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THE COMPARISON OF PSYCHOPHYSIOLOGICAL THERAPY WITH DRUG THERAPY

- ¹V. BALKRISHNA, M.Sc.
- ¹L. D. SANGHVI, M.Sc., Ph.D.
- ²K. RANA, M.A.
- ²D. R. DOONGAJI, M.D.
- ²N. S. VAHIA, M.D.

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Patanjali presented his treatise on Yoga about 200-400 B.C. From the psychiatric point of view, they represent a theory and practical methods for the control of personality functions.

Ordinarily, the personality functions are controlled by the need to cope with the constantly changing environmental influences. It is therefore, in a constant state of flux and prone to dysfunction depending upon the nature of feedback. Patanjali presents the method of greater control over all the personality functions—psychological, physiological and social, for greater freedom from the impact of external influences—satisfying or frustrating.

Patanjali's method consists of eight measures (1) Yama, and (2) Niyama are guidelines for social behaviour. Asana, (4) Pranayama and (5) Pratyahara are meant for control of voluntary and autonomic functions, (6) Dharana and (5) Dhyana are practiced for control of thought processes and Samadhi is for control of self over all the functions.

For the last twelve years, an attempt has been made to study the value of techniques based on Patanjali's concepts for the treatment of psychoneurotic disorders at the K. E. M. Hospital, Bombay.

In the early stages of the study, it was found that this technique gave encouraging

results (Vahia et al., 1966, 1972). At the next stage, this technique was compared with a "pseudo-treatment". It was found that regular treatment was better than the "pseudo-treatment", the improvement rate was significantly higher when the patient practiced control over both the mental and physical faculties rather than control over bodily functions only (Vahia et al., 1973).

The present paper compares the results obtained by this therapy with the results obtained with drug therapy in two groups of patients.

MATERIAL AND METHOD

The details of the technique of psychophysiological therapy have been described by us in our previous publications. Briefly, it consisted of the following steps : (1) Asana, (2) Pranayama, (3) Pratyahara, (4) Dharana and (5) Dhyana. Yama and Niyama were utilized for the improvement of the practice of Dharana and Dhyana. Asana consisted of different kinds of postures, primarily aimed at relaxation of different groups of voluntary muscles. Pranayama was aimed at the voluntary control of the different aspects of respiration. Ability to control these autonomic functions might help in the development of control over other autonomic functions. Pratyahara pri-

¹ Cancer Research Institute, Bombay.

² Department of Psychiatry, K. E. M. Hospital, Bombay.

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marily consisted of freedom from external influences during the practice of Ashtanga and Pranayama. During this period, the patient became more conscious of the nature of disturbing thoughts. It was explained to him that the preoccupation of coping with the psychological influences and use of mental and physical faculties for this purpose, was related to disturbance in gaining control over his mental and physical faculties and their suitable channelization. Less such preoccupation, better the control over self. Subsequently, the patient was advised to channelize his thoughts for concentration on an object or symbol which was most appealing to him (Dharana). Gradually, a stage was reached when concentration became effortless—the stage of Dhayana. As stated earlier, the concepts of Yama and Niyama—guidelines for social behaviour were utilized in helping the patient with in the improvement of quality and duration of concentration on the chosen imagery.

The treatment was given by a trained therapist. The average duration of the treatment was about two months and the average duration of each sitting was 45-60 minutes. The therapy was given six times a week. Patients diagnosed independently by two psychiatrists as suffering from psychoneurosis were randomly divided into two groups. One group was assigned a 'psychophysiological' therapy (PPT) and the other group to drug therapy. A combination of amitriptyline and chloridiazepoxide was used as the clinical experience

in K. E. M. Hospital is in agreement with that of Wilensky (1971) that these are the most useful drugs for these conditions. A variable dosage schedule was followed, the dosage being left to the discretion of the treating physician, who took into account both the therapeutic response and the emergence of side effects. The patients on drug therapy were interviewed once a week in the out-patient department.

Taylor's Manifest Anxiety Scale (TMA), Hamilton's Depression Scale (HDS) and Bell's Social Adaptation Scale (BSA) were used for objective assessment of the condition and response of both groups of patients. The tests were performed before the treatment, at the end of three weeks and at the end of six weeks of treatment.

The statistical tests were performed using non-parametric methods (Siegel, 1956).

RESULTS

Thirty four patients completed the psychophysiological treatment and 41 patients completed the drug treatment. The initial and final scores for the two groups of patients are given in table nos. 1 and 2.

A two-tailed Mann-Whitney U-test for comparison of two independent samples showed that there was no significant difference between the two groups with any of the three tests. However, in all cases, the average ranks were slightly higher for PPT than for drug therapy, indicating that the patients on PPT as a group were

TABLE I—State of Illness Prior to Therapy (Two-tailed Mann-Whitney U-test).

Test	PPT		Drug		U	Z	Prob.
	No.	Av. Rank	No.	Av. Rank			
TMA..	34	39.6	41	36.7	642.0	752	0.6
HDS..	31	37.3	38	33.1	517.5	660.5	1.2
BSA ..	25	30.6	31	26.8	335.5	439.5	1.1

TABLE II—*Reduction in Scores after Treatment (One-tailed Wilcoxon Matched-pair Signed Rank Test).*

Therapy	Test	No.	Total Rank		Z	Prob.
			Positive	Negative		
PPT	TMA	30	414.5	50.5	3.74	<0.0001
	HDS	30	465.0	0.0	4.80	<0.00003
	BSA	24	212.5	87.5	1.79	0.04
DRUG	TMA	38	377.5	363.5	1	0.16
	HDS	37	682.0	21.0	5	<0.00003
	BSA	30	218.5	246.5	0.29	0.39

TABLE III—*Reduction in Scores—Comparison of PPT and DRUG. (One-tailed Mann-Whitney U-test).*

Test	PPT		DRUG		U	U'	Z	Prob.
	No.	Av. Rank	No.	Av. Rank				
TMA..	34	45.0	41	32.2	460.5	933.5	2.52	0.006
HDS	31	37.5	38	32.9	510.5	667.5	1.34	0.09
BSA ..	25	32.4	31	25.4	290.5	484.5	2.06	0.02
Clinical	26	23.8	35	36.3	642.0	268.0	2.73	0.003

TABLE IV—*Spearman's Rank Correlation Between Reduction in scores and Clinical Improvement*

Test	PPT			DRUG		
	No.	Correlation	Prob.	No.	Correlation	Prob.
TMA	26	0.4474	<0.025	35	-0.1485	<0.10
HDS	23	0.4062	<0.05	32	0.4543	<0.005
BSA	17	0.2861	>0.10	27	-0.2235	>0.10

slightly worse off in the beginning than those on drug therapy. The initial scores were compared with the final scores using the Wilcoxon one-tailed matched pairs

signed rank test. PPT was found to be effective using all the three scales, with very high significance on the TMA and HDS ($P < 0.0001$) and with moderate significance

on the BSA ($P < 0.04$). Drug therapy was found to be effective with high significance on HDS ($P < 0.0001$). The difference between the initial and final TMS scores was not significant ($P = 0.16$). With BSA, the final scores were slightly higher (but not significantly) than the initial scores. Thus, PPT was found to be effective in terms of all the three rating scales, while drug therapy was found to be effective only in terms of the HDS.

The above results show that PPT is more effective than drug therapy when improvement is measured by reduction in scores on TMA or BSA. But it is not clear whether the same is true when improvement is measured by reduction in scores on HDS, since both were found to be effective by this criterion. A comparison of PPT and drug therapy was made by testing the difference in the reduction in scores using the one-tailed Mann-Whitney U-test. PPT was found to be better than drug therapy on the TMA ($P = 0.006$) and BSA ($P = 0.02$). However, there was no significant difference between PPT and drug therapy on the HDS ($P = 0.09$).

The improvement was also subjectively assessed and scored as (0) = No improvement (1) = 24% improvement, (2) = 25-49% improvement, (3) = 50.74% improvement (4) = 75-99% improvement and (5) = 100% improvement. (Table Nos 1 and 2). A comparison of PPT and drug therapy using these scores for clinical improvement showed that drug therapy was more effective than PPT ($P = 0.003$).

DISCUSSION

Drug therapy is widely used in the treatment of psychoneurosis as it has been found useful in the relief of symptoms produced by anxiety, with or without associated depression. Supportive psychotherapy is also widely used for the same purpose and it would have been ideal to compare PPT with a combination of drugs and supportive psychotherapy. This was not done in this

study for two reasons. Psychotherapy means different things to different persons and hence it would be difficult to use a standardized psychotherapeutic procedure. Secondly, it is equally difficult to predict the length of time before which a patient would respond to psychotherapy. Therefore only ventilation, suggestion and persuasion to continue the treatment were advocated.

PPT was effective in relieving the anxiety and depression as well as improving social adjustment. On the other hand, drug therapy was effective only in the relief of depression. The underlying anxiety was not relieved and there was also no improvement in social adjustment.

Clinically, drug therapy was found to be more effective than PPT. The reason may be that clinical impressions of improvement were mainly based on relief of symptoms of depression. However, clinical improvement was not significantly correlated with reduction in BSA scores for both PPT and drug therapy. It was positively and significantly correlated with reduction in TMA scores for PPT but was negatively correlated (though not significantly) with reduction in TMA scores for drug therapy. It was positively and significantly correlated with reduction in HDS scores for both PPT and drug therapy. It thus appears that subjective assessment of clinical improvement mainly reflects relief of symptoms of depression and that this relief obtained by using drug therapy is superficial with no effect on the underlying anxiety.

Drug therapy is economical in time for the patient and the therapist. It does not need any effort on the part of the patient and it satisfies the patient by producing relief of symptoms, often in a dramatic manner. However, as is shown in the present study, it does not effect the basic cause of the disease and does not improve the patient's ability to stand up adequately to stress and strain. The patient may develop dependence on the drug. Instead of it being a means for inducing a period of temporary

relief from symptoms during which a more comprehensive solution to the disease is formulated, drug therapy results in dependence on external resources for relief of symptoms arising from internal or external factors.

On the other hand, psychophysiological treatment is time consuming and requires efforts on the part of the patient to help himself to face in a detached and objective manner by realistic assessment of the self and the world around. Patients usually prefer to get some relief in symptoms, without any effort on their part to modify their pattern of coping with the external and internal reality. Often the illness is of long duration and it therefore requires time and patience on the part of the patients, before they can observe any change in their condition. For these reasons and also because of a need for continuing the subjective involvement with the pleasant or unpleasant environmental feedback, many patients generally refuse to undergo this therapy or give it up after a while. However, once the patient realizes the underlying causes for his condition through an analysis of his disturbing thoughts, he generally maintains the progress and becomes less anxious and more socially adjusted as was found in this study.

The psychophysiological therapeutic technique involves a temporary withdrawal from reality into inner world of one's own. Hence, schizophrenics show a tendency towards increasing withdrawal from reality and associated increase in symptoms. Patients with personality disorders often utilize these practices for exhibitionism and not for therapeutic purposes. Mentally retarded patients may not benefit from this therapy as they may not be able to follow the instructions correctly.

The results from the present study suggest that this therapy based on Patanjali's concepts is useful in stress induced psychological disturbances and that it is better than drug therapy in curing, so far as the basic cure of

the disease process itself is concerned rather than merely its symptoms. However, much more intensive work in various centres is necessary to establish the prophylactic and therapeutic value and limitations of this therapy.

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