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Characteristics of Drop-outs from a Biofeedback Therapy Programme

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Abstract

Pre-therapy assessment data from 22 drop-outs was compared with that on 36 clients who complete the twenty session EMG biofeedback training programme. The analysis indicated that the drop-outs had lesser number of prior consultations for anxiety symptoms, with a tendency to manifest more state anxiety and cognitive anxiety

Key words -
Treatment drop-outs,
Treatment compliance

Drop-out analysis, a relatively neglected aspect of treatment evaluation research, is potentially useful as it can offer guidelines for the prevention of sample attrition in clinical research.

As part of a study on the efficacy of electromyograph (EMG) biofeedback as a therapeutic technique in the management of anxiety neurosis, the authors sought to identify the characteristics of a client who fails to complete the twenty session programme. For this purpose, the clients who dropped out were compared to those who completed the programme on their demographic features, personality, anxiety symptom scores and physiological measures.

Method

Sample

Clients with anxiety neurosis (300.0, ICD-9) [1] participated in a twenty session training programme designed to teach lowering of frontalis muscle tension using EMG biofeedback.

Of the 117 clients referred from March 1986 to September 1987, 40% were excluded because of either the presence of a medical illness, an additional / alternative psychiatric diagnosis, illiteracy or unwillingness to participate in twenty therapy sessions. Ten per cent of the clients failed to return for the pre-therapy assessment while 19% terminated in the early phase of training (average number of sessions=7.68 ± 6.56) and 31% completed the programme.

The data from the drop-out group (n=22) and clients completing the therapy (n=36) was analysed for the purpose of this study.

Measures

Demographic data: The details on the variables of sex, religion, age, education, marital and job status were recorded on a Personal Data Sheet. It was used also to record information on the duration of symptoms and whether the client had treatment for anxiety symptoms prior to commencing EMG feedback training.

Personality

Eysenck Personality Inventory - Form A [2]

Internal - External Locus of Control Scale [3]

State - Trait Anxiety Inventory, Form Y-2 [4]

Cognitive - Somatic Anxiety Questionnaire [5].

Anxiety measures

Symptom Rating Scale: The adaptation of the Patient Record Form [6] was used to rate a client on the severity of each of the anxiety symptoms experienced over the previous ten days.

Hamilton's Anxiety Rating Scale: The adapted version [7] with a visual analogue format was used by the first author to evaluate the presence/absence and severity of the anxiety symptoms reported by each client.

State - Trait Anxiety Inventory, Form Y-1 [4]

Physiological measures

Feedback myograph - Autogen 1700 [8]

Feedback dermograph - Autogen 3400 [8]

Feedback thermometer - Autogen 2000b [8].

Procedure

Each client who entered the therapy programme was informed that it involved twenty, one-hour sessions of EMG biofeedback training with assessment sessions before, during and after therapy to monitor progress.

The EMG biofeedback training programme was presented in two phases. In the first phase (10 sessions) each client learnt to become aware of and to control frontalis muscle tension. In the second phase (10 sessions) each client attempted to generalise the ability to reduce tension, to situations other than the clinic setting. The emphasis in the entire programme was on the self-regulation of muscle tension using the feedback myograph as a passive learning device.

Prior to commencing therapy, each client's demographic data was recorded and an assessment done on the Eysenck Personality Inventory, Internal-External Locus of Control Scale, Cognitive - Somatic Anxiety Questionnaire, Sympton Rating Scale (SRS), Hamilton's Anxiety Rating Scale (HARS), State - Trait Anxiety Inventory (STAI), Forms Y1 and 2. Each client's resting levels of frontalis muscle tension (EMG), skin conductance (SCL) and peripheral skin temperature (TEMP) were recorded

during a thirty-minute session.

At the mid-therapy (between session 10 and 11) and post-therapy (after session 20) intervals, each client was reassessed on the SRS, HARS and the STAI, Form Y-1. The client's resting levels of frontalis muscle tension, skin conductance and skin temperature were monitored during thirty-minute sessions.

Analysis

The pre-therapy assessment data on the drop-outs and the clients completing the therapy were compared using the t test for independent means, chi-square analysis and Fisher's exact probability test.

The samples for comparison were uneven due to the non-availability of data on some of the measures.

Results

The results are shown in Tables I-VII.

Table I - Sex, religion, marital and job status of clients who completed and those who dropped-out of therapy

Table I - Sex, religion, marital and job status of clients who completed and those who dropped-out of therapy

Table II - Age and education in years of clients who completed and those who dropped-out of therapy

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Table III - Prior treatment experience and duration of symptoms of clients who completed and those who dropped-out of therapy

Table III - Prior treatment experience and duration of symptoms of clients who completed and those who dropped-out of therapy

Table IV - Personality characteristics (neuroticism, extraversion, internality -externality) of clients who completed and those who dropped-out of therapy

Table IV - Personality characteristics (neuroticism, extraversion, internality -externality) of clients who completed and those who dropped-out of therapy

Table V - Personality characteristics (trait anxiety, cognitive - somatic anxiety) of clients who completed and those who dropped-out of therapy

Table V - Personality characteristics (trait anxiety, cognitive - somatic anxiety) of clients who completed and those who dropped-out of therapy

Table VI - Mean values, standard deviations and 't' values on the pre-therapy psychological assessment

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Table VII - Mean values, standard deviations and 't' values on the pre-therapy physiological assessment

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Discussion

The clients who do comply with the conditions of the therapy programme have less severe anxiety symptoms, manifest moderate muscle tension, a low skin conductance level and slightly higher skin temperature. The proportion of introverts and those with an internal locus of control is larger. They have lesser trait anxiety. These features could have enhanced their treatment compliance.

The significantly lesser number of prior treatment experiences in the drop-out groups suggests that the unfamiliarity with the process of therapy could have caused the drop-outs to prefer a treatment other than a therapy focussing on self-regulation. It has been observed that a significant proportion of the clients at the NIMHANS psychiatry walk-in clinic request 'medical' help rather than 'wanting to solve problems by talking about past feelings and about past life' or 'wanting psychotherapy' or 'wanting to take away guilt' [9]. This speculation could not be substantiated as a check on the files maintained at the referral source and an attempt to re-establish contact through letters were unsuccessful in providing further information on these clients.

It was possible that a twenty session programme was too lengthy for these clients. The occurrence of termination in the early phase of the training programme with a tendency to experience higher state anxiety and cognitive anxiety suggests a need for rapid improvement.

The observations on this sample of drop-outs imply that clinicians who use clients as subjects for research can utilise the initial interview to allay the anxieties of clients and include an adequate discussion of the nature of the treatment protocol with those clients having minimal exposure to prior treatment experiences.

These precautions can minimise subject attrition in treatment evaluation research.

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1.*International Classification of Diseases* Page: 9th rev. Geneva, WHO, 1978

2.Eysenck H J & Eysenck S B G, *Manual of the Eysenck Personality Inventory. Kent : Hodder and Stoughton*1984

3.Valecha G K, Sridhar S & Nandagopal V B, Construction of a new personality scale.

Internal-external locus of control
Bombay Psychology Page: 2: 27-41, 1980
4.Spielberger C D, Gorsuch R L, Lushene R, Vagg P R & Jacobs G A, *Manual for the State-Trait Anxiety Inventory (Form Y). Palo Alto CA: Consulting Psychologists Press*1983
5.Schwartz G E, Davidson R J & Goleman D J, Patterning of cognitive and somatic process in the self-regulation of anxiety: Effect of medication versus exercise
Psychological Medicine Page: 40: 321-328, 1978
6.Lader M H & Wing L, *Physiological Measures, Sedative Drugs and Morbid Anxiety. London: University of Oxford Press (cited by M H Lader & I Marks, 1971, pp 97)*1966
7.Lader M H & Marks I, *Clinical Anxiety. London: William Heinemann Medical Books Limited* Page: 99-102, 1971
8.Autogen Systems Incorporated, U.S.A, *Instruction manuals for Autogen 1700, Autogen 3400 & Autogen 2000b*1975
9.Ray R, Gopinath P S & Beig M A, Customer approach and walk-in clinic drop-out phenomenon
Indian Journal of Social Psychiatry Page: 29: 118-126, 1983