hypothesis of nightmares. Front Neurol. 2017;8:201. doi: 10.3389/fneur.2017.00201.
12. Krakow B, Zadra A. Clinical management of chronic nightmares: imagery rehearsal therapy. Behav Sleep Med. 2006;4(1):45-70. doi: 10.1207/s15402010bsm0401_4.
13. Ellis TE, Rufino KA, Nadorff MR. Treatment of nightmares in psychiatric inpatients with imagery rehearsal therapy: an open trial and case series. Behav Sleep Med. 2019;17(2):112-23. doi: 10.1080/15402002.2017.1299738.
14. Kunze AE, Arntz A, Morina N, Kindt M, Lancee J. Efficacy of imagery rescripting and imaginal exposure for nightmares: a randomized wait-list controlled trial. Behav Res Ther. 2017;97:14-25. doi: 10.1016/j.brat.2017.06.005.
15. Kellett S, Beail N. The treatment of chronic post-traumatic nightmares using psychodynamic-interpersonal psychotherapy: a single-case study. Br J Med Psychol. 1997;70(Pt 1):35-49. doi: 10.1111/j.2044-8341.1997.tb01884.x.
16. Tarkhan M. The Effectiveness of Imagery Rescripting and Reprocessing Therapy on Nightmeres and Suicidal Ideations of Girls with Sexual Abuse. Journal of Modern Psychological Researches. 2016;11(43):21-40.
17. Hill CE, Zack JS, Wonnell TL, Hoffman MA, Rochlen AB, Goldberg JL, et al. Structured brief therapy with a focus on dreams or loss for clients with troubling dreams and recent loss. J Couns Psychol. 2000;47(1):90-101.
18. Hill CE. Working with Dreams in Psychotherapy. Guilford Press; 1996.
19. Weiss L. Dream Analysis in Psychotherapy. Translated by Sahebi A, Hakim Javadi M. Pergamon Press; 1986.
20. Hill CE, Knox S. The use of dreams in modern psychotherapy.

Int Rev Neurobiol. 2010;92:291-317. doi: 10.1016/s0074-7742(10)92013-8.
21. Roesler C. Structural dream analysis: a narrative research method for investigating the meaning of dream series in analytical psychotherapies. Int J Dream Res. 2018;11(1):21-9. doi: 10.11588/ijodr.2018.1.41330.
22. Gupta S, Hill CE. The outcome of dream sessions: the influence of dream recency, emotional intensity, and salience. Dreaming. 2014;24(2):89-103. doi: 10.1037/a0036391.
23. Elliott R, Slatick E, Urman M. Qualitative change process research on psychotherapy: alternative strategies. Psychol Test Assess Model. 2001;43(3):69.
24. Benelli E, Biffi D, De Carlo AL, McLeod J. Hermeneutic single case efficacy design: a systematic review of published research and current standards. TPM Test Psychom Methodol Appl Psychol. 2015;22(1):97-103. doi: 10.4473/tpm22.1.7.
25. De Smet MM, Meganck R, Truijens F, De Geest R, Cornelis S, Norman UA, et al. Change processes underlying "good outcome": a qualitative study on recovered and improved patients' experiences in psychotherapy for major depression. Psychother Res. 2020;30(7):948-64. doi: 10.1080/10503307.2020.1722329.
26. Elliott R. Hermeneutic single-case efficacy design. Psychother Res. 2002;12(1):1-21. doi: 10.1080/713869614.
27. Abolhassani S, Taleghani F, Yazdannik A. The use of qualitative case study in nursing. J Qual Res Health Sci. 2017;6(1):103-11. [Persian].
28. Mohebbi Z, Sharif F, Peyrovi H, Rakhshan M, Alizade Naini M, Zarshenas L. Patients' experience of living with irritable bowel syndrome (IBS): a hermeneutic phenomenology. J Qual Res Health Sci. 2020;9(1):28-37. doi: 10.22062/jqr.2020.91000.
29. Atashzadeh Shoorideh F, Pazargadi M, Zagheri Tafreshi M. The concept of nursing care quality from the perspective of stakeholders: a phenomenological study. J Qual Res Health Sci. 2012;1(3):214-28. [Persian].
30. Beck AT, Epstein N, Brown G, Steer RA. An inventory for measuring clinical anxiety: psychometric properties. J Consult Clin Psychol. 1988;56(6):893-7. doi: 10.1037//0022-006x.56.6.893.
31. Derogatis LR, Lipman RS, Covi L. SCL-90. Administration, Scoring and Procedures Manual-I for the R (Revised) Version and Other Instruments of the Psychopathology Rating Scales Series. Chicago: Johns Hopkins University School of Medicine; 1977.
32. Llewelyn SP. Psychological therapy as viewed by clients and therapists. Br J Clin Psychol. 1988;27(3):223-37. doi: 10.1111/j.2044-8260.1988.tb00779.x.
33. Bohart AC, Berry MC, Wicks CL. Developing a systematic framework for utilizing discrete types of qualitative data as therapy research evidence. Pragmat Case Stud Psychother. 2011;7(1):145-55. doi: 10.14713/pcsp.v7i1.1076.
34. Hossein Kaviani H, Mousavi AS. Psychometric properties of the Persian version of Beck Anxiety Inventory (BAI). Tehran Univ Med J 2. 2008;66(2):136-40. [Persian].
35. Derogatis LR, Rickels K, Rock AF. The SCL-90 and the MMPI: a step in the validation of a new self-report scale. Br J Psychiatry. 1976;128:280-9. doi: 10.1192/bjp.128.3.280.
36. Mosavyan E, Nejati SF. The investigation of facial affect recognition in people with psychological symptoms based on SCL-90-R scale. Soc Cogn. 2016;5(1):113-29.
37. Barlow D, Nock M, Hersen M. Single Case Experimental Designs: Strategies for Studying Behavior Change. Pearson; 2009.
38. Ogles BM, Lunnen KM, Bonesteel K. Clinical significance: history, application, and current practice. Clin Psychol Rev. 2001;21(3):421-46. doi: 10.1016/s0272-7358(99)00058-6.
39. Schofield W. Psychotherapy: The purchase of Friendship. Transaction Publishers; 1986.
40. van Schagen AM, Lancee J, de Groot IW, Spoormaker VI, van den Bout J. Imagery rehearsal therapy in addition to treatment as usual for patients with diverse psychiatric diagnoses suffering from nightmares: a randomized controlled trial. J Clin Psychiatry. 2015;76(9):e1105-13. doi: 10.4088/JCP.14m09216.
41. Rousseau A, Belleville G. The mechanisms of action underlying the efficacy of psychological nightmare treatments: a systematic review and thematic analysis of discussed hypotheses. Sleep Med Rev. 2018;39:122-33. doi: 10.1016/j.smrv.2017.08.004.
42. Pesant N, Zadra A. Working with dreams in therapy: what do we know and what should we do? Clin Psychol Rev. 2004;24(5):489-512. doi: 10.1016/j.cpr.2004.05.002.
43. Leijssen M. Focusing-oriented dream work. In: Rosner RI, Lyddon WJ, Freeman A, eds. Cognitive Therapy and Dreams. Springer; 2004. p. 137-60.
44. Ebrahimi Meymand HA, Askarizadeh G, Bagheri M, Arabnejad M. The role of spiritual intelligence, sense of coherence, and cognitive flexibility as internal resources in predicting perceived stress in patients with multiple sclerosis. Intern Med Today. 2020;27(1):114-29. doi: 10.32598/hms.27.1.2986.2. [Persian].
45. Hartley J. Case study research. In: Cassell C, Symon G, eds. Essential Guide to Qualitative Methods in Organizational Research. SAGE Publications; 2004. p. 323-33.