

A BEHAVIOURAL APPROACH TO THE TREATMENT OF WRITER'S CRAMP

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SUMMARY

In (perhaps) one of the largest series, treatment of 30 cases of writer's cramp by behaviour therapy alone, has been studied over a period of 5 years. The therapy techniques used were (i) relaxation therapy and retraining (ii) relaxation therapy, retraining and systematic desensitization. The outcome of both the techniques are very encouraging and show definite improvement in all cases. Various factors responsible for degree of improvement and the duration of treatment are discussed.

There seems little doubt that Writer's Cramp represents the outcome of a learning process and it therefore seems reasonable to attempt to reverse this process either by teaching new response habit or by extinguishing old ones (Beech, 1960). Various behavioural methods have been used to treat this condition, namely retraining (Janet, 1925) avoidance conditioning (Liversedge and Sylvester, 1955), massed or negative practice (Beech, 1960), systematic desensitization (Wolpe, 1961). Recently modification of retraining method (Arora and Murthy, 1976), biofeedback (Uchiyama et al., 1977) and operant conditioning (Sanairo, 1982) have been used. The method of treatment usually are based on the level of anxiety. It is still a dispute whether writer's cramp is due to anxiety or a cause of anxiety which the subject manifests.

The present study is probably the largest reported in the developing countries consisting 30 patients. An emphasis on various factors responsible for achievement and the maintenance of the improved condition using two treatment methods has been made.

METHOD

Subjects:

Present study comprises 30 patients treated over a period of 5 years (1978-1982) with a minimum follow-up of 6 months. These patients were referred for behaviour therapy from the Psychiatry and Neurology O. P. D. of the All India Institute of Medical Sciences, New Delhi. There were 28 males and 2 females with a mean age of 34.83 years in the age range of 19 to 54 years. Minimum education of the patients was matriculation. Subjects reported having writer's cramp for a period of 2 months to 8 years. Synopsis of all the subjects is given in appendix I and II.

Treatment Procedures:

To establish a baseline of the problematic behaviour, a writing sample was taken from these patients during the first interview. None of these patients were given any kind of psychological tests. All the patients were given individual treatment sessions. They were asked to refrain from all other handwriting. The treatment was started by pro-

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gressive relaxation (Jacobson, 1938) to all the patients in order to decrease muscular tension. After achieving an optimal level of relaxed state, patients were given retraining in supinated hand. Some of the patients were also desensitized for specific situations reported by themselves. Thus the group receiving the relaxation and retraining is the Group I and the other with relaxation, retraining and desensitization is Group II. Both these groups were comparable for age, sex, education, occupation and duration of illness.

Treatment Groups :

Group I comprised of 20 patients. They were given 3-4 sessions per week for relaxation therapy and retraining, each session lasting one hour. Total number of sessions varied from 30-70, spanned over a period of one and a half to six months.

Group II comprised of 10 patients who had general anxiety and specific anxiety in different situations. After formulating different hierarchies of individual problematic situations, these patients were desensitized. The order of treatment was (i) relaxation (ii) systematic desensitization (iii) retraining. Each session lasted for 1 hour and 20 minutes. Total number of sessions were 25 to 70 spanned over a period of one to three months. Appendix II describes the list

of the problematic situations of these patients.

When the patient showed satisfactory handwriting till the last step of retraining and reported no anxiety in general or in specific situations, patient was sent back to work and was asked to report after one week. This week was termed as trial week. He was asked to report immediately if any problem occurred either in office or at home. After a successful trial week, treatment was terminated and patient was asked to come for follow up after a month and then after three months

RESULTS

Improvement in handwriting is not only subjective, but is obvious as it clarifies and becomes stable. Thus improvement was rated on the following criteria—

I. Complete Improvement :

- a) No difficulty experienced while writing at any time during trial period.
- b) Absence of tremors and tension in hand while writing.
- c) No relapse in 6 months.

II. Partial Improvement :

- a) Occasional difficulty in writing during the trial week.
- b) Patient has a relapse.

III. No Improvement.

Table I shows the degree of impro-

TABLE I. *Degree of improvement in writing & associated factors in both groups*

Degree of improvement	Group I (n=20)	Group II (n=10)	Associated Factors
Complete improvement	6	7	High motivation, regular practice, insight of their condition and duration of illness less than 3 years.
Partial improvement	11	3	Low motivation, more spacing of treatment sessions, irregular practice and inability to imagine situations in desensitization procedure.
No improvement	2	—	Personality factors of the illness, duration of illness more than 6 years.
Relapse	2	—	Inability to cope up with their work.

vement achieved in writing in both the groups.

DISCUSSION

This investigation has provided evidence for some of the major factors which affect the prognosis of writer's cramp. Significant improvement was noted for subjects in both the compared groups. The patients who showed complete improvement were found to be highly motivated as they would care for the sessions and come regularly. They had an insight into their condition being due to psychological disturbances. The higher rate of improvement in group II may be due to the patients having knowledge of the specific situations. Duration of illness in both these groups was less than 3 years.

The factors responsible for partial improvement are probably the longer duration of illness (appendix I and II), less motivation as they did not carefully comply with the instructions, more spacing of treatment due to their inability to attend to sessions and not being completely desensitized for the reported situations. Patients who reported a relapse were not able to cope up for long in their work setting after termination of the treatment.

Personality factors of illness, more than 6 years duration and organic factors (Appendix I) were found to be mainly responsible for failure in the treatment. For the maintenance of improvement we found regular follow up was necessary for providing support and enhancing their capacity to deal with situations associated with writing. Thus the Booster sessions of relaxation therapy were also found to be useful by our patients.

Besides these factors, the selection of techniques deserve consideration, as the requirements of the each individual patient is different. Intra technique

factors should also be taken care of.

Though most of the patients deny a conscious feeling of anxiety yet they should all be trained to relax, as in writer's cramp there is a muscular spasm, discomfort and specific anxiety associated with writing activities. Differential relaxation of fist, forearm and shoulder muscles at various intervals in a day was also found to be effective with our patients. Biofeed back is also being employed to achieve relaxation. EMG feedback is reported to be effective to relax specific muscles (Reavky, 1975; Le Boeuf, 1976).

Writers' cramp is a learned response based on anticipatory anxiety (Uchiyama, 1973). In some patients cognitive behaviour maintains the disorder. An individual develops an extreme selective attention towards writing. At cognitive level, this phenomenon is manifested by the individuals obsessional concern with writing activities and failure expectancy. This interferes with writing skills and becomes a source of anxiety. Here systematic desensitization was included in the treatment programme of group II. A severe anxiety for writing has been treated by a gradual approach to the close approximation of ordinary writing. Cornelis *et al.* (1980) also found this method to be effective in treatment of their writer's cramp patients. We made separate hierarchies according to the anxiety provoking situations of each patient. The spacing of the suds of hierarchy was carefully examined so that each stage may lead to an adaptive relaxed and anxiety free writing response.

Retraining in supinated hand position (Arora and Murthy 1976) encourages activity of the extensor muscles and discourages excessive flexion of digits. To achieve positive results it is necessary to practice from simplest writing of drawing circles to more complicated writing of alphabets. Patient should proceed

step by step, otherwise at a further stage patient finds difficulty in stabilizing his hand. Correct posture of the hand and shoulders along with proper position of the paper on the desk is essential. At times due to over enthusiasm, patients do overwriting along with retraining. They should be discouraged to write outside the session, as the former habit of hand position interferes with new learning. Jelliffe (1915) considered abstinence from writing as a useful preliminary measure.

The entire phenomenon of writer's cramp may be the result of a complex conditioning procedure. A multimodal approach may be beneficial in the treatment of the various factors involved in both the etiology and maintenance of writer's cramp.

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APPENDIX I—Synopsis of patients in Group I

S. No.	Name	Sex	Age	Education	Occupation	Duration of illness	No. of sessions	Results
1.	K	M	35	B. A.	Clerk	4 years	45	Partial improvement
2.	B	M	26	B. A.	Clerk	2 ,,	35	Partial improvement
3.	S	M	38	B. A.	Clerk	4 ,,	45	Partial improvement
4.	K	M	28	B. A.	Clerk (Bank)	6 ,,	50	No improvement (Post head injury).
5.	A	M	34	B. A.	Clerk	4 ,,	32	Relapse after 4 months.
6.	U. V.	M	25	M. A.	Student	1 ,,	30	Partial improvement
7.	T	M	29	B. A.	Business	3 ,,	45	Partial improvement
8.	B	M	27	M. Sc.	Research worker	2 ,,	30	Partial improvement
9.	S	M	45	M. Sc.	Lecturer	2 ,,	70	Complete improvement
10.	J	F	40	B. A. B. Ed.	Teacher	1½ ,,	45	Partial improvement
11.	R	F	28	B. A. B. Ed.	Teacher	2 months	30	Complete improvement
12.	D. R.	M	48	Matric	Clerk	8 years	60	No improvement
13.	V	M	27	Intermediate	Business	2 ,,	46	Partial improvement
14.	M	M	35	B. A.	Clerk	5 ,,	50	Partial improvement
15.	O. P.	M	44	Intermediate	Clerk	7 ,,	65	Partial improvement
16.	N	M	19	B. Com.	Student	1 ,,	60	Complete improvement
17.	M	M	26	B. E. III year	Student	6 months	40	Complete improvement
18.	V. P.	M	32	B. A.	Clerk	2 years	30	Complete improvement
19.	S	M	45	M. Sc.	Lecturer	1 ,,	70	Partial improvement
20.	S	M	48	Intermediate	Clerk	4 ,,	65	Relapse after 2 months.

APPENDIX II—Synopsis of patients in Group II

S. No.	Name	Sex	Age	Education	Occupation	Duration of illness	No. of sessions	Problematic situations	Results
1.	R. S.	M	54	M. B. B. S.	Doctor	3 years	70	Tention in presence of superiors, worrying type.	Complete improvement
2.	D. A.	M	36	M. A. B Ed.	Teacher	2 years	56	Unsatisfied with the job status.	Complete improvement
3.	R. S.	M	44	B. A.	Clerk (Railways)	3 years	60	Uncongenial working situation inter-personal problems.	Complete improvement
4.	V. S.	M	42	M. A. L L. B.	Executive	5 years	40	Uncongenial relationship with wife.	Partial improvement
5.	B	M	25	M. A.	Clerk	3 years	65	Unsatisfied with job social surrounding, high achievement drive.	Partial improvement
6.	M.S.	M	32	B. E.	Engineer	3 years	35	Fear of authority, tension.	Complete improvement
7.	K.S.	M	30	B. A.	Clerk	1 year	25	Tension in the home.	Complete improvement
8.	Th.	M	29	B. A.	Business	3 years	30	Submissive	Complete improvement
9.	J.	M	26	B. A.	Clerk	2½ years	30	Stress and tension in the office.	Complete improvement
10.	S.	M	48	B. Com.	Clerk	8 years	40	Family problems.	Partial improvement