Sleep without drugs

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SUMMARY. Disturbed sleep is a common problem, particularly among elderly people, and is usually treated with hypnotics. The side effects of longterm administration of hypnotic drugs are well known, but despite this there remains a substantial population of chronic users. These people can be helped to reduce their dependence on hypnotics through psychological techniques. A group of longterm users treated in this manner were shown to reduce their intake of hypnotics significantly more than a group of users who did not receive any psychological treatment. Furthermore, the treated patients did not experience any deterioration in their sleep patterns, and their subjective refreshment from sleep improved significantly.

For the patient with sleep problems, psychological techniques are preferable to the longterm use of hypnotics both as a weaning-off agent and as an alternative to drugs.

Introduction

MANY people complain of sleep disturbance, and are unhappy with the quality of their sleep.[1-3] Sleep problems are usually treated with hypnotics, and the prescribing of these drugs is widespread.[4,5]

There are a number of side effects associated with the use of hypnotics: respiratory depression;[6] confusion states;[7,8] metabolic effects;[9] and hangover.[10,11] Side effects arise even in the short term and can be exacerbated when hypnotics are used continuously over a long period of time.[12] They are particularly common in elderly people,[7,13] and it is the elderly who form the bulk of the chronic hypnotic-using population.[14]

People can be weaned off hypnotics[15-18] but this is often difficult to accomplish. The difficulty is mainly due to two factors, physical withdrawal symptoms,[19] and a psychological self-fulfilling prophecy whereby people believe that they cannot sleep without drugs, and become anxious in their attempt to do so. A symptom of anxiety is inability to sleep, and so the prophecy is fulfilled.[20,21] The combination of these factors tends to maintain the chronic usage of hypnotics. This cycle needs to be broken, by lowering anxiety so that the patient has a chance to learn how to sleep normally without hypnotics.

In the present study, the aim was to assess whether psychological techniques could act as substitutes for hypnotics, enabling people to achieve a good night's sleep without the use of drugs.

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Method

Subjects

Twenty subjects were selected who:

1. were currently using hypnotics nightly and had been doing so for six months or more;
2. were not taking any other psychotropic medication;
3. had no diagnosis of psychosis;
4. had no known terminal illness.

Subjects were randomly assigned to either a non-treatment/control group or a treatment/experimental group. Demographic data are shown in Table 1. All the subjects were using benzodiazepines except one female who was using a barbiturate hypnotic.

All subjects were initially approached by letter from the general practitioner (A.D.C.) and were interviewed by him. They were told about the study and were asked if they wished to participate. All subjects were then interviewed by the therapist (M.J.G.) before the pre-treatment sleep measures were taken. All subjects were then asked to stop taking hypnotics, and to refrain from using them for as long as they could.

Table 1. Basic demographic data for the experimental and control patients.

	Number of patients		Mean age (years) and range	Mean time on drugs (years) and range
	Male	Female		
Control group	3	7	72.2 (58-83)	8.3 (1-24)
Experimental group	1	9	70.4 (56-80)	9.4 (1.3-25)

Subjects in the experimental group were told that psychological therapy was available to help them. The first treatment session was before they ceased consumption of hypnotics. Each subject was seen individually both for interviews and for treatment. The treatment was carried out in the subject's own home. There were four sessions, each session lasting one hour, at weekly intervals.

Measurements

Subjects were asked to record the number of nights upon which they took sleeping tablets. Prescribing of hypnotics was monitored as a check on the subjects' reports. Measurement of drug consumption was continuous over the whole 20-week experimental period, which was divided into five periods for analysis: before therapy (4 weeks), during therapy (4 weeks) and three follow-up periods (12 weeks).

Sleep was measured using the subjects' subjective estimates of the level of refreshment gauged on a five-point scale ranging from 1 (no refreshment) to 5 (good refreshment), and of sleep latency (how long it took to fall asleep). Sleep measurements were taken for a period of one week before treatment, one week after treatment and after a 12-week follow-up period.

Information on the type and the duration of any withdrawal symptoms was collected from interviews with the subjects.

Psychological treatment

Relaxation technique. This was a form of the autogenic relaxation procedure described by Schultz and Luthe,[22] chosen because the more usual tension/release method would have proved difficult for some subjects suffering from arthritis. The technique was taught in the first session and practised at the start of all the other sessions.

Information. Information was given in simple written form, and discussed in the treatment sessions. The information was concerned with sleep, insomnia, hypnotics and their effects on sleep, and sleep-preventing behaviour.

General advice. Subjects were encouraged to view their problems in a systematic and logical way, to adopt a positive optimistic attitude to their difficulties, and to use the techniques every night. They were told that there might be a number of effects as a result of drug-withdrawal, but that these would soon end. A lot of reinforcement, in other words, approval, from the therapist was given when anyone reported any success.

Results

Drug usage

The amounts of hypnotic drug (in milligrams) consumed by all subjects over the whole 20-week experi-

Table 2. Total amount of drug taken over each of the four-week periods.

			12-week follow-up		
	Before therapy (mg)	During therapy (mg)	After therapy (mg)	After therapy (mg)	After therapy (mg)
Control group (n = 10 subjects) Subject number					
1	140	135	140	140	140
2	140	105	140	140	140
3	140	45	50	30	25
4	140	135	140	140	140
5	280	230	280	280	280
6	280	150	140	140	140
7	140	70	70	110	140
8	280	270	210	140	140
9	140	130	135	140	140
10	140	0	0	0	0
Experimental group (n = 10 subjects) Subject number					
1	140	0	0	0	0
2	280	60	140	140	140
3	140	0	0	0	0
4	140	0	0	0	0
5	140	0	0	0	0
6	140	0	0	125	122
7	280	85	40	2	0
8	280	77	0	10	10
9	140	0	5	5	2
10	140	0	0	0	0

Table 3. Number of nights on which hypnotics were taken over the whole experimental period.

			12-week follow-up		
	Before therapy (n=28 nights)	During therapy (n=28 nights)	After therapy (n=84 nights)	After therapy	After therapy
Control group (n = 10 subjects) Subject number					
1	28	27	28	28	28
2	28	21	28	28	28
3	28	9	10	6	5
4	28	27	28	28	28
5	28	23	28	28	28
6	28	22	28	28	28
7	28	21	28	28	28
8	28	27	28	28	28
9	28	26	27	28	28
10	28	0	0	0	0
Experimental group (n = 10 subjects) Subject number					
1	28	0	0	0	0
2	28	12	28	28	28
3	28	0	0	0	0
4	28	0	0	0	0
5	28	0	0	0	0
6	28	0	0	25	28
7	28	17	10	2	0
8	28	19	0	2	2
9	28	0	2	2	1
10	28	0	0	0	0

mental period are shown in Table 2. The number of nights on which hypnotics were taken by all subjects over the whole experimental period is shown in Table 3. From these data it can be seen that eight out of 10 subjects in the control group resumed nightly consumption of hypnotics, compared with two out of 10 in the experimental group. There was also a large, significant difference between the two groups in the amount of hypnotic consumed, with six out of 10 people in the experimental group consuming no hypnotics at all in the last four-week period compared with one out of 10 of the controls. (Data was analysed by means of a Fisher's exact probability test.)

Table 4 shows the mean sleep latency times for both groups over seven nights. There was no significant difference between the groups of subjects in sleep latency times; both reported smaller latencies at the end of the experiment. (Data was analysed by two-way analysis of variance.) It is clear that ceasing to take hypnotics did not adversely affect the sleep latency time.

There were no significant differences between the groups in sleep refreshment estimates (analysed by six Wilcoxon matched pairs, signed-ranks test). However, in the experimental group a trend towards improvement, not a deterioration, was seen over the study period. Overall, sleep measurements showed that cessation of hypnotic drugs was not detrimental to sleep patterns and that subjects felt the refreshment they obtained from their sleep had actually increased. However, all subjects reported initial withdrawal effects, chief among which was sleep disturbance.

Nine of the 20 subjects in the study (eight from the control group and one from the experimental group) resumed their nightly consumption of hypnotics during the 'treatment' period (eight of them within seven nights of ceasing to take sleeping pills). The subjects reported that the withdrawal effects were the reason for resumption.

Ten of the 11 subjects (two from the control group and nine from the experimental group) who did not

Table 4. Subjects' estimates of sleep latency times per night over three periods—seven nights before treatment, seven nights after treatment and at follow-up.

	Before treatment (min)	After treatment (min)	At follow-up (min)
Control group (n = 10)			
Mean	47	27	32
SD	25	11	24
Experimental group (n = 10)			
Mean	65	70	30
SD	51	40	27

resume nightly consumption of hypnotics during the 'treatment' period had reported a cessation of withdrawal effects within 14 nights.

Discussion

The results of this study show that, by the employment of psychological techniques, chronic users of hypnotics can be helped to discontinue or to reduce greatly their use of these drugs in a short time. Furthermore, the effects are lasting, in that after 12 weeks the significant difference between the groups was maintained, with 80 per cent of the experimental group compared with 10 per cent of the control group being almost entirely free from dependency on hypnotics. The study also showed that this effect can be accomplished with no detriment to sleep patterns or sleep satisfaction. The study was designed in such a way that all subjects stopped taking hypnotics, even if only for one night. Therefore the main aim of therapy was to prevent resumption of regular usage.

As one major problem in ceasing to use sleeping pills is that of withdrawal effects, the subjects' comments regarding these are interesting. They suggest that:

1. any withdrawal effects will have largely vanished within 10–14 days; and

2. without some kind of help, people who try to stop taking sleeping pills will tend to 'surrender' to withdrawal effects within the first few days.

These results suggest that while the therapy did not lessen effects *per se,* it enabled people to withstand them until they ceased. With regard to patterns and quality of sleep, the results show that cessation of hypnotics causes no deterioration in sleep latency. More important, the feeling of refreshment gained from sleep increased significantly in the experimental subjects. As research has shown that rapid eye movement (REM) sleep is depressed by hypnotics,[19] it is possible that the increase of REM sleep after lower hypnotic usage may be the mechanism behind the increase in refreshment.

Adam and colleagues[23] thought that patients should be told about the possibility of upset sleep patterns and their eventual cessation. The findings of the present study lend support to this advice, but would also suggest that patients need to be given some way of helping themselves to cope with the withdrawal symptoms of sleep problems and anxiety.

One method that general practitioners could employ, with little extra time and considerable saving of drug costs, and is that of issuing patients with printed instruction sheets and possibly cassette tapes of relaxation training. Information sheets on insomnia, sleep, and drugs and 15 minutes or so of explanation of these might also be helpful. Alternatively, group relaxation classes might be held, possibly by health visitors attached to the practice.

Any practice with access to a clinical psychologist could begin a campaign to reduce chronic sleeping-pill usage, with the likely result of a rapid decrease in consumption of hypnotics and improved quality of sleep.

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