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The Effect of Therapy Psychodynamic and Cognitive Behavioral Therapy on Quality of Life in Patients with PNES

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Abstract

Objective: In the search for effective therapeutically tools for Psychogenic Non-epileptic Seizures (PNES), in the present study we analyzed the effect of two different psychotherapeutic approaches, Brief Psychodynamic Therapy (BPT) and Cognitive Behavioral Therapy (CBT) on the frequency of PNES as well as on quality of life in these patients.

Methods: 23 patients displaying PNES were randomly assigned to a group receiving BPT for 6 months, a group receiving CBT for 6 months and a control group no receiving psychotherapy. Presence of PNES was confirmed by electroencephalography (EEG). To assess self-perception quality of life, the QOLIE-31 questionnaire was applied before and every three months including a six months' follow-up after treatment ended.

Results: PNES frequency decreased significantly after the first three months of both therapies compared to control group. No differences were observed when the two therapies were compared. The significant decrease of PNES frequency remains until six months after the end of psychotherapy. Concerning self-perceived quality of life, QOLIE-31 results indicate a significant improvement since the first three months. At the beginning all the patients report a poor quality of life. After three months of psychotherapy most of them improve to a normal quality of life. After 6 months of therapy patients showed values reflecting an excellent quality of life, remaining at these levels six months after therapies ended.

Conclusion: The present results support the notion that both psychotherapeutic approaches are reliably procedures for decrease PNES frequency and improve quality of life in these patients.

Keywords: Psychogenic seizures; Non-epileptic psychogenic seizures; Conversion disorder; Cognitive behavioral therapy; Brief psychodynamic therapy; Quality of life

Introduction

According to Reuber et al. [1] Psychogenic no epileptic seizures (PNES) can be defined as a form of paroxysmal behavior that mimics epileptic seizures and is characterized by a sudden and time-limited disturbance of motor, sensory, autonomic, cognitive and emotional functions, or a combination of these. However, the main feature is that these epileptic-like seizures are displayed without an abnormal Electroencephalographic (EEG) activity. Therefore, since the pioneering work of Charcot, PNES have been identified as a conversion disorder. In the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) published in 2013 [2], PNES are classified as a form of Conversion Disorder or Functional Neurological Symptom Disorder (DSM-V). Currently, PNES are considered as part of a Conversion Disorder [3].

However, PNES are still a diagnostic challenge for neurologists and psychiatrist. First, the clinical picture of epilepsy and PNES can be easily confounded. Recently Gedzelman and La Roche [4] published a review of the main features of both disorders that help to make the differential diagnostic. Second, there is a high incidence of comorbidity of PNES with epilepsy. 12% a 36% of PNES patients display also epileptic seizures [5]. Thus, PNES are frequently misdiagnosed as epilepsy, receiving antiepileptic drugs for years before a proper diagnostic can be made [6].

In addition, it has been reported that PNES patients have antecedents of psychological disturbance, often linked to child abuse, sexual assaults or overwhelming stress [7-9]. Mounting evidence support the notion that PNES is a psychiatric disorder requiring mental health professionals to deliver a proper management [4]. Recent reports reveal the effectiveness of Cognitive Behavioral Therapy (CBT) to reduce seizure frequency [10]. In addition, Brief Psychodynamic Therapy (BPT) has been also successfully used in the treatment of PNES patients [10]. Thus, in the present study, we compared the effects of two psychotherapeutically approaches, CBT and BPT on seizure frequency and on self-perceived quality of life in patients diagnosed with PNES. Are psychodynamic therapy and cognitive behavioral therapy effective treatments to improve quality of life and reduce the number of psychogenic seizures?

Methods

Adult patients (age range: 18–65 years) both males and females, diagnosed with PNES were recruited from the National Institute of Psychiatry and the Naval Military Hospital in Mexico City. At the Sleep Disorders Clinic of the Universidad Autonoma Metropolitana-Iztapalapa, patients were recorded on a video/EEG and Polysomnography to corroborate the presence of PNES. 25 patients were initially studied. Two of them fulfilled the diagnostic criteria for epilepsy exclusively and

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were eliminated from the study. The remaining 23 patients (20 females; 3 males), 11 patients showed both epilepsy and PNES and 12 patients showed exclusively PNES. The study was carried out taking into account the statements on Biomedical Research in humans, Helsinki II in 1975. All participants signed an informed consent form.

All the patients included in the study were under pharmacological treatment during the 6 months study period. Thirty eight percent were taking an antiepileptic medication; 42% were taking an antiepileptic, anti-depressant and an anxiolytic and 20% were taking the latter combination plus an antipsychotic.

To assess the self-perceived quality of life, all participants at the onset of the study, completed the QOLIE-31 questionnaire after three months of treatment, at the end of the treatment and three and six months after treatment ended. This questionnaire is divided in seven domains: seizure worry; overall rating of life quality, emotional wellbeing, presence of energy or fatigue, cognitive functions, medication effects and sociability. The questionnaire is self-administered and consists of 31 items. The results are converted to a scale from 0 to 100 [11]. Values below 40 reflected a self-perceived poor quality of life, between 41 and 60 a good quality of life and above 61 an excellent quality of life [12].

Patients were randomly assigned to a control group (3 PNES exclusively; 4 PNES plus epilepsy). This group was interviewed monthly without receiving any psychotherapeutic treatment. A CBT group (5 PNES exclusively; 4 PNES plus epilepsy) and a BPT group (4 PNES exclusively; 3 PNES plus epilepsy). A trained psychologist offered both CBT and BPT. Weekly sessions that lasted 50 minutes were held for twenty-four weeks.

Cognitive Behavioral Therapy: This psychodynamic intervention was based in Goldstein Manual [13]. In brief, after an initial evaluation, a trained therapist with experience in PNES starts 36 weekly sessions. The initial sessions includes psycho education with patients and their families. Thereafter, crisis trigger situations were identified, followed by the analysis of coping strategies. This includes the identification of thoughts, irrational beliefs and emotions such as anxiety and depression, concerning the disorder and the onset of PNES. Finally, patients were trained with respiratory exercises and mindfulness techniques to interfere and inhibit the physiological, behavioral and cognitive responses associated with the onset of PNES. A work program was defined in the initial sessions, including the exact recording of the crisis and the homework defined in each session. Treatment adherence was confirmed using the CBT scale [14].

Brief Psychodynamic therapy: The protocol for this psychotherapy was performed following the indications of the manual of Kalogjera-Sackellares and Sackellares [15]. This therapy is based on the idea that a traumatic event is the main source of PNES. The traumatic event can be an isolated catastrophic event or a series of chronic recurrent traumatic events. Therefore, the key is to unveil the traumatic source in which the response is the expression of PNES. During 36 weekly sessions, therapist lead to patient to explore and discover the trauma as well as the identification of events and situations linked to the onset of PNES. Throughout the sessions, patient and therapist discover the events related to the presence of PNES and the situations that triggers the crisis and built a strategy to avoid the crisis. A daily record of crisis was made and the adherence to treatment was certifying using the instrument published by Hill et al. [16]. Statistical analysis was performed using a SPSS version 15 and the Duncan repeated measures test.

Results

Figure 1 shows the results concerning the number of seizures reported by the patients before the onset of the study, after three and six months of treatment and after three and six months after the treatment ended. Both CBT and PIT induced a significant reduction of the number of seizures since the first three months of psychotherapeutic treatment ($p<0.001$ compared to control. Duncan repeated measures Test). After completion of treatment the reduction in PNES frequency was maintained over a six months period. A further decrease was observed at six months of treatment. No significant differences were observed when the two psychotherapeutic approaches were compared.

Quality of life scale QOLIE 31

Concerning self-perceived quality of life, Figure 2 shows the results obtained. Before the onset of psychotherapeutic treatment, all the participants reported a self-perceived poor quality of life. After 3 months of treatment significant differences were observed ($p<0.001$ compared to control). Duncan repeated measures test. Both therapeutic approaches induced an improvement on the self-perceived quality of life with values above 40, meaning a normal quality of life. After six months of treatment the patients report an even better self-perception value around 70, meaning a perception of a good quality of life. The improvement remains with a normal quality of life during the six months after the end of the treatment.

Table 1 shows the results concerning the seven domains of the QOLIE-31 questionnaire. Before the onset of the treatment no significant

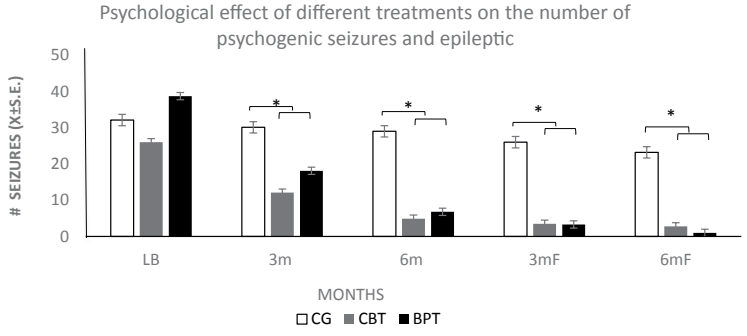

Figure 1: Number of both epileptic seizures and PNES before (LB), after 3 and 6 months of psychotherapeutic treatments (3 m and 6 m) and after 3 and 6 months after the treatment ended (3 mF and 6 mF).
GC=Control Group; TCC=Cognitive Behavioral Therapy; TP=Brief Psychodynamic Therapy
*=p<0.001 compared to control. Duncan repeated measures test

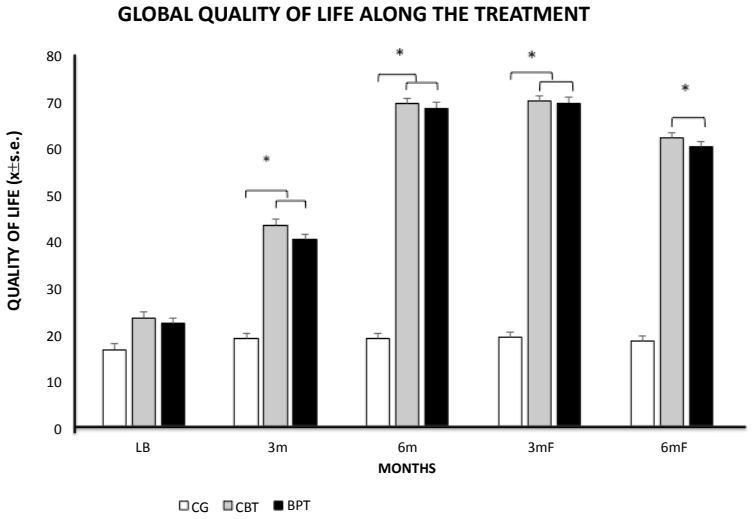

Figure 2: Overall results concerning Quolie questionnaire on self perceived quality of life.
CG=Control Group; CBT=Cognitive Behavioral Therapy; BFT=Brief Psychodynamic Therapy; LB=basal; 3 m and 6 m=six months therapy; 3 mF and 6 mF=3 and 6 months after therapies ended
* =p<0.001 compared to control. Duncan repeated measures test. Significant differences between therapies were observed only after 3 months of therapy, afterwards no differences were observed

	Baseline (BL) Mean (± e.e)			Half of treatment (3mTx) Mean (± e.e)			End of treatment (6mTx) Mean (± e.e.)			Follow-up mounts 3 (3mF) Mean (± e.e.)			Follow-up mounts 6 (6mF) Mean (± e.e)		
	CG	CBT	PIT	CG	CBT	PIT	CG	CBT	PIT	CG	CBT	PIT	CG	CBT	PIT
Seizure Worry	27 (3.1)	28 (2.8)	27.8 (1.0)	27 (0.9)	44.5* (2.3)	40* (2.6)	27.5 (2)	62.6* (2.4)	63.6* (3.2)	28.2 (2.8)	64.2* (2.3)	64.1* (2.6)	28 (2.0)	60.2* (2.4)	61.4* (3.2)
Quality of life	17.9 (7.5)	23.3 (8.6)	22.1 (1.3)	20.9 (2.8)	43.2* (2.9)	40* (4.8)	30.5 (5.5)	63.2* (4.2)	62.3* (5.1)	29 (4.8)	61.1* (3.4)	62.7* (3.1)	29 (4.8)	50.5* (1.6)	51.1* (2.8)
Emotional Well-Being	23.2 (4.6)	27.3 (6.4)	24.8 (6.6)	24.5 (1.8)	45.8* (3.1)	40.2* (2.9)	26.2 (3.6)	61.5* (2.9)	62.9* (1.8)	26.7 (1.8)	65* (3.1)	64.5* (2.9)	26.5 (3.6)	54.7* (4.0)	55.2* (1.8)
Energy/Fatigue	32.1 (7.4)	37.5 (7.8)	38.2 (8.4)	34.7 (4.1)	52.1* (3.6)	47.7* (4.6)	35.7 (5.8)	67.2* (4.5)	67.5* (4.6)	34.2 (4.1)	67.7* (3.6)	67.2* (4.6)	36.2 (5.8)	57.2* (4.8)	57* (4.5)
Cognitive	24.2 (3.9)	29.9 (8.2)	29.6 (4.4)	30.1 (2.7)	47.3* (2.5)	41.7* (3.7)	25.7 (2.6)	63.1* (2.2)	63.7* (3.7)	26.2 (2.7)	66.7* (2.5)	65.2* (3.7)	26.5 (2.6)	56.8* (2.2)	55.2* (3.7)
Medication Effects	16.5 (7.0)	23.8 (5.8)	22 (9.4)	19 (1.5)	33.2 (2.3)	37.6 (3.5)	18.7 (1.2)	35.2 (2.8)	39.3 (3.1)	19.2 (1.5)	41.3* (2.3)	42.4* (3.5)	32.2 (1.2)	42* (2.1)	43.5* (2.3)
Social Function	27 (3.0)	31.1 (6.7)	29 (2.7)	27.5 (2.3)	48* (3.8)	40.4* (3.0)	27.5 (2.2)	64.1* (3.8)	61.8* (0.7)	23.5 (2.1)	63.7* (3.8)	63.5* (3.0)	28.2 (2.2)	64* (3.8)	61.5* (0.7)
Global quality of life	17.9 (7.5)	23.3 (8.6)	22.1 (1.3)	20.9 (2.8)	43.2* (2.9)	40* (4.8)	30.5 (5.5)	63.2* (4.2)	62.3* (5.1)	28.7 (2.8)	61.1* (2.9)	62.7* (4.8)	20.2 (5.5)	57.3* (4.9)	56.9* (5.1)

Table 1: Qolie questionnaire dimensions.
CG=Control Group (n=7); CBT=Cognitive Behavioral Therapy Group (n=9), BPT=Brief Psychodynamic Therapy Group (n=7)
The number of subjects in the groups changes only in at 6 months of follow up; CG decrease to 4 and CBT to 8
*=p<0.001 compared to control. Duncan repeated measures test. All dimensions increase after both psychotherapies

differences were observed among the participants in any of the domains. After the first three months of treatment, there were significant improvements in all domains in the CBT and PIT groups, but not the control group (p<0.001 compared to control. Duncan repeated measures test). There were no differences in the degree of change between CBT and PIT group. After six months of treatment all the domains showed a further improvement that remains without changes even three months after the treatment ends (p<0.001 compared to control. Duncan repeated measures test). Details can be observed in Table 1.

Discussion and Conclusion

As mention above, PNES is nowadays a diagnostic challenge. Frequently, the patients are diagnosed as epileptics, receiving long and useless pharmacological treatments. Moreover, is very common to find patients with a cocktail of antiepileptic, psychotic and anxiolytic drugs that often worsen the clinical picture.

Furthermore, the frequent coexistence of both PNES and epileptic crisis makes more difficult the diagnostic and treatment of these patients. The present study supports the notion that any patients with suspected PNES should be studied polygraphically to verify the presence of PNES. In addition, when PNES are confirmed and even when real epileptic seizures are present; the psychotherapeutic approach should be applied as the main treatment, with or without pharmacological treatment.

In the present study, both CBT and PIT showed a significant effect on decreasing the reported frequency of seizures and, as consequence, an improvement on the self-perceived quality of life. No significant differences were detected when both therapeutically approaches were

compared. Thus, the already reported efficiency of CBT is confirmed by the present results and, furthermore, the results obtained with PBT strongly suggest that this therapy is another real and efficient alternative for the treatment of PNES.

Concerning the decrease of real epileptic seizure frequency, it has been reported that in the case of PNES, the fully understanding of the illness nature, help the patients to acquire certain level of control on seizure frequency [17]. As consequence, patients decrease their anxiety levels which, in turn, might influence the presentation frequency of the real epileptic seizures that result in the observed dramatic increase of self-perceived quality of life.

The present results strongly support the notion that psychotherapeutic approaches induce a dramatic effect on seizure frequency and quality of life of patients suffering of PNAS, even when PNAS are accompanied by epileptic activity.

Statement

This study is part of the Doctoral Degree in Biological and Health Sciences of NST, at the Universidad Autónoma Metropolitana.

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