

## Reducing demands on clinicians by offering computer-aided self-help for phobia/panic

### Feasibility study

MARK KENWRIGHT, SHEENA LINESS and ISAAC MARKS

**Background** Many patients with phobia/panic find it hard to access effective treatment.

**Aims** To test the feasibility of computer-guided exposure therapy for phobia/panic.

**Method** Self-referrals were screened for 20 min and, if suitable, had six sessions of computer-guided self-help (from a system called *FearFighter*). Pre- and post-treatment ratings of 54 patients were compared with those of 31 similar out-patients with phobia/panic who received the same treatment guided by a clinician.

**Results** At pre-treatment, computer-guided cases were slightly less severe than clinician-guided patients. In a post-treatment intent-to-treat analysis, both groups improved comparably but computer-guided patients spent 86% less time with a clinician than did purely clinician-guided patients, who had no access to the computer system.

**Conclusions** Computer-guided self-exposure therapy appeared feasible and effective for self-referrals and saved much clinician time. A controlled study is now needed.

**Declaration of interest** One of the authors (I.M.) shares intellectual property rights in the computer-guided system.

*The NHS Plan* (Department of Health, 2000) encourages general practitioners (GPs), nurses and mental health practitioners to develop skills and practice-based facilities to enhance primary care but more demands on overworked staff are welcome only with increased resources (Coulter, 1995). New technology can enhance health care efficiency and a computer-guided self-help system using exposure therapy is now available for phobia/panic sufferers (Shaw *et al*, 1999). This system makes most of the treatment suggestions, thus differing from 'e-therapy' where the clinician still has to read patient information sent by e-mail, ask questions, make all treatment decisions and send them on the internet. Patients with anxiety disorder use many primary care and accident and emergency resources (Leon *et al*, 1995) but their treatment is a formidable problem (Bebbington *et al*, 2000). Exposure therapy is lastingly effective for phobia/panic but trained therapists are scarce. Community psychiatric nurses often apply exposure principles but lack specialist behavioural training.

Phobia/panic patients who seek help often fail to access effective treatment: GPs refer them to the practice counsellor or a local anxiety management group for education and relaxation, which is ineffective and wastes resources because they often return to their GP after failed treatment. When a GP refers patients with agoraphobia to a cognitive-behavioural therapist some distance away, the nature of their problem stops them travelling for treatment. Effective computer self-help systems can take over the treatment process locally, with only brief support from a clinician (Marks, 1999). The present naturalistic study tests whether a computer system can save clinician time in treating phobias without impairing outcome in a meta-analytical comparison with results in routine clinician-guided out-patients.

## METHOD

### The setting and the computer-aided self-help system

A Self-Care Centre sited on a main road was set up as a primary care resource for self-referrals, despite its location within an out-patient unit. It offered the use of a computer-guided self-help system (*FearFighter*) for phobia/panic sufferers (Shaw *et al*, 1999). Sufferers can print out information, homework diaries and graphs of progress to take home. Step 1 introduces *FearFighter* and self-rated questionnaires. Step 2 gives a rationale for self-exposure therapy. Step 3 explains how to recruit and work with a co-therapist. Step 4 helps clients to identify triggers for their panic and write personalised problem statements. Step 5 guides users to identify and set individualised exposure homework tasks for each personalised trigger. Step 6 advises on coping tactics to remain in panic-evoking situations. Step 7 teaches clients how to practise coping strategies during exposure. Step 8 reviews exposure homework, gives feedback and helps users to extend their gains by modifying existing or setting new goals. Step 9 troubleshoots problems that may arise in treatment.

### Mode of operation

After seeing advertisements in GP surgeries, or through self-help groups such as Triumph Over Phobia, phobia/panic patients self-referred by telephoning for an appointment. The Centre was confidential (users got no mental health record) and offered computer-guided care without a waiting list. Two clinical nurse specialists ran the Centre; each worked just 1 day a week, with access to a system manager in case of technical problems. A nurse screened first-attenders for up to 20 min to ensure that problems were suitable for computer-guided care and there was no serious mental illness, severe depression, or drug or alcohol misuse requiring referral elsewhere.

The nurse introduced suitable patients to *FearFighter* and showed them how to use it. Patients completed self-ratings and learnt the treatment rationale (Steps 1 and 2) in about 50 min, after which they arranged the next appointment. In subsequent sessions they spent the first 10 min with the nurse, reviewing progress and exposure homework. For the next 40 min they worked at the computer. They then had a final 10 min with the nurse to discuss

further homework, solve problems and set the next appointment. Brief screening time apart, *FearFighter* users thus spent two-thirds of their time at the computer and one-third with a nurse.

The amount of nurse time per session varied with patients' self-reliance, motivation and computer literacy. Some needed almost no help. Others needed help from the nurse to 'fine tune' computer-prompted targets, work on them effectively, problem-solve difficulties that the computer could not address and use further interventions as needed (e.g. activity scheduling or interoceptive exposure, planning pleasurable activities or rewards to improve mood and educating partners or relatives).

### Meta-analytical comparison with clinician-guided out-patient care

Outcomes at the Self-Care Centre were compared with those of all out-patients with phobias treated routinely by nurse therapists in an adjacent behavioural psychotherapy unit over the same year for whom data were available on the unit's computerised Clinical Outcome and Resource Monitoring (CORM) system. The CORM system stores results of clinical measures for each patient at every treatment stage. Patients and therapists enter ratings into the computer, which can print progress graphs for either individual or aggregated patients. Out-patient referrals came from GPs and psychiatrists and were screened by nurse therapists after a mean wait of 3 months. If suitable at screening (mean total time of 90 min), patients were given a treatment rationale and attended weekly and then fortnightly sessions. Measures were completed at pre- and post-treatment and then at 1- and 3-month follow-ups.

### Measures

The Self-Care Centre patients used *FearFighter* to rate progress on the Fear Questionnaire (Marks & Mathews, 1979), Work and Social Adjustment (WSA; Marks, 1986), their main phobic trigger and their main goal. The out-patients had ratings on the same measures in the CORM system.

## RESULTS

For 2 days a week over 12 months, 131 clients attended the Self-Care Centre, of

whom 49 needed just brief advice at one visit. Of the 82 offered computer guidance, 28 did not start, mainly because they only wanted an advice session and self-help literature; for many the Centre was too far to attend repeatedly. Of the 54 who began (35 women, 19 men, mean age 38 years), 22 (41%) dropped out prematurely and 32 completed self-help. The drop-outs mostly occurred after patients had set exposure-homework goals; their failure to return may have been due more to difficulty in doing self-exposure than in using computer guidance. The 32 self-help completers included 14 with agoraphobia, 9 with social phobia, 8 with specific phobias and 1 with generalised anxiety disorder plus panic; the mean problem duration was 22 years.

Of the patient's mean total of 202 min spent in the Centre, 139 min (69%) were spent on computer guidance and 63 min (31%) with a nurse, including screening. The mean number of sessions in the Centre

was four for all patients who began computer guidance. The proportion of the patients' total time at the Centre spent on the computer was greater for those with agoraphobia and specific phobias than for those with social phobias.

An intent-to-treat analysis regarded all non-completers as unchanged. On paired *t*-tests, mean self-rated improvement from pre- to post-treatment was highly significant on all measures (Table 1). The mean therapist-rated improvement was 44%.

### Meta-analytical comparison with clinician-guided out-patient care

Outcome of the 54 self-help patients was compared with that of the 31 out-patients with phobia/panic (16 women, 15 men, mean age 40 years) who had nurse-therapist-guided self-exposure therapy without computer guidance over the same year and who had CORM ratings. They comprised 12

**Table 1** Mean (s.d.) ratings of patients guided by computer system (*FearFighter*) or by clinician; lower scores denote less severity

		Pre-treatment	Post-treatment (week 10)	Pre-post <i>P</i>
FQ Total phobia (0–120)	Computer	35.9 (23.7)	27.8 (22.7)	<0.0001
	Clinician	42.8 (25.2)	31.7 (25.9)	<0.001
Main Phobic Trigger (0–8)	Computer	6.7 (1.3)	4.1 (1.4)	<0.0001
	Clinician	6.8 (1.5)	4.0 (2.2)	<0.0001
Main Goal (0–8)	Computer	5.8 (1.4)*	2.6 (2.2)	<0.0001
	Clinician	7.6 (0.6)	4.3 (2.7)	<0.0001
FQ Global Phobia (0–8)	Computer	5.0 (1.9)*	3.3 (2.0)	<0.0001
	Clinician	6.0 (1.9)	3.8 (2.2)	<0.0001
WSA Work (0–8)	Computer	4.0 (2.5)	2.8 (2.4)	<0.0001
	Clinician	4.9 (2.7)	3.6 (2.9)	<0.005
WSA Home Management (0–8)	Computer	1.9 (2.1)	1.1 (1.8)	<0.0001
	Clinician	2.9 (2.7)	1.7 (2.2)	<0.010
WSA Social Leisure (0–8)	Computer	3.5 (2.3)*	2.0 (2.0)	<0.0001
	Clinician	5.2 (2.7)	4.6 (6.0)	<0.526
WSA Private Leisure (0–8)	Computer	1.7 (1.7)*	1.0 (1.5)	<0.0001
	Clinician	3.7 (3.0)	2.1 (2.3)	<0.004
WSA Relationships (0–8)	Computer	2.8 (2.2)	2.0 (2.2)	<0.003
	Clinician	3.6 (2.7)	2.0 (2.3)	<0.003
FQ Anxiety/Depression (0–40)	Computer	21.9 (12.6)	14.7 (12.7)	<0.0001
	Clinician	20.8 (10.4)	14.5 (12.5)	<0.0001

FQ, Fear Questionnaire; WSA, Work and Social Adjustment.

\**P* < 0.05 for computer- v. clinician-guided.

individuals with agoraphobia, 11 with social phobia and 8 with specific phobias; the mean problem duration was 29 years. The 31 out-patients spent a mean of 444 min with the therapist over eight sessions. Complete CORM data were available for 19 of the out-patients. The remaining 12 (40%) had incomplete data because they dropped out of treatment (a rate similar to the drop-out rate of computer-guided patients); drop-outs from both groups were regarded as unimproved in the intent-to-treat analysis.

At pre-treatment, computer- *v.* clinician-guided patients were comparably severe on six measures but significantly less severe (one-way analysis of variance) on five measures: Fear Questionnaire Agoraphobia and Global Phobia, Main Goal and WSA Social and Private Leisure.

At post-treatment the two groups were of similar severity, except that computer-guided patients remained significantly less severe on Main Goal and WSA Social and Private Leisure. Both groups improved comparably from pre- to post-treatment (see Fig. 1). Far the biggest difference was that computer-guided cases had spent a mean of only 63 min over four sessions with a clinician, including screening, which is 86% less time than the mean of 444 min

over eight sessions, including screening, that out-patients had spent with a clinician.

## DISCUSSION

### Effect on clinicians' time

In a meta-analytical comparison, patients with phobia/panic who completed computer-guided self-exposure therapy with brief back-up from a nurse improved as much as did similar patients guided only by a nurse who spent 86% more time and double the sessions per patient. Most full-time nurse therapists manage about 50 patients a year. Our Centre managed 131 referrals a year, despite being staffed by only 40% of the time-equivalent of one nurse therapist – representing 288 patients annually per full-time nurse. This more than 5.5-fold increase in throughput is slightly offset by the lesser severity of the Centre's self-referrals compared with that of the out-patients. The non-completion rate with computer guidance was similar to that with clinician guidance.

### Study limitations

Our small open study has obvious limitations. Follow-up data could not be obtained from many drop-outs in either condition. Outcome data could be obtained only from completers of six sessions. Caution is needed in drawing conclusions from comparisons of the computer- *v.* clinician-guided groups because they formed distinct populations. The computer-guided self-referrals were less severe on several measures than were the professional-referred clinician-guided out-patients, and also may have differed in other unknown ways. Most of the self-referrals came to the Self-Care Centre via primary care settings (posters/leaflets in GP surgeries, to which many were directed by primary care staff). A randomised controlled comparison of computer-guided with clinician-guided care is now being analysed.

Patients used the Centre as a flexible resource, as needed. Some said that they used computer guidance for two or three sessions to learn about self-treatment as required and then chose not to bother continuing further because that involved travel and repetitive ratings. There is a tension between the researchers' need for ratings to analyse and the inconvenience that this causes clients using a system that is meant to give them autonomy and control.

### Optimal use of computer self-help

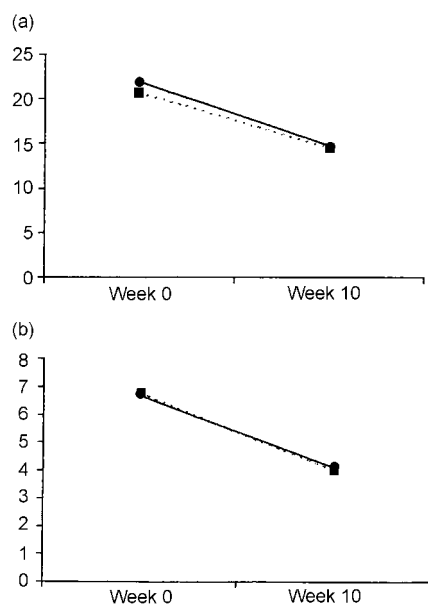
The computer system allowed people with phobia/panic disorders to get effective self-help while using far less clinician time than usual. Clients who completed computer-guided self-help had spent only one-third of their time at the Centre with a nurse therapist, without this reducing effectiveness appreciably. This was achieved because the computer took over routine tasks (e.g. explaining the treatment rationale, helping patients to work out triggers for panic, writing personalised problem and goal statements, providing feedback on progress), while the nurse gave the brief human contact that patients often want to complete self-help successfully. The new feature of *FearFighter* is that, unlike other computer self-help programs for phobia/panic, it takes over most of the actual treatment process rather than just relaying treatment instructions. Patients returned to the system over six sessions to report on progress, get personalised feedback, receive help in setting further treatment goals when they had improved or to get help in problem-solving difficulties with treatment.

### Implications for primary care

Self-help systems for phobia/panic might be made available in primary care settings such as GP surgeries, self-help centres (there are three now in west London) and community mental or general health centres. Effective self-help for phobic disorders thus could be made accessible at a fraction of the cost of a referral for purely human therapy. Self-help systems are likely also to become accessible from home on the internet via a normal TV screen as well as computer, with back-up from local mental health services or by telephoning staff at a computer-aided self-help centre.

Nurse therapists at the Self-Care Centre added brief advice to computer guidance as needed. Primary care staff with little behavioural training could partner computer self-help systems to deliver effective treatment efficiently. Computer self-help systems also could educate staff. Medical students' skills regarding the planning and execution of exposure therapy improved as much after using a teaching version of *FearFighter* as after a face-to-face tutorial in the subject (McDonough & Marks, 2001).

Practitioners in primary care and in community mental health settings can continue to offer the brief advice and human contact that some patients need to



**Fig. 1** Graphs comparing mean ratings for *FearFighter* (—●—) with clinician-guided (---■---) treatment: (a) mean pre- and post-treatment scores on the Fear Questionnaire Anxiety/Depression Scale (0–40); (b) mean pre- and post-treatment scores for the Main Phobic Trigger (0–8).

complete treatment successfully, while computers guide the routine aspects of structured self-help. Self-help systems enable staff to deploy their time more efficiently by treating more patients while still completing other tasks. Time to write this paper was freed by patients using *FearFighter* in the room next door to the nurse (M.K.).

Future planners might come to regard it as a misuse of scarce resources to pay skilled professionals to treat self-reliant, motivated patients with phobia/panic when such patients could improve with computer-guided self-help and little or no time from a professional. Computers do not replace professionals, but rather allow them to help more sufferers in the time available. It would be economically unrealistic to train enough cognitive-behavioural therapists to help all sufferers from anxiety disorders. Harnessing computer self-help systems offers a way of making treatment accessible to far more people than before.

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## CLINICAL IMPLICATIONS

- Computer-aided self-help can achieve results comparable with those of therapist-guided treatment for phobia/panic.
- Computer-aided self-help can allow patients easier, faster and more convenient access to affective help.
- By reducing the time individual patients spend with therapists by over 80%, computer aids can enable therapists to treat many more patients.

## LIMITATIONS

- The majority of patients self-referred to computer-aided self-help.
- This was an open study comparing two separate populations.
- Follow-up data are missing for many patients who dropped out of both groups.

MARK KENWRIGHT, RMN, NHS Stress Self-Help Clinic, London; SHEENA LINESS, RMN, Maudsley Hospital, London; ISAAC MARKS, FRCPsych, Imperial College, London

Correspondence: Mark Kenwright, NHS Stress Self-Help Clinic, 303 North End Road, London W11 4 9NS. E-mail: m.kenwright@hotmail.com

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