

The Effectiveness of Behaviour Therapy in Writer's Cramp:

A Case Report

Mahesh M M^{1*}, Dr. Johnson Alex²

ABSTRACT

42 years old male patient referred from neurology department, working as a teacher, educated up to MSc, premorbidly anxious personality, family history mental illness (first degree relatives), comes from MSES with presenting complaints of difficulty in writing or copying since seven years. Disability progressed and he was unable to write even a few words legibly and could not hold object which leads to anxiety and dependency. When the patient was examined at Neurology OPD, find out that he has normal sensory and motor nerve functions. The present treatment involved the use of Behaviour therapy. The findings in this case is very encouraging and studies with large sample sizes can be considered for further conclusive evidence on the treatment of writer's cramp.

Keywords: *Writer's Cramp, Behaviour Therapy*

Writer's Cramp is one of a large group of functional motor disorders known as occupational neuroses, also known as Graphic Dyskinesia, Scrivener's Palsy and Graphospasm. It is characterized by specific impairment of a learnt motor skill, involves muscular spasm of the fingers and hand of the writing arm, which spreads to the muscles of the lower and upper arm and to the shoulder girdle with consequent in co-ordination and discomfort, variously described as fatigue, weakness, stiffness or pain, when attempting to write. Accompanying tremor and jerking of the limb are common. It is more common in males and appears most often in the third and the fourth decade. Higher incidence is mostly seen in those involved in constant writing, typing and key board telegraphy. Mahendru et al (1981) have reported a prevalence of 5.4 per thousand among office workers. A psychosomatic formulation states that the act of writing is a refined and delicate motor skill, incompatible with grosser postures of the upper limb, associated with emotional states like anger. When such a state affects a person chronically or arises specifically in relation to the act of writing, it may progressively distort the writing as the person

¹ Clinical Psychologist, Department of Psychiatry, Kannur Medical College, Anjarakandy, Kerala

² Head of the Department, Department of clinical psychology, KMC, Manipal, Karnataka

*Responding Author

The Effectiveness of Behaviour Therapy in Writer's Cramp: A Case Report

makes a succession of attempts to overcome the difficulty. This type of occupational neurosis develops with excessive writing only in those persons who are genetically predisposed. Evidences also show that there is a genetic influence in the focal dystonias (Defazio et al., 2003; Defazio, Brancati et al., 2003). The most acceptable hypothesis was that Writer's cramp starts as a symptom of anxiety neurosis in people whose main occupation involves use of fingers as for example writing. Continuing anxiety perpetuates it as a habit pattern in the form of a vicious cycle. Anxiety produces the symptom, but any attempt to write makes the symptom worse which in turn increases the level of anxiety. The hypothesis suggests that the treatment should be eclectic, making use of ant anxiety drugs, psychotherapeutic techniques and behaviour therapy methods. Crisp and Moldofsky (1965) suggested relaxation and re-educative techniques along with psychotherapy in the treatment of writer's cramps. Janet et al (1925) was advocating a complex programme of exercises to strengthen the extensor of the hand followed by teaching the patient to write with the hand supinated to encourage activity of the extensor muscles and to discourage excessive flexion of the digits. Then, to redevelop accurate writing movements of the hand, such shaping devices as special keyboards and pigeonholes were introduced.

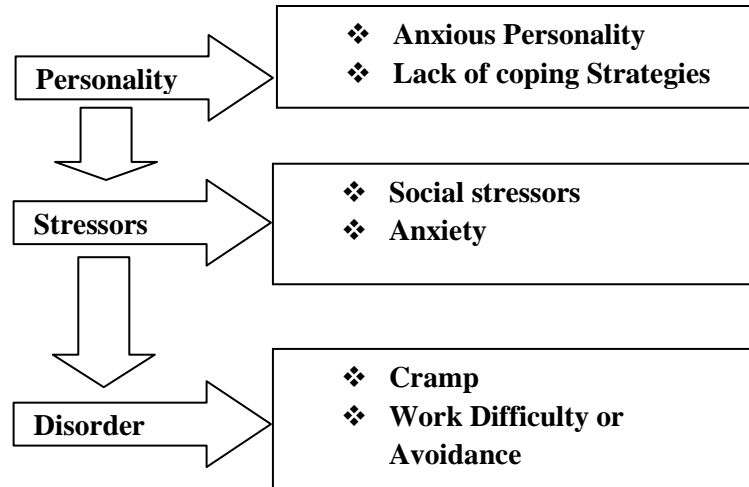
Summary of the case : 42 years old male patient referred from neurology department, working as a teacher, educated up to MSc, premorbidly anxious personality, family history of mental illness (first degree relatives), comes from MSES with presenting complaints of difficulty in writing or copying since seven years. Patient reported that he was apparently well seven years back, initially started difficulty in writing in books, gradually started feeling pain in hand. The pain was present in all the times, not only while writing but also the symptoms at times extended to whole of the right part of the body. Initially he had difficulty in writing later it was accompanied with pain and also noticed tremor and stiffness after prolonged writing. Disability progressed and he was unable to write even a few words legibly and could not hold objects which led to anxiety and dependency. He reported work load in the previous years; his class charge was changed and increases the responsibility in work Due to this problem he was exempted from work related to writing in school and for his work he had to depended more towards the other colleagues and they helped him without any opposition and the school authority also give permission to work arrangement related to writing. There was no history of similar episode in the past. Also reported that he was anxious about his writing, which seemed to be very bad and it affected his function in work. The school authority was very supportive and they advised him to take treatment. His wife reported that in family he has significant interpersonal issues, he gets angry quickly towards wife and sister. Also reported that he was very anxious and during writing felt palpitation, sweating etc.. In the pre assessments patient got a score of 42 in state anxiety and 49 in trait anxiety and a total of 91 in State Trait Anxiety inventory.

Therapy formulation: 42 years old male teacher, educated up to MSc, premorbidly anxious personality, family history mental illness, comes from MSES with presenting complaints of difficulty in writing or copying since seven years. His general anxious traits and lack of coping

The Effectiveness of Behaviour Therapy in Writer's Cramp: A Case Report

strategies worked as a causal factor of the problem. The social stressors (Work related increased responsibility and interpersonal issues in the family) caused the increasing of the anxiety level and as a coping strategy he developed the difficulty in writing (writer cramp). The continuous anxiety perpetuates it as a habit pattern and he used avoidance behaviour as a coping strategy.

Hypothetical model of writer's cramp (Cottraux, J., Junet, C., & Collet, L., 1987)



Rationale for therapy: All the physical examination was being done and no physical causes found. On administration of the scales and based on the interview, the patient was found to have anxious traits. On view of his pain and anxiety related to writing Relaxation training and Supinated writing was suggested.

Treatment plan

Relaxation training and Supinated writing

Therapy fixed as a short term goal to reduce the anxiety symptoms and improve the legibility of the writing and long term goal as the maintenance of the treatment gains. The treatment phase and the outcomes are described below.

Training module:

Treatment Sessions	Tasks
1 st - 4 th	Relaxation training
5 th - 6 th	Supinator writing in liquid approximate 20 cms circles
7 th - 8 th	Reduction of circle size in 2 cm
9 th - 10 th	Writing individual letters and then words on single ruled paper
11 th - 12 th	Switching to pronator (pen between index and middle fingers) writing position
13 th - 14 th	Writing of words and sentences with brush
15 th - 16 th	Writing with smaller diameter pen
17 th - 18 th	Writing on four ruled paper to reduce letters to 1 cm (normal) size.
19 th - 20 th	Writing on blank paper
21 st - 25 th	Writing with time limit to improve speed

The Effectiveness of Behaviour Therapy in Writer's Cramp: A Case Report

Phase I: (1 – 4 sessions)

In the initial session the intake was taken and STAI was administered. In the second session onwards relaxation training was started. In view of his significant autonomic arousal symptoms JPMR was initiated. The patient was explained the rationale of Jacobson's progressive relaxation techniques (tensing and relaxing different muscle parts of the body) and 5 sessions of relaxation training were given. The patient was asked to practice the same daily at home. Relaxation was presented as a skill to be learned during several applied stages, with continued practice at least once a day to help reduce his general tension level. Patient reports that he was relaxed after practicing the JPMR and reduced the palpitation, sweating etc.

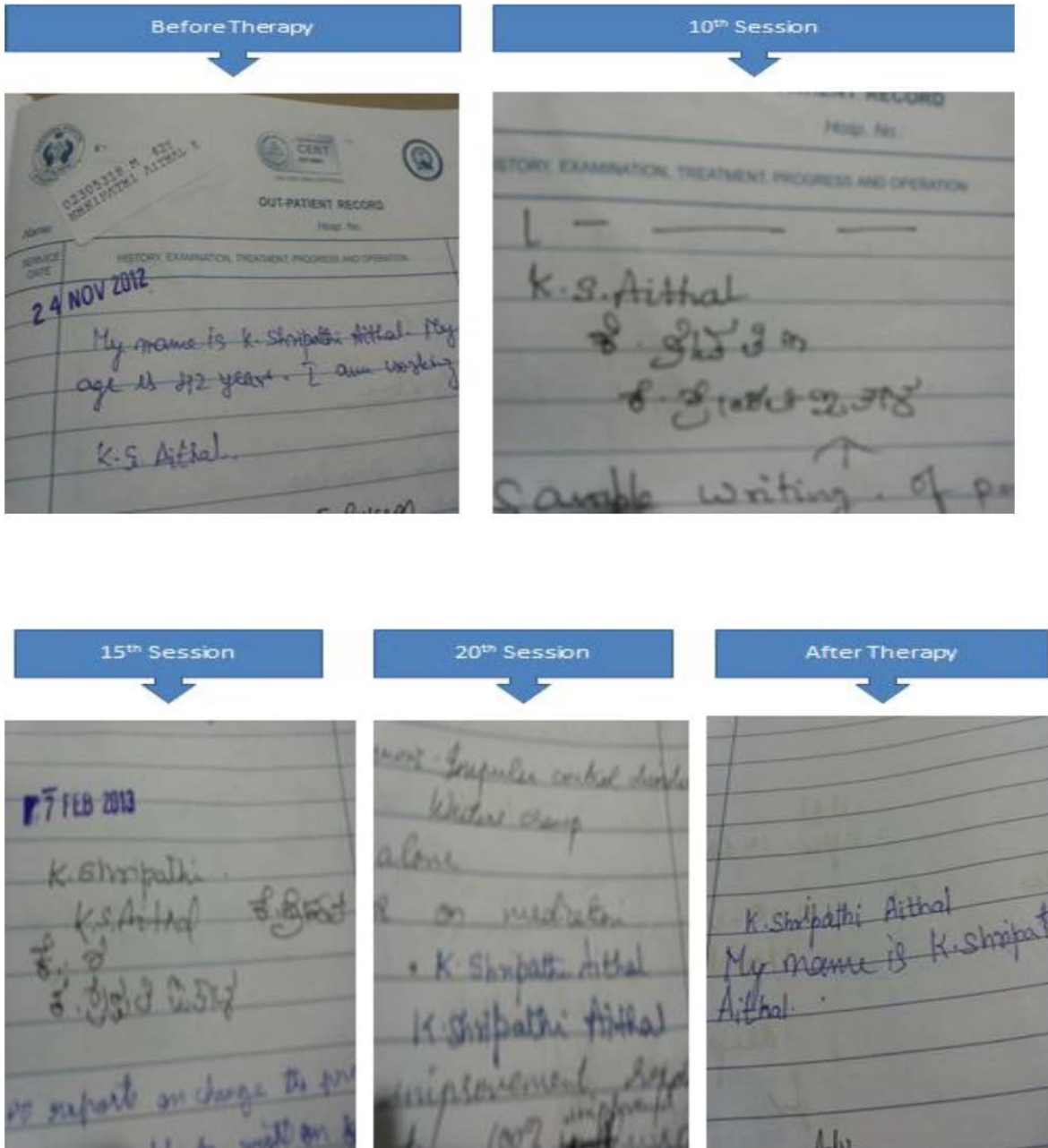
Phase II (5 – 24 sessions) Retraining:

Sessions are planned weekly one hour for a period of 20-25 weeks. The principles of treatment were similar to those used by Arora and Murthy (1976).[6] The patients were forbidden to write or even to sign their names during the treatment programme of their own. The relaxation training was continued throughout the treatment programme — 1/2 an hour in the morning, in the evening. After this, the patient had to use a thick water colour painting brush (size 6) holding his writing hand in the Supinated position but with the fingers in the position of relaxation. The brush was placed between the index and middle fingers and for two sessions, circles 15 cms in diameter were drawn. In the next two sessions, the radius of circles were reduced progressively to 10 cms, 5 cms, and finally to 2 cms. The Next circles of 2 cm. radius were drawn on single ruled paper. The stage involved writing letters of the alphabet on ruled paper, with the hand in the same position. To hasten the process of treatment, the patient was asked to practice twice a day in his room after thirty minutes of relaxation for all the subsequent stages. It was then possible to switch to writing with the pronated hand with the fingers touching the pen, held between the index and middle finger. When sentence writing was attained with this grip, the brush was substituted with a soft felt pen. Once the patient was confident of this stage, it was possible to change to four ruled paper to bring the handwriting to normal size. It is necessary to warn the patient against gripping the pen too hard. It was stressed that the fingers served mainly to guide and not to grip the pen. This usually prevented any problem. The patient was now taught to relax in a sitting position. This was done by reclining in a chair with the arms placed loosely on the lap. This had to be done for five minute before commencing writing. This was useful for the patient who could practice this in his office before writing. After this patient was able to use a fountain pen on a four lined ruled paper. The penultimate stage was devoted to writing on blank paper with stress on the handwriting. The last few sessions were devoted to increasing the speed. The patient was asked to write without straining, for example thirty minutes and improve on the previous number of words in successive sessions. No stage was embarked upon without the patient's and therapists full confidence of success in the previous stage. Along with the above treatment, the patients also had supportive psychotherapy and medication for anxiety.

The Effectiveness of Behaviour Therapy in Writer's Cramp: A Case Report

Phase III (Termination)

Patient was able to write without pain and difficulty. So patient was terminated from the continuous sessions and suggested to continue the practice of relaxation and come for review sessions. Patient will be continuing for further sessions (along with wife) for the management of interpersonal issues in family.



CONCLUSION

Because of the major difficulty in diagnosing and providing therapy for this neurological disorder, we carried out a systematic therapeutic method and when considering the positive outcome from our treatment strategies, the implication of the behaviour therapy for writer's cramp was very hopeful.

REFERENCES

- Arora, M. & Sreenivasa Murthy, R. (1956) *J. Behav. Ther. & Expt. Psychiat.*, 7, 345.
- CRISP, A. H. AND MOLDOFSKY H. (1963) A psychosomatic study of Writer's cramp. *Brit.J. Psychiat.*, 117, 841.
- Defazio, G., Aniello, M. S., Masi, G., Lucchese, V., De Candia, D., & Martino, D. (2003). Frequency of familial aggregation in primary adult-onset cranial cervical dystonia. *Neurological Sciences*, 24, 168–169
- Defazio, G., Brancati, F., Valente, E. M., Caputo, V., Pizzuti, A., Martino, D., et al. (2003). Familial blepharospasm is inherited as an autosomal dominant trait and relates to a novel unassigned gene. *Movement Disorders*, 18, 207–212.
- Jacobson E. *Progressive Relaxation*. 2nd ed. Chicago: University of Chicago Press, 1938.
- Janet P. *Psychological Healing*. p. 719. London, Allen and Unwin, 1925.
- Mahedru BK, Chandra R, et al. Writer's cramp in office workers - an epidemiologic study. *Indian J Psychiatry* 1981; 23: 90.