

Behavior Therapy in Dissociative Convulsion Disorder

Siddiqua Aamir^{1*}, Shazia Hamayon² and Syed Sultan³

¹Senior Lecturer, Department of Psychological Medicine, Faculty of Medicine, University Malaya, Kuala Lumpur, Malaysia

²P.G.D.C.P Internee, Department of Clinical Psychology, Frontier Women University, Peshawar, Pakistan

³Head/Consultant Psychiatrist, Khyber Teaching Hospital, Peshawar, Pakistan

Abstract

Objective: To determine the efficacy and usefulness of Behavior therapy in conversion disorder.

Methods: It was a randomized control trial conducted at Psychiatry Unit, Khyber Teaching Hospital, Peshawar, Pakistan on patients (N=18) suffering from conversion disorder (only pseudo seizures). Fifteen sessions of behavior therapy were administered to experimental group over period of 2 and half months.

Results: Statistically significant difference was found between the mean number of fits for experimental group ($M=6.4 \pm 3.7$) and control group mean ($M=27.8 \pm 9.2$) $t(12) 6.0251$, $p < 0.0001$ on the last follow up session.

Conclusion: Behavior therapy can be successfully used for treating conversion disorder (pseudo seizures) by targeting inappropriate mal adaptive behavior replacing it with appropriate adaptive behavior by using suitable reinforcement techniques.

Keywords: Behavior Therapy; Conversion Disorder; Pseudo Seizures

Introduction

Conversion disorder is a condition where patients present with neurological symptoms such as numbness, blindness, paralysis, or fits, but where no neurological explanation is possible. It is thought that these problems arise in response to difficulties in the patient's life, and conversion is considered a psychiatric disorder in the International Statistical Classification of Diseases and Related Health Problems (ICD-10) [1] and Diagnostic and Statistical Manual of Mental Disorders 4th edition (DSM-IV) [2].

The prevalence of conversion disorder in the general population is reported between 5 and 22 per 100,000 persons [3].

In countries like Pakistan, the approaches towards mental illness are still prejudiced and the socio-cultural self-consciousness can be so strong that they prevent an individual to quest of help for emotional and psychological disorders. It is probable that in our culture, bodily symptoms are more acceptable and patients expressing their complaints/distress in the form of dissociative (conversion) disorders are more expected to obtain medical help/ consultation. This cultural acceptance of the symptoms is an important factor that determines mode of reactions towards the stress. This probably is the reason why hysteria is a disorder that one commonly comes across in a psychiatric practice in Pakistan. Bodily symptoms representation is widely prevalent in the Asian sub continent [4].

Conversion disorder is a common condition in developing countries. Studies conducted at Fatima Jinnah Hospital and Sir Ganga Ram Hospital Lahore in 1995 revealed that 12.4% patients admitted to psychiatry unit were suffering from conversion disorder [5]. According to the study conducted at Rawalpindi General Hospital in year 1999, 14.8% patients were diagnosed as conversion disorder [6]. In the Psychiatry Department of Lady Reading Hospital, Peshawar 27% of all the admitted patients during the years 2002-2007 were diagnosed as conversion disorder [7-8].

The Management of Conversion Disorder still remains divisive as it challenges our basic ideas about the concept of disease in psychiatry, illness behavior and perhaps our world view. It is ironic to note that conversion disorder is treated in most inhuman way. Behavioral

Interventions were generally found to be more effective treatment program for the management of conversion disorders [9].

Behavioral treatment of conversion disorder is based upon the principle that these disorders symbolize maladaptive reactions to constant worry that are upheld by positive support from others and successful avoidance, via disability, of stressful life situations [10].

A Randomized control trial conducted at a tertiary care hospital in Pakistan on Behavioral Intervention used for the reduction in the number of hysterical seizures demonstrated that majority of the patients of intervention group showed marked reduction in the number of seizures and level of anxiety & depression as compared to control group [11]. The current research was the systematic replication of the that randomized control trial as one of the researcher was instrumental in that trial as well.

A Case report exhibited that Behavioral intervention was employed to treat persistent right arm pain & immobility. After 3 months Behavioral intervention using negative reinforcement helped resolve symptoms rapidly [12].

Another Case report also used Behavioral Intervention to treat functional hypophonia. Differential reinforcement in the form of written and verbal feedback was effective in shaping normal speech [13].

One study conducted by an interdisciplinary team, which included a physiatrist, psychologist, physical therapist, occupational therapist, social worker, and nursing staff, undertook the treatment of a 33-year-

***Corresponding author:** Siddiqua Aamir, Senior Lecturer, Department of Psychological Medicine, Faculty of Medicine, University Malaya, Kuala Lumpur, Malaysia, E-mail: siddiquanawab21@hotmail.com

Received November 14, 2011; **Accepted** December 14, 2011; **Published** December 16, 2011

Citation: Aamir S, Hamayon S, Sultan S (2011) Behavior Therapy in Dissociative Convulsion Disorder. J Depress Anxiety 1:103. doi:10.4172/2167-1044.1000103

Copyright: © 2011 Aamir S, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

old woman with a 16-year history of gait problems and multiple somatic complaints, withdrawal of reinforcement for maladaptive disability-related behavior, and reinforcement increased in normal activities. The patient attained the entire goal in her program in 11 weeks [14].

In another study operant behavioral treatment of conversion disorder was given to all patients. It was concluded from the result of the study that behavioral treatment of conversion disorder was useful and successful, and appeared to provide a clinically (but not statistically) significant long-lasting resolution of symptoms. There was a strong positive correlation between duration of conversion symptoms and the time required to eradicate them [15].

Our research was an aspiration by the notion that behavior therapy could be the best available option for treating conversion disorder in our cultural set up. Main issues with our patients and relatives are misperception, lack of information and understanding regarding the treatment of conversion disorder. Mostly beating up for taking out the Djinn is the commonly used treatment for conversion disorder by traditional healers in rural areas of Asian sub continent and especially Pakistan. Keeping that situation in mind in this study relative who was primary care giver (primary care giver of the patient during admission week) were made knowledgeable through one week training about the symptoms of conversion disorders and were actively involved in behavior modification of the patients.

The study aimed to investigate the accuracy and suitability of behavior therapy in conversion disorders (pseudo seizures), to correct the misperception and provide perceptible management of conversion disorder through behavior therapy. Outcome measures were reduction in the number of fits, decline in the level of anxiety and depression and adherence to the treatment and follow up sessions by the patients.

Method

Participants

Admission register of Psychiatry Unit, Khyber Teaching Hospital, Peshawar, Pakistan was used to recruit patients who consulted Psychiatrists in year 2008 (patients were contacted through telephone and postal mail) [16]. Inclusion criteria were patients diagnosed with conversion disorder (having pseudo seizures only) as per ICD 10 criteria thoroughly investigated having no co morbid psychiatric or physical illness and whose total duration of illness was not more than 6 months, of both sexes age range from 18 to 50 years. Exclusion criteria were all other than fits (pseudo seizures) dissociative (conversion) disorders, patients below 18 and above 50 years of age and those who didn't consent. Total 18 patients (N= 18) fulfilled the criteria after thorough investigations. They were than randomly assigned to the behavior therapy (n=9) and control group (n=9) by lottery method.

Instruments

Demographic profile of all the patients was obtained. Hospital anxiety and depression scale (HADS) for the assessment of level of anxiety and depression at base line and last follow up session. This is a self screening questionnaire for depression and anxiety. It consists of 14 items and consists of two subscales: anxiety and depression. Each item is rated on a four point rating scale, giving maximum score of 21 for anxiety and depression. The patient are instructed not to take too long over their replies: as their immediate reaction to each item probably would be more accurate than a long thought-out response. Although (HADS) was designed for hospital General Medical Outpatients, it has

been extensively used in Primary Care [17]. Record form to document number of fits daily per week for 9 weeks for both experimental and control group. Fifteen sessions of behavior therapy were administered to experimental group.

Procedure

All patients of both groups were treated as inpatients for one week and after discharge were followed up for 15 sessions for another 8 weeks (2 months).

Fifteen sessions of behavior therapy for experimental group focused on behavior modification using positive reinforcement (variable ratio and variable interval schedule) to augment fit free appropriate behavior, punishment in the form of withdrawal of privileges in order to gradually extinguish inappropriate behavior and avoidance of negative reinforcement which can increase chances of amplifying maladaptive behavior.

In the first phase of the study primary care givers of behavior therapy group were extensively trained for one week. They were explained and demonstrated how to accomplish positive reinforcement, execute punishment and how to evade negative reinforcement. Primary care givers of both experimental and control group were asked to keep the record of number of fits per day per week from first day session till last session after 4 weeks on the Record forms provided by the researchers. During admission week 7 sessions of behavior therapy were conducted on daily basis with experimental group. Patients were subsequently followed up as out patients for behavior therapy sessions. Control group patients were treated with routine treatment as usual (pharmacotherapy) and were observed by the psychiatrists at out patient department.

They were kept blind to behavior therapy sessions during admission as well as 8 follow up sessions. Hospital anxiety and depression scale (HADS) was administered to the patients of both groups individually on first and last follow up session.

Results

Mean age of patients was 22.22 ± 2.7 . 15 (83.3%) patients were females, while only 3 (16.6%) were male. 14 (77.7%) were married whereas 4 (22.2%) were single. 16 (88.8%) were from rural, whilst 2 (11.1%) from urban background. On educational qualification 6 (33.3%) primary, 10 (55.5%) secondary and 4 (11.1%) had higher secondary level respectively. 2 (11.1%) were working and 16 (88.8%) were not working or house wives [Table 1].

Experimental group base line fits over initial one week were ($M=43.4 \pm 7.4$), while control group base line fits were ($M= 41 \pm 8.5$) $t(16) 0.6389, p < 0.5319$ no statistically significant difference was found at base line between two groups, on discharge after one week of

	Frequency Percentage
Mean Age	22.22 ± 2.7
Female	15 (83.3%)
Male	3 (16.6%)
Rural	16 (88.8%)
Urban	2 (11.1%)
Primary	6 (33.3%)
Secondary	10 (55.5%)
Higher secondary	4 (11.1%)
Working	2 (11.1%)
Not working/house wives.	16 (88.8%)

Table 1: Demographic profile of the patients (N=18).

treatment experimental group fits ($M = 18 \pm 2.8$) while control groups' fits ($M=30.2 \pm 3.6$) significant difference was found $t(16) 8.0251, p < 0.0001$, after 2 months at fifteenth follow up session experimental groups mean fits were ($M=6.4 \pm 3.7$) whilst control groups' mean was ($M=27.8 \pm 9.2$) $t(12) 6.0251, p < 0.0001$ extremely statistically significant difference was found at last follow up session between the mean number of fits [Table 2].

Mean score on HADS Depression subscale at base line for Experimental group was ($M= 11.2 \pm 3.2$) while control group ($M= 12.5 \pm 3.1$), $t(16) 0.8754 p < 0.3943$ no significant difference was found. At last follow up session Mean score on HADS Depression subscale for Experimental group was ($M= 1.8 \pm 1.9$), whereas control group ($M= 6 \pm 2.4$), $t(12) 3.5155, p < 0.0048$ statistically significant difference was found between the scores of two groups on HADS. Mean score on HADS Anxiety subscale at base line for Experimental group was ($M= 12.53 \pm 2.42$) while control group ($M=14.00 \pm 3.55$), $t(16) 1.0291 p < 0.3187$ no significant difference was found. At last follow up session Mean score on HADS Anxiety subscale for Experimental group was ($M= 2.8 \pm 2.54$), whereas control group ($M= 7 \pm 3.33$), $t(12), p < 2.6859$ statistically significant difference was found between the scores of two groups [Table 3].

Dropout rate in experimental group was 9-1=8 (11.1%) and control group was 9-3=6 (33.3%).

Discussion

The study highlights the importance of behavior therapy in the management of conversion disorders (pseudo seizures). According to the findings of current research there was no noteworthy difference between the two groups at base line in the frequency of fits but a statistically highly significant difference was found between the two groups in occurrence of fits at last follow up sessions. Correspondingly, patients in the experimental group demonstrated more improvement on hospital anxiety and depression scale as compared to the control at the end of fifteenth session.

A randomized controlled trial conducted to compare the remission in symptoms achieved with behavior therapy and routine clinical care to that with routine clinical care alone to patients having conversion disorder conducted at another teaching hospital of Peshawar, Pakistan. In which a total sample of 100 patients was recruited and were randomly allocated to the intervention or control group. The number of fits was

	Experimental group	Control group	p value
Baseline	43.4 ± 7.4	41 ± 8.5	0.6389
At discharge	18 ± 2.8	30.2 ± 3.6	0.0001
Last Follow up	6.4 ± 3.7	27.8 ± 9.2	0.0001

Table 2: Mean & standard deviation of number of fits at base line, at discharge & last follow up session for experimental and control groups (N=18).

	Experimental group	Control group	p value
Baseline Depression subscale	11.2 ± 3.2	12.5 ± 3.1	0.3943
Follow up Depression subscale	1.8 ± 1.9	6 ± 2.4	0.0048
Baseline Anxiety subscale	12.53 ± 2.42	14 ± 3.55	0.3187
Follow up Anxiety subscale	2.8 ± 2.54	7 ± 3.33	0.0198

Table 3: Mean score and standard deviation at baseline & follow up on HADS Depression & Anxiety subscales for experimental and control group (N=18).

recorded each day during admission. The patients were followed-up for four weeks after discharge. A highly significant difference was observed between the two groups in frequency of fits at discharge, on the first follow-up and on the fourth follow-up ($p=0.000$). Significant difference was found in the mean score of patients in the intervention group on hospital anxiety and depression scale than the control group, ($p=0.000$) at the end of four weeks [10].

Current research was the systematic replication of that study which was conducted at the other tertiary care hospital. The findings of this study are fundamentally in accord with the existing literature, it points at the high usefulness of behavior therapy in the management of conversion disorders (pseudo seizures). A proper detection of conversion disorder (pseudo seizures) and an on time referral to psychiatry unit is necessary to alleviate the patient's suffering if not patient may undergo anguish unendingly.

One study conducted on behavioral interventions in the rehabilitation of acute vs. chronic non organic (conversion/factitious) motor disorders indicated that the standard behavioral treatment was effective for 'acute' patients as compared to 'chronic' patients. When 21 patients with chronic motor disorder then under went the strategic behavioral intervention, 13 were symptom-free at discharge [9].

Two case series had also documented the effectiveness of in-patient behavioral treatment for non-organic motor disorders [18-19].

Behavioral alteration is frequently used in the treatment of conversion. Commending and encouragement for improvement can be sighted as positive reinforcers, and ignoring the sick role behavior may facilitate its extinction [20-21].

Methodical, well-controlled studies of behavior therapy are inadequate, however many researchers had reported on series or single cases demonstrating accomplishment with this management approach. Techniques described by these researchers are comparatively straightforward. Direct instruction and suggestion may be followed by increasingly "extraordinary" praise; in other words, to uphold the praise and approval, the patient must make progressively greater augmentation in improvement [22-23].

Operant conditioning may be used in the form of rewards for improvement (e.g., increased privileges, home visits for inpatients) synchronized with this technique, failures and symptomatic behavior may be ignored [24-25].

Study conducted at a local hospital on co-morbidity of anxiety and depressive symptoms in conversion disorder showed that 95% with and only 5% of the patients were without any co-morbid anxiety and depressive symptoms. Anxiety was seen to be present in 35% of cases; depression in 29% and 31% of the patients had both anxiety and depressive symptoms [26].

One more study conducted on co-morbid depression and its level of severity in patients with dissociative disorder demonstrated that Depressive disorder was present in 42 (84%) cases of dissociative disorder with 38% having moderate depression [27].

The findings of the present study also advocate and are consistent with previous studies that there is a significant relationship between depression, anxiety and conversion disorders, therefore, during management focus should be also on mitigation of depressive and anxiety symptoms. The present study indicates that Behavior therapy helped patients to develop comprehensible ability to manage their symptoms of depression and anxiety.

In this study, the proportion of female patients is much higher than that of male patients, and the finding is consistent with other studies reporting Conversion disorder as more frequent in females than males [28-29]. Conversion disorders might be understood as a non-verbal communication way particularly for women. Consequently, it has been accentuated that women cannot articulate their way of thinking effectively and conversion of the internal agony (conflict) into physical symptoms is more common and, as a result, Conversion disorder is more common in women [30].

In our sample, 14 (93.3 %) of female patients were married only one was unmarried. This finding is consistent with other studies that show a high prevalence of psychiatric morbidity in married females in Pakistan; unlike in the Western countries where marriage is considered as a protective factor for women, in Pakistan it is a significant source of stress for females [31]. Majority of the patients were from rural back ground. Other studies also accounted that Conversion disorder is more common in the population of lower socioeconomic levels and rural areas. It has been observed that the education level of patients in the current research was low; the females in rural areas of Pakistan usually can not continue their education beyond primary school. The mainstream of the patients were from low-income group and majority of them were not working or housewives. Conversion Disorder has been reported to be more widespread in uneducated or primary school graduate population, middle- low income group, housewives and unemployed men [32-33].

Conclusion

Behavior therapy can be used for the management of conversion disorders by focusing on an inappropriate behavior firstly by observing and recognizing it and later targeting and stopping it. In the meantime, a new, appropriate behavior must be identified, developed, reinforced, and maintained in the patient's behavior repertoire by the patient with help of therapist and primary care givers. Psycho education of patient as well as the primary givers shall be made mandatory part of the management plan by the mental health professionals while dealing with patients with conversion disorders.

References

1. The ICD-10 classification of mental and behavioral disorders: clinical descriptions and diagnostic guidelines. Geneva(1992) World Health Organization.
2. Diagnostic and Statistical Manual of Mental Disorders (1994) Fourth Edition, American Psychiatric Association.
3. Letonoff EJ, Williams TR, Sidhu KS (2002) Hysterical paralysis: a report of three cases and a review of literature. *Spine (Phila Pa 1976)*. 27: E441-445.
4. Aamir S (2005) Stressful life events in the onset of Dissociative (Conversion) disorders. *Journal of Pakistan Psychiatric Society* 2: 65-68.
5. Malik SB, Bokhary IZ (1999) Psychiatric admissions in a teaching hospital: a profile of 177 patients. *J Coll Physicians Surg Pak* 9: 359-361.
6. Minhas FA, Farooq S, Rahman A, Hussain N, Mubbashar MH (2001) Inpatient psychiatric morbidity in a tertiary care mental health facility: A study based on psychiatric case register. *J Coll Physicians Surg Pak*. 11: 224-228.
7. Admission registers of Psychiatry Unit, Govt. Lady Reading Hospital, Peshawar, Pakistan.
8. Aamir S (2009) Systematic review on management of conversion disorder. *MJP*.
9. Allan P. Shapiro & Robert W. Teasell(2004) Behavioral interventions in the rehabilitation of acute v. chronic non-organic (conversion/factitious) motor disorders. *Br J Psychiatry* 185: 140-146.
10. Khattak T, Farooq S, Jan B (2006) Behavior therapy in dissociative convulsions disorder. *J Coll Physicians Surg Pak*. 16: 359-363.
11. Campo JV, Negrini BJ (2000) Case study: negative reinforcement and behavioral management of conversion disorders. *Am Acad Adolesc Psychiatry* 39: 787-790.
12. Amari A, Slifer KJ, Sevier RC, Spezio J, Tucker CL (1998) Using differential reinforcement to treat functional hypophonia in pediatric rehabilitation patient. *Pediatr Rehabil* 2: 89-94.
13. Klein, M.J., Kewman, D.G., Sayama, M (1985) Behavior modification of abnormal gait and chronic pain secondary to somatization disorder. *Arch Phys Med Rehabil* 66: 119-122.
14. J Speed (1996) Behavioral management of conversion disorder: Retrospective study. *Arch Phys Med Rehabil* 77: 147-154.
15. Chandrasekaran R, Goswami U, Sivakumar V (1994) Hysterical neurosis. *Acta Psychiatr Scand* 89: 78-80.
16. Admission registers of Psychiatry Unit (2007) Khyber teaching Hospital, Peshawar, Pakistan.
17. Zigmond AS, Snaith RP (1983) The hospital anxiety and depression scale. *Acta Psychiatr Scand* 67: 361-370.
18. Trieschmann RB, Stolov WC & Montgomery ED (1970) An approach to the treatment of abnormal ambulation resulting from conversion reaction. *Arch Phys Med* 51: 198-206.
19. Speed J (1996) Behavioral management of conversion disorder: retrospective study. *Arch Phys Med Rehabil* 77: 147-154
20. Alford GS, Blanchard EB, Buckley TM (1972) Treatment of hysterical vomiting by modification of social contingencies: a case study. *J Behav Ther Exp Psychiatry* : 209-212.
21. Mumford PR (1978) Conversion disorder. *Psychiatr Clin North Am* 1: 377-391.
22. Agras WS, Leitenberg H, Barlow LH, Thomson LE (1972) Instruction and reinforcement in the modifications of neurotic behavior. *Am J Psychiatry* 129: 224-228.
23. Hersen M, Gullick EL, Matherne DM, Harbert TL(1972) Instructions and reinforcements in the modification of a conversion reaction. *Psychol Rep* 31: 719-722.
24. Dickes RA(1974) Brief therapy of conversion reactions: an in hospital technique. *Am J Psychiatry* 131: 584-586.
25. Gooch JL, Wolcott R, Speed J(1997) Behavioral management of conversion disorder in children. *Arch Phys Med Rehabil* 78: 264-268.
26. Khan MN, Ahmad S, Arshad N, Ullah N, Maqsood N (2005) Anxiety and depressive symptoms in patients with conversion disorder. *Coll Physicians Surg Pak*. 15: 489-492.
27. Alvi T, Minhas FA(2009) Type of presentation of dissociative disorder and frequency of co-morbid depressive disorder. *J Coll Physicians Surg Pak*. 19: 113-116.
28. Lempert T, Schmidt D (1990) Natural history and outcome of psychogenic seizures: a clinical study in 50 patients. *J Neurology* 237: 35-38.
29. Hafeiz HB (1986) Clinical aspects of hysteria. *Acta Psychiatr Scand* 73: 676-680.
30. Qadir F, de Dilva P, Prince M, Khan M (2005) Marital satisfaction in Pakistan: a pilot investigation. *Sexual and Relationship Therapy* 20: 195-209.
31. Khan S, Ladha A, Khan SK, Khan SF, Malik AA, et al.(2006) Presentation and features of conversion disorder at a tertiary care hospital in Karachi. *Pak J Neurol Sci* 1: 128-131.
32. Ford CV, Folks DG (1985) Conversion disorders: an overview. *Psychosomatics* 26: 371-383.
33. Stefansson JG, Messina JA, Meyerowitz S (1976) Hysterical neurosis, conversion type: clinical and epidemiological considerations. *Acta Psychiatr Scand* 53: 119-138.