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Continuous Exposure and Complete Response Prevention in the Treatment of Obsessive–Compulsive Neurosis

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Twenty-one obsessive–compulsive patients were treated by continuous exposure to discomfort-evoking stimuli and complete prevention of discomfort-reducing rituals. Inventories and evaluation scales were used by an independent assessor and by the patient to measure outcome. For most variables, no change occurred during the pretreatment period; a marked improvement was observed after therapy and at follow-up. About two-thirds of the patients became asymptomatic after treatment. Differences between checkers and washers, as well as conditions influencing synchrony between obsession and compulsion, are briefly considered.

Previous work, based on the Meyer (1966) paradigm, suggests that both *duration* of exposure and *severity* of response prevention influence the treatment outcome of obsessive–compulsive[1] patients. Success rate will then improve with continuous exposure and complete response prevention. Specifically, we predict here that such a regime will result in a large number of patients becoming asymptomatic at the completion of treatment.

METHOD

Patients

Criteria for inclusion in the study were: (1) age range of 18 to 60 years; (2) presence of identifiable discomfort-producing stimuli followed by distinct ritualistic behaviors or urges

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[1] Obsession is defined here as a repetitious, discomfort-producing thought which is often but not always triggered by contact with certain external stimuli. Compulsion is a repetitious behavior, most often motoric but sometimes symbolic, that follows an obsession and results in discomfort reduction.

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to emit them; (3) obsessive–compulsive symptoms severe enough to cause considerable interference in everyday functioning and constituting the main complaint; (4) absence of overt psychosis; and (5) agreement to participate in the treatment program.

Eleven males and ten females participated in the study. Age range was from 18 to 58 with a mean of 35. Duration of symptoms ranged from 2 to 30 years, the mean being 12. Seven patients had checking compulsions and 14 manifested washing and cleaning rituals. Three additional patients qualified for but refused treatment and another patient did not complete the program.

Treatment Procedure

Each patient was first interviewed by a senior psychologist who determined her or his suitability for treatment according to the above criteria. Following acceptance, patients were contacted by their therapists, who were trainees in the Behavior Therapy Unit at Temple University.

The program consisted of three stages.

1. Information-gathering period (2 weeks). This period consisted of four sessions, each lasting for about 90 min. General information was gathered (Wolpe, 1973, pp. 26–29), and the history and the nature of the complaint were discussed. This material served to prepare a list of obsessions and compulsions and to design the treatment program. This included setting up the place of treatment (home or hospital), listing the behaviors to be under response prevention, designating supervisors for response prevention, constructing scenes for flooding in fantasy, and preparing situations and/or objects for exposure in vivo.

2. Exposure–response prevention period (2 weeks). Ten daily weekday sessions comprised this period. All checkers but one were outpatients. Treatment was conducted partly at home and partly at the therapist's office and response prevention was supervised by relatives. Of the seven washers treated as outpatients, five were supervised by relatives and two had no supervision. The remaining seven washers, treated as inpatients, were supervised by staff. For hospitalized patients, treatment during the last 3 days was conducted at home.

In each session, several minutes were spent discussing the patient's mood, his/her urges to ritualize, and the degree of discomfort experienced during the previous 24 hr. This was followed by flooding in imagination. Exposure in vivo with or without modeling (depending on the patient's preference) then followed. Finally, further instructions for exposure in vivo were given, usually in writing. Each session lasted about 2 hr.

Exposure in fantasy was conducted by the therapist who described the previously structured scenes. These scenes were composed of anxiety-evoking situations not yet introduced in vivo and/or obsessional content of "disasters" that might follow nonperformance of rituals. Subjective discomfort levels were recorded every 10 min on a 0 to 100 scale (Wolpe, 1973, p. 120). When considerable reduction in discomfort was reported, flooding was terminated. Scene content was modified when additional material was provided by the patient.

For exposure in vivo, washers continuously carried discomfort-evoking items, starting with those eliciting a moderate degree of discomfort and progressively proceeding to more disturbing ones. For example, a patient who felt contaminated by contact with her mother first carried a "contaminated" newspaper and then her husband's clothes, and finally she wore her mother's clothes. When diminution of discomfort was reported, the item was replaced by a more disturbing one. When clothes were contaminated they were continuously worn for a few days, even when sleeping. Thus, washers were kept in constant contact with discomfort-evoking stimuli. Checkers were exposed to increasingly more disturbing situations for at least 6 hr/day. For example, a patient who feared being infected by tetanus and

continually checked her body for cuts was exposed continuously to contact with metal objects of increasing sharpness, while prevented from emitting her ritualistic behavior.

Response prevention was continuous during this period to eliminate anxiety-relief experiences linked to emission of rituals. Initially, washers were forbidden *any* contact with water, towels, or tissues, and checkers were prevented from emitting checking or repetitious behavior. Later when the reported urges to perform rituals had diminished considerably, prevention was reduced in severity to approach normal practice. Washers were permitted to take a 10-min shower immediately followed by deliberate contamination to eliminate long-term relief. Checkers were allowed to inspect designated items, such as stove or door lock, but only once. Checking of realistically safe items continued to be prevented. Response prevention was supervised by hospital staff or by relatives at home.

3. Follow-up. All patients received structured instructions to be complied with for several weeks. These included up to six 30-sec hand washings per day, a list of items allowed to be checked once a day, etc. Concomitantly, instructions were deliberately provided to effect exposure to previously avoided situations.

Nine patients did not receive additional therapy beyond the 2 weeks described above. Four patients received an additional week of this treatment. Three of those and nine other cases were treated further as outpatients for different problems (e.g., assertiveness training, marital therapy). These 12 patients terminated treatment with a mean of 16 additional sessions. On the average, each patient received 31 treatment hours (20 sessions).

Evaluation Procedure

A senior psychologist with no involvement in treatment evaluated the patients on the following occasions: before the first contact with the therapist; after the 2 weeks of information gathering (before treatment); after 2 weeks of exposure–response prevention treatment; at 3-month, 1-year, 2-year, and 3-year follow-ups. At the time the data were analyzed, 5 patients had been followed up for 3 years, 1 for 2 years, 11 for 1 year, and 2 for 3 months. The data reported refer to the last follow-up. No follow-up data were available for 2 patients who terminated treatment less than 3 months ago. Self-reports were collected on the first three occasions but not at follow-ups.

Measures

Independent assessor. On a basis of a 45 to 60 min. interview, the independent assessor rated each patient on the following scales: severity of compulsions, obsessions, and urges to perform rituals. All three scales ranged from 0 to 6. Twelve additional scales, each ranging from 0 to 8 were adopted from Rachman, Hodgson, and Marks (1971). The assessor was instructed to collect information on the patients' behavior, life style, performance in their different roles, etc. These data provided the basis for his evaluation. He was specifically instructed to avoid requesting self-evaluation.

Self-rating. Using the same scales employed by the assessor, patients rated their five main fears for anxiety and avoidance; free-floating anxiety; panic; depression; depersonalization; and severity of obsessive–compulsive symptoms. In addition, patients completed the following inventories: PEN (Eysenck & Eysenck, 1969) scored for extraversion and neuroticism; Leyton Inventory (Cooper, 1970) scored for symptoms and traits; and IPAT Self-Analysis Form (Cattell & Scheier, 1963) scored for general anxiety.

The depersonalization scale was omitted from the analysis since none of the patients reported such symptoms. Of the main five fears rated for severity of phobic anxiety and phobic avoidance, only the strongest fear was analyzed. These two scales were combined since they practically shadowed one another.

A behavioral test was not used. Such tests provide information on passive avoidance, but

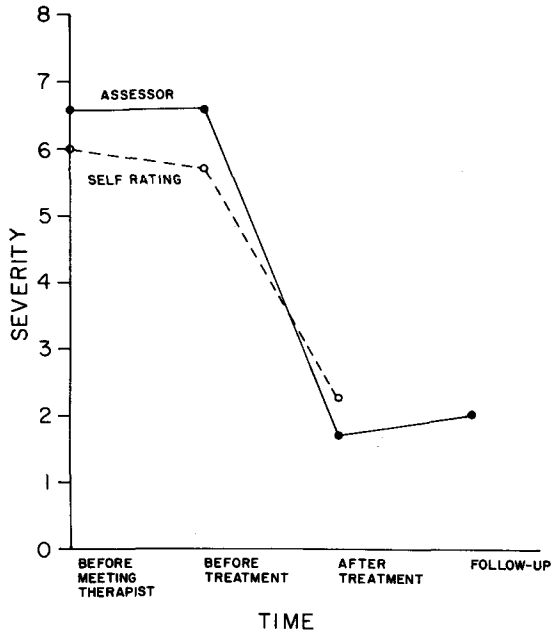

FIG. 1. Mean scores by assessor and patient of an overall scale of obsessive-compulsive symptoms.

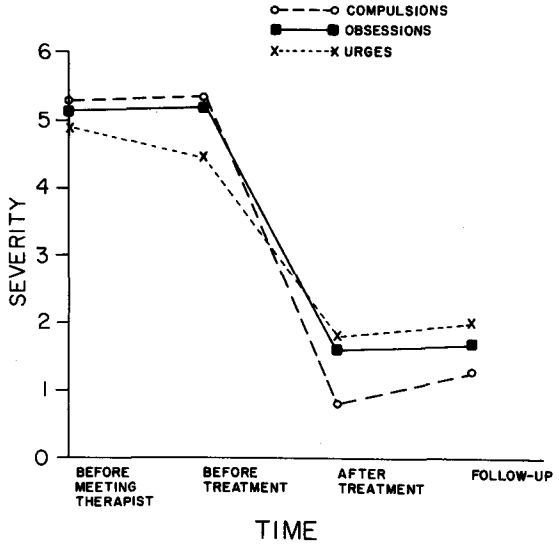

FIG. 2. Mean scores of obsessions, compulsions, and urges to ritualize.

not on rituals; obsessive-compulsives are often able to delay performance of rituals after being exposed to discomfort-evoking stimuli.

RESULTS

The means of self-rating and of assessor's rating were computed separately for each scale and for each occasion. The significance of mean difference between pairs of occasions was then obtained from a *t* test for repeated measures. Data for checkers and washers were combined. There was no change at the end of the first 2 weeks, during which contact with the therapist was confined to information gathering, but no treatment was given. A marked and highly significant improvement was found at the end of the following 2 weeks during which treatment was provided. The therapuetic gain was maintained during the follow-up period (see Figs. 1, 2, and 3). Mean ratings by assessor and by patients tended to agree on each occasion.

These results were in concordance with the patients' scores on the Leyton scales of symptoms and traits and on Eysenck's Scale of Neuroticism. All three did not change during baseline period and decreased significantly after treatment ($p < .01$).

However, Eysenck's Extraversion Scale did not show significant changes over occasions.

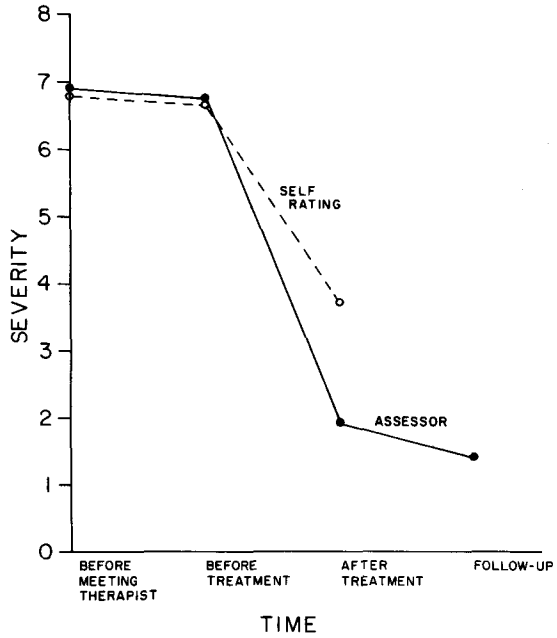

FIG. 3. Combined mean scores for strength of main fear stimulus and tendency to avoid contact with it.

Rate of improvement. Assessor's rating of obsessions and compulsions were used to evaluate the rate of successes and of failures. To this end, patients were divided into four discrete categories. Those with a score of 0 to 1 (on a six-point scale) were assigned to the no-symptom category. Zero indicated complete absence of discomfort-arousing thoughts or ritualistic behavior; 1 indicated an infrequent flash of discomfort (once in a few days or less often) or occasional infrequent and mild engagement in previous ritualistic behavior (e.g., an occasional 13-min shower instead of 10; one extra checking). Patients with a score of 2 were assigned to the mildly symptomatic group (e.g., seven to eight handwashings instead of the six prescribed; 10 min of unnecessary checking per day). Scores of 3 or 4 classified patients as moderately symptomatic, while patients with a 5 or 6 rating were assigned to the very symptomatic group.

The upper part of Fig. 4 refers to compulsions (i.e., ritualistic behavior), the lower part pertains to obsessions (i.e., ruminations or discomfort associated with the originally evoking stimuli).

In general, the treatment seemed to affect compulsions more than obsessions. Sign tests between patients' scores on these two classes, at posttreatment and at follow-up, were significant at the .01 and .02 levels, respectively (see Table 1).

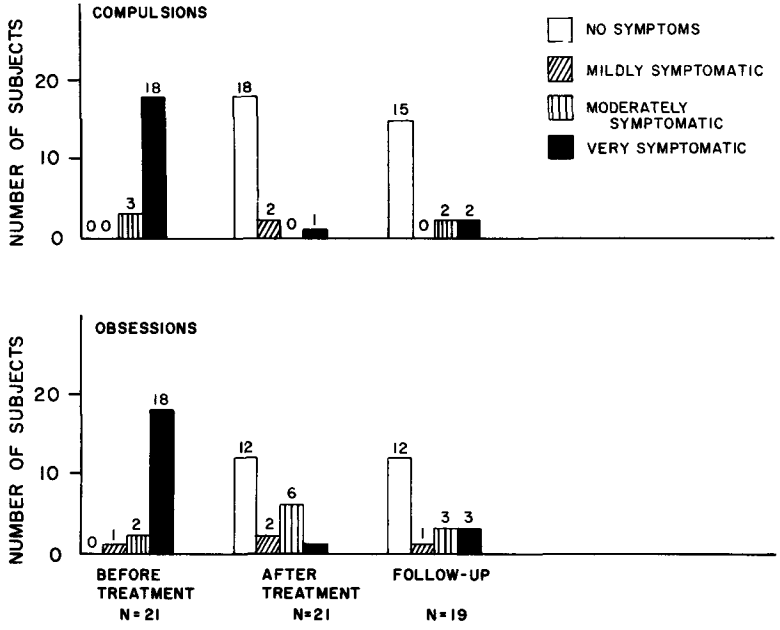

FIG. 4. Changes in the frequency distribution of four categories reflecting severity of compulsions (upper part) and of obsession (lower part). Follow-up data refer to the most recent observation.

TABLE 1
RELATIONSHIP BETWEEN SEVERITY OF OBSESSIONS AND OF COMPULSIONS

Symptoms	Occasion		
	Before treatment	After treatment	Follow-up
Compulsions more severe than obsessions	2	2	0
Same severity	18	11	15
Obsessions more severe than compulsions	1	8	4
All symptoms	21	21	19

Changes in mood state and social adjustment also reflect the beneficial effects of treatment (see Fig. 5 and 6).

DISCUSSION

Treatment by prolonged exposure and complete response prevention proved quite effective with chronic obsessive–compulsive patients manifesting ritualistic behavior. At follow-up, which ranged from 3 months to 3 years (mean of 15 months), about two-thirds of the patients were

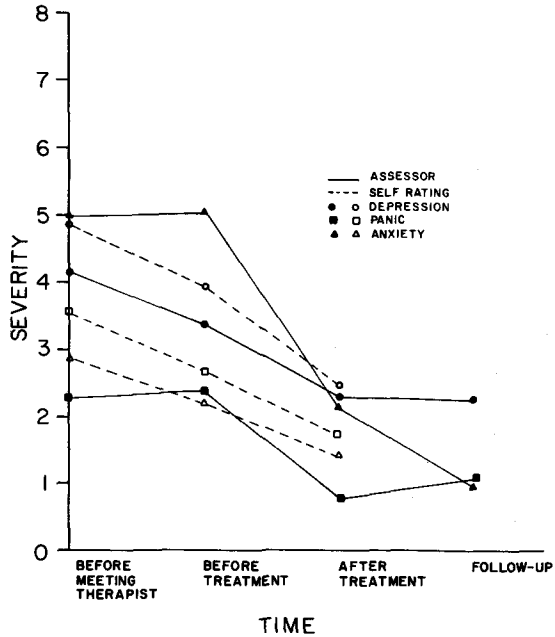

FIG. 5. Mean scores of mood states (depression, panic, and general anxiety) as rated by assessor and patient.

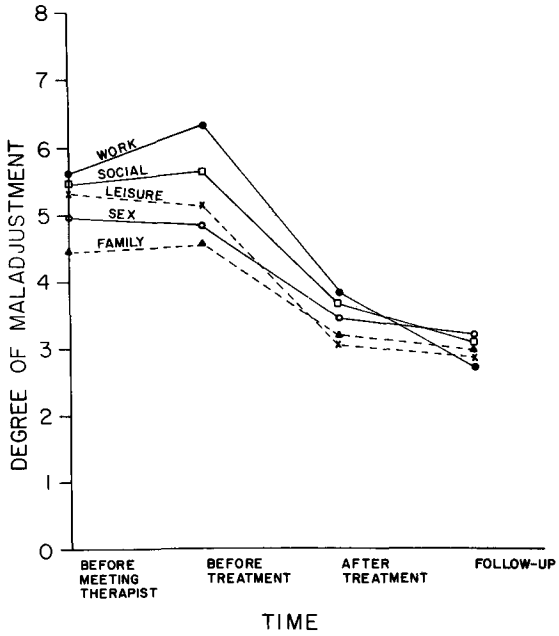

FIG. 6. Assessor's rating of patients' maladjustment at work, in social relations, leisure, sex, and family relations.

symptom free, some 20% improved to various degrees, and only three patients failed to benefit from treatment. These results were obtained by a relatively short treatment (2.2 weeks of flooding on the average) which, for 13 of the 21 patients, was conducted in an outpatient setting.

Only one patient failed to improve on rituals. The three patients who relapsed at follow-up were all washers characterized by a strong belief that their fears were realistic; they improved only slightly on ratings of obsession and fears. An additional washer had a slight relapse. Only those rituals which were effectively prevented were extinguished. The cases of partial compliance and partial improvement suggest that extinction of rituals is specific. It does not generalize to responses which are not prevented. Such specificity of treatment effects are also found in primary obsessional slowness (Rachman, 1974).

All measures were analyzed separately for checkers and washers; no significant differences were found. Nevertheless, relapses occurred only among washers whose obsessions had remained relatively high. By contrast, three checkers who were mildly or moderately symptomatic at the end of treatment continued to improve after therapy and became asymptomatic at follow-up.

The treatment seemed to affect compulsions more than it affected

obsessions, resulting in desynchrony between the two for 10 patients at the end of treatment and for 4 patients at follow-up.

Compulsion has already been recognized as a special case of avoidance behavior (Rachman, 1976a; Teasdale, 1974). We suggest that obsession is an instance of subjective fear response. This conceptualization enables us to link treatment outcomes for obsessive–compulsive neurosis to the larger literature on phobias. Rachman and Hodgson (1974) proposed variables which would predict the degrees of synchrony between subjective fear and avoidance behavior of phobic patients.

Their first hypothesis states that synchrony will be higher during strong emotional arousal. This hypothesis seems supported by our results. The degree of synchrony between obsession and compulsion was much higher before treatment when arousal was presumably stronger than after treatment. The second hypothesis proposed that desynchrony would be more likely to occur when treatment demands are high; indeed our treatment, involving severe response prevention, imposed strong demands on the patients.

Rachman (1976b, p. 129) also predicted that flooding would result in considerable desynchrony, "with subjective fear showing cognitive lag and changing more slowly than the avoidance behavior." Later, synchrony will again increase, as the cognitive gap closes and subjective fear further decreases. This hypothesis was only partially supported by our results since four patients remained "desynchronized" at follow-up.

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