INDIVIDUAL STUDIES

Migraine treated by relaxation therapy

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MIGRAINE has been estimated in various surveys to affect between 5 and 10 per cent of the population (Wolff 1963), though a recent survey in South Wales (Waters and O'Connor 1970) has shown that of women of child-bearing age, 19 per cent have suffered from the complaint at some time in their lives, even if, in some cases, they have never sought medical advice for it.

Migraine in its severer forms causes much suffering, and can prevent patients from achieving their full potentials in their working and social lives. It can, though seldom does, give rise to permanent physical changes, but these are reported from time to time (Guest and Wolff 1964, Carroll 1967). Nevertheless research is showing that there are a variety of disorders of physiological function associated with migraine in those subject to attacks. O'Brien (1967) has recorded diminished cerebral blood flows during migraine, and Regan and Heron (1970) have demonstrated EEC asymmetries in a proportion of migraine subjects by the method of specific evoked potentials. Alteration in the body salt and water balances in the different phases of migraine have been reported (Campbell, Hay and Tonks 1951), and biochemical interest on the possible rôles of a number of substances is being taken particularly in regard to 5 hydroxytryptamine, tyramine, the kinins, and histamine. The endocrine system is also involved in determining the occasions, severity and frequency of attacks, as, for example, in pre-menstrual migraine, and the alteration of the syndrome, often for the worse, as a result of taking contraceptive pills. Migraine, therefore, is a disorder which can seriously disable a person's life and it is accompanied by a number of complex, if little understood, changes in homeostasis.

The physician called upon to treat patients for migraine usually relies on ergot-containing preparations to control acute attacks. In the hope of preventing them he resorts to tranquillizers, diuretics, hormones, methysergide, and many other preparations, which come and go out of fashion with bewildering rapidity, and which are generally claimed to be about 60 per cent effective though details of the frequency and severity of attacks before and after treatment are seldom given. Moreover there may be some disadvantages in giving these medicines over a long period of time.

This paper discusses relaxation therapy as a different and useful method of long-term therapy with interesting theoretical implications in regard to the natural history of migraine.

A great deal has been written on the psychological aspects of migraine, and there is a considerable concensus of opinion in believing migraine sufferers to be tense and over-conscientious (Wolff 1963). Most of them suffer from scalp muscle tension headaches as well as migraine, and further evidence can be seen in their facial expressions, posture and behaviour: there is clencing and unclenching of the hands and a general appearance of rigidity. They may grind their teeth even in their sleep (Lance 1969). The history and appearance suggests a chronic state of 'arousal'. Localized tender and hyper-aesthetic areas are found in the scalp muscles and around the neck and shoulders. Arousal stimuli of a conceptual or symbolic nature and concern about future or distant events which cannot in their nature be quickly resolved seem to be responsible, rather than the briefer reactions which usually follow more immediate sensory stimuli. Long

continuing patterns of arousal may be caused by anxiety, excitement, irritation, appetitive drives, and frustration. Of these the subject of anxiety has been well documented, and there are various ways in which this can be investigated. The IPAT anxiety scale was used on 12 patients selected for relaxation therapy, and they were found to have a higher than normal rating. Subsequently, 25 unselected migraine patients were also given the test and the results are set out below. Of the several components of anxiety listed by Cattell and Scheir (1967) the one which appears to be most significant in these patients is described in these terms—"Frustration. Id pressure". It is said to "represent the degree to which anxiety is generated by id pressure—by excited drives and unsatisfied needs of all kinds. Sex drives, excitements, need for recognition and situational fears related to this component. It shows itself descriptively in proneness to emotionality, irritability and jitteriness".

The patients referred for relaxation therapy were all subject to severe disabling attacks of migraine: usually two or more attacks a month lasting a day or longer. They had not responded to routine pharmacological methods of treatment and represented what might be termed the hard core of the migraine problem. The attacks had become a chronic recurring disability seriously affecting their lives.

The methods used were based on the theory and practice developed by Jacobson (1964) in America and by Germany (1963) in London.

TABLE I

Group	*No. of subjects*	*General level of anxiety*			*Q^2 frustration, tension and id pressure*	
		Mean score	*Corres. sten*	*Percentage stens 8–10*	*Mean sten score*	*Percentage stens 8–10*
General population	935	27·1	5·5	*23*	5·5	*23*
Control group (pilot) ..	13	33	6·5	*24*	6·2	*36*
Migraine pilot	12	42	8	*58·5*	8·1	*58*
Migraine (unselected patients)	25	38	7	*52*	8	*60*

Considering the general level of anxiety, the results for the two migraine series agree closely both in respect to the mean scores and the percentages of patients whose stens are 8 to 10. The control group results agree with those published of the general population; and there are significant differences ($P<0{\cdot}05$) between the mean scores and percentages of the latter and the corresponding values of the two migraine groups. As regards the assessment of frustration, tension, and id pressure, the results of the control group do not differ significantly from those published of the general population, but the latter results differ significantly from those of the two migraine groups.

A six-year investigation into the effects of group relaxation therapy, 1965–1970

Ninety-eight migraine patients attended a series of six evening sessions of relaxation training held at the City of Birmingham College of Education. Classes were held annually over a period of six years with an average of 20 new patients at each course. Relaxation exercises were followed by a period of discussion in small groups. Questionnaires were administered at the beginning and the end of each course and progress reported by neutral observers uninvolved in the teaching. Sixty-nine patients showed a decrease in frequency, severity or duration of attacks, 25 showed no change, four were worse. Thirty patients returned after a year's interval for refresher sessions. These showed a higher rate of success indicating either that extended practice is more beneficial or that this was a self-selected group who responded well to this form of therapy.

Method

Patients were referred by the Migraine Clinic in Birmingham or by their own doctors.

A new course was held annually for six years and each lasted for six weeks. The principal lecturer in health education was responsible for the teaching and the investigation. She was assisted by experienced teachers on a postgraduate one-year course in health education. One of these teachers remained uninvolved in the teaching in order to evaluate progress as a neutral observer.

Procedure

At the first session patients were invited to fill in a questionnaire and were given an outline of the ideas underlying the course. They were introduced to the three main reasons for acquiring the ability to relax skeletal muscles:

1. To cut down fatigue and to recover quickly from fatigue.
2. As a weapon against excessive anxiety and tension.
3. To raise the threshold of pain tolerance.

A discussion on the effects of the physical and chemical changes accompanying strong emotion and the rôle of relaxation in combating stress is sometimes followed by the film: "Understanding Stresses and Strains" (Walt Disney: Upjohn).

Throughout the classes patients work in pairs, changing partners at intervals in order to feel the difference in a contracted muscle and a relaxed one. Experience has shown that this is a most effective way of recognizing skeletal muscle tension, but an added benefit is the rapport established with other members when physical contact and friendly discussion is involved.

Simple swinging movements appear to be the most successful method of inducing relaxation in arms. Relaxation of neck, shoulder and facial muscles is practised sitting on chairs with a partner standing behind and assisting with contrasted tension and relaxation. Firm, gentle smoothing of the forehead assists in reducing tension around the eyes. It is in this region that the most marked anxiety inhibiting effects are usually obtained and a calmer and more tranquil expression is observed.

Relaxation of other parts of the body is followed by a period of deep relaxation lying on blankets on the floor. Relaxation is preceded by regular deep abdominal breathing with the emphasis on expiration and "letting go". (Patients frequently report difficulty and guilt feelings at letting tension go.) At all times it is emphasized that relaxation is a conscious active process under the direct control of the patient. Imagery is discouraged and patients are not expected to sleep during the class. Support by way of verbal instructions is gradually diminished so that by the final session patients go through the procedure on their own.

At each session attention is drawn to the use of muscle relaxation in everyday life; relaxation of shoulders when driving, typing, sitting; relaxation of face and shoulders combined with deep breathing at times of stress; a short spell of horizontal relaxation after work and before the evening meal and general relaxation before sleep and if wakened in the night.

The exercise session is followed by refreshments and discussion in small groups of five or six. Patients are invited to talk about their symptoms and share their experiences and we recognize that this is in direct contrast to their experience of boring their relatives and friends. They are told that this information is valuable for the purpose of the investigation. The groups have no acknowledged leader but as questions are raised answers are given to the whole class. At one session the general-practitioner consultant from the migraine clinic attends and joins in the discussion. Patients talk freely and discussions are lively, thoughtful and sometimes hilarious. As the course progresses emphasis is shifted towards discussion of the effects and practice methods of relaxation.

At the fifth session past members are invited to join the class for a refresher session and their success has been encouraging to new members. At the final session relatives or friends are invited to observe or join in so that they can give support and understanding to home practice. At this session patients are invited to complete the second question-

naire though in some years this was done by a postal follow-up a few weeks later. Comments on the methods used in the classes are invited and some modifications have been made as a result of helpful and constructive suggestions.

Method of assessment:

1. *Frequency of attacks*
   A. Three or more times a week
   B. Once or twice a week
   C. Once in two or three weeks
   D. Once a month
   E. Occasionally. Not more than once in six weeks
   F. Remission for six weeks or more.
2. *Severity of attacks*
   A. Incapacitated for two or more days
   B. Incapacitated for a whole day
   C. Difficult but able to carry on at work with drugs
   D. Manageable without drugs
   E. Slight discomfort only.
3. *Duration of attacks*—(included in last two years only)
   A. Three days or more
   B. Two days
   C. One day
   D. 10 to 20 hours
   E. 1 to 10 hours

Patients are also invited to give their subjective estimation of progress, *eg.* worse, no change, slight improvement, marked improvement, very marked improvement.

TABLE II

AN EXAMPLE OF ONE CLASS OF MIGRAINE PATIENTS BEFORE AND AFTER ATTENDING A SERIES OF SIX SESSIONS IN RELAXATION

N	*Frequency*		*Severity*		*Duration*		*Patients' estimate of progress*
	Before	*After*	*Before*	*After*	*Before*	*After*	
1	A	B	C	D	C	B	Slight
2	A	F	B	—	B	—	Marked
3	B/C	C	A/C	C	B	B	Slight
4	B	C	A/C	C	B	B	Slight
5	E	F	B	—	B	—	Very marked
6	A	B	A	B	F	G	Slight
7	A	E	B	C	C	E	Very marked
8	E	E	B	E	C	C	Marked
9	B	B	B	B	C	C	No change
10	A/B	A/B	A	A	B	A	Worse
11	C/B	C	B	C	C	D	Slight
12	B	E	B	B	F	G	Marked
13	A/B	B	A	B	C	D	Slight
14	A/B	B	B	C	C	D	Slight
15	B	C	C	D	B	D	Marked
16	B/C	D	B	C	D	E	Marked
17	C	F	A	—	B	—	Very marked
18	B	C	A	C	B	E	Marked
19	D	F	C	—	C	—	Very marked
20	A	B	B/C	C	B	B	Slight

Note:
Subjects 1–10 were new attenders.
Subjects 11–20 were past attenders on a refresher session.

Patients estimates:
It will be noted that these subjective estimates sometimes differ from the objective reports.

TABLE III

RESULTS

Migraine patients registered for the course	115
Male	13
Female	102
Failed to attend for more than two sessions and excluded from the investigation	17
Number attending three to six sessions	98
Number joining refresher session	30
Average number at each session	20
*Number reporting a decrease in frequency, severity or duration of attacks	69
Number reporting no change	25
Condition worse	4

Note:

*"Decrease" indicates a shift of one to five points on the scale and range from "slight" to "very marked" improvement.

Almost all patients reported a feeling of well-being which cannot be objectively measured.

Discussion

It would appear that training in relaxation techniques combined with informal group discussions is a useful form of therapy either on its own or combined with other treatment. Patients manifestly enjoy the session and report a calming down affect which is supported by observations from relatives. The results appear to support the view (Wolpe 1966) that the autonomic effects which accompany muscle relaxation are diametrically opposed to those characteristics of anxiety, and that this training would benefit those with a high level of arousal.

Some patients experience a severe migraine attack after the first session. This may be attributed to the impact of the novel situation and meeting a number of new people. Patients are now warned of this possibility and are informed that after the first session the usual pattern is of a gradual improvement. Two of the four patients whose condition was worse after the classes found that attendance at the course and the travel involved acted as a stressor and precipitated severe attacks. They found some slight benefit by practising at home but had been unable to complete the course.

Attention must be drawn to a number of flaws in the experiment. Objective assessment is difficult owing to the multiplicity of factors which cannot be controlled. These include a change of drugs prescribed by doctors during the course; changes in work or domestic conditions; a change of neutral observers each year and other factors which favourably or unfavourably influence results. A long term follow-up would be valuable but was possible only with those who attended the refresher sessions or who sent information by post. Nevertheless, consistent results over a period of more than six years are encouraging and suggest that relaxation training combined with group discussion is a therapy worth consideration not only for migraine patients but for other conditions where stress or fatigue is a contributory factor.

Summary and conclusion

The experience gained in relaxation therapy for migraine holds promise of a useful new approach to treatment aimed at reducing the frequency and severity of attacks. It is essential that patients should continue to practice what they have been taught, and tapes or gramophone records can be used to help them to do this in their own homes. In addition they should, if possible, be reviewed clinically and given the opportunity for refresher course as a follow-up routine.

It might be that better therapeutic results would come from treating patients at an early stage before their migraine had become a chronic recurring condition. This would require the training of a large number of therapists, but with group therapy up to 20

patients can be treated at one time. There is the added advantage that patients have the opportunity to learn from each other and have free discussion periods.

There must be close co-operation between the therapist and the clinician referring patients for this treatment, and there is a need to develop more critical ways of assessing which patients are most likely to benefit from the treatment. By recording the frequency and severity of attacks before and after treatment the place of relaxation therapy in migraine can be established.

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The Married Woman Doctor

There is the very important matter of the married woman doctor, whose needs were in mind when ECN 544 was produced.... Re-entry into medicine after a long interval can be daunting psychologically, quite apart from facing up to regaining skills and catching up with knowledge. Encouragement and support are needed, reinforced by the provision under the ECN for attendance at courses, for ad hoc clinical attachments—and for "mature" traineeships for whatever period within 12 months may be suggested by individual circumstances. Not all trainers are ready to take on this sort of commitment, and it would be useful to have a register of those who are sympathetic to the scheme. The position has been eased by the recognition of these traineeships as being supernumerary, so that the same trainer can have a full-term trainee at the same time.

Re-training pre-supposes an opportunity for re-employment, full or part-time, and this is not always easy to find; this is where local knowledge and foresight count more than anything else. It is important that, however great the need to help married women *back* into clinical medicine, one should surely give even more attention to providing opportunities for part-time training and subsequent employment, so that there is no need to entirely give up practice, and allow for a far easier and more acceptable increase in participation in clinical work when family commitments allow.

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