

# Screening People With Anxiety/Depression for Suitability for Guided Self-help

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**Abstract.** The aim of this study was to test a questionnaire for screening people with anxiety/depression for their suitability for certain forms of computer-guided self-help. A total of 196 referrals completed the screening questionnaire. Three clinicians each independently judged the referrals' broad problem type and suitability. Referrals were randomized to 1 of 3 clinicians for a screening interview. The results show that inter-clinician agreement was good for questionnaire-based problem type and suitability, and excellent for screening interview-based problem type and suitability. Agreement between the questionnaire and interview was good on problem type but poor on suitability. Compared with the screening interview, the questionnaire detected suitable patients well but unsuitable patients less well. In conclusion, by quickly scanning the completed questionnaire, clinicians were able sensitively to detect patients' problem types that were suitable for certain forms of self-help. Some unsuitability items need refining. *Key words:* cognitive behaviour therapy; computer; questionnaire; mental health; self-help

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Only a minority of people with anxiety/depression are treated (Bebbington et al., 2000). Their demand for cognitive behaviour therapy (CBT) exceeds its supply, and might be reduced by various computer-guided CBT (CCBT) self-help systems requiring minimal therapist support. Such systems have been evaluated in many studies (e.g. Carlbring, Ekselius, & Andersson, 2003; Carlbring, Westling, Ljungstrand, Ekselius, & Andersson, 2001; Greist et al., 2002; Kaltenthaler, Parry, & Beverley, 2004; Marks, Kenwright, McDonough, Whittaker, & Mataix-Cols, 2004; Osgood-Hynes et al., 1998; Proudfoot et al., 2003).

Screening methods to detect anxiety and depression were devised by self-report or interview or both (Carlbring et al., 2002; Feinman, Cardillo, Palmer, & Mitchel, 2000;

First, Spitzer, Williams, & Gibbon, 1997; Schmidt, Kruse, Heckrath, Alberti, & Tress, 1999; Spitzer, Kroenke, & Williams, 1999; Zimmerman & Mattia, 2001). There is a need for quick ways of screening the suitability of referrals for CCBT systems (National Institute of Clinical Excellence, 2002). Diagnostic aids can be unduly lengthy (e.g. the Structured Clinical Interview for Diagnosis [SCID] of DSM-IV Axis I disorders may take 2 hours, and the SCID has low agreement with the short computerized Composite International Diagnostic Interview [CIDI] though it agrees rather better with the long CIDI's panic disorder module alone (Carlbring et al., 2002). In fact, a rough guide to problem-type will suffice to channel referrals to particular problem-specific systems.

A further difficulty is that few diagnostic aids screen for suitability issues such as: current suicidal plans; excess alcohol (men > 2 units/day, women > 2 units/day) or use of sedatives (> 10 mg diazepam-equivalent/day) without a diagnosis of substance abuse; physical illness liable to worsen with some CBT (e.g. severe angina, asthma, ulcerative colitis); motivation for self-help (willing to do homework > 1 hour a day). Quicker screening for those issues and problem type is needed to screen referrals' suitability for various self-help systems. We therefore designed and tested a self-report screening questionnaire (SQ) and a screening interview (SI) (both of which are available by e-mail from the corresponding author) for use in a computer-aided self-help clinic that was uniquely broad-based in offering referrals 4 different systems depending on their main problem-type (see below).

## Methods

### *Study setting, sample and procedure*

The setting was a self-help clinic in west London (Marks et al., 2003) which offered a broad range of anxiety/depression referrals one of 4 CCBT self-help systems (*FearFighter* for phobia/panic, *Balance* for general anxiety, *Cope* for depression and *BTSteps* for obsessive-compulsive disorder). Referrals learned about the self-help clinic from notices in local general practitioners' surgeries and mental health centres (which had copies of the SQ) and in the press. The notices offered computer-guided self-help plus brief adjunctive advice from a clinician. Patients had to initiate referral by completing and sending to the clinic a SQ including a signed form giving written informed consent (the form and a detailed information sheet had been approved by the relevant ethics committees).

We devised the SQ to reduce screening time by allowing the clinician to form a judgement about suitability for particular problem-specific self-help systems based on the referral's answers on the SQ. The judgement was clinical rather than based on a score with a precise cut-off point. SQ and SI questions reflected suitability criteria used in interviews to screen for face-to-face CBT (Marks, 1986) or CCBT self-help (e.g. Marks et al., 2003). Clinical criteria were used to group problem

types on ICD-10 (World Health Organisation, 1992) diagnostic lines which are a quicker rough guide than the DSM's fine-grain criteria to detect a problem-type likely to respond to 1 of the 4 self-help systems on offer (a few referrals who had more than 1 prominent problem type were offered the use of 2 self-help systems suitable for their co-morbidity). The present study tests inter-clinician agreement on SQ- and SI-based problem-type and on suitability, and agreement between SQ- and SI-based problem-type and suitability for each referral.

The SQ was first piloted with the initial 10 self-referrals. The total sample comprised 196 consecutive self-referrals (there is no way of determining how many potential subjects saw an SQ but did not complete and return it).

The SQ asked about gender, age, occupation, main problem and its duration and ensuing distress and disability, associated behaviours, and suitability (criteria: anxiety/depressive problem present, motivated to do guided self-help [3 questions], no current suicide plan, no substance abuse).

### *Procedure and measures*

On receiving a completed SQ, the clinic's administrator copied it after masking the referral's name, age and address, and distributed it to the 3 rating clinicians (MK, LG and DM-C). Without discussion, each clinician independently read through the SQ and rated problem type and suitability for CCBT based on: anxiety or depressive symptoms present; no self-harm, serious suicide risk, psychosis, severe personality disorder, serious medical condition, or current substance abuse; motivated for self-help; able to describe behaviours/thoughts associated with the problem; agreed to take part in the study. Problem types were grouped on broad ICD-10 (14) lines for depression, phobic anxiety, other anxiety, generalized anxiety, obsessive-compulsive problem, reaction to severe stress/adjustment problem, other.

The administrator randomized each self-referral to 1 of the 3 clinicians for a structured SI within 10 days to test the SQ's validity. To test the SI's consistency across clinicians, the clinicians were paired (AB, AC, BC) to each interview independently a random sample of 15 patients so that SI ratings of problem type and suitability could be compared on the same

patients of clinician A vs clinician B, B vs C and A vs C.

### **Statistical analyses**

Using SPSS for Windows version 11.0, demographic, problem type and suitability features were analysed. Inter-clinician reliability concerning problem type and suitability was computed by pairing the 3 clinicians with each other to yield 3 Cohen's kappa coefficients. Agreement between each clinician's SQ- and SI-based ratings of problem type and suitability was also computed by Cohen's kappa. Sensitivity and specificity of suitability ratings were computed using the SI as the standard.

## **Results**

### **Referrals' features**

Of the 196 consecutive self-referrals from whom a SQ was received, 103 (53%) were women. Of the 196, 61 (31%) obtained the SQ from their doctor's surgery, 63 (32%) from a psychiatrist/nurse in the local mental health team and 72 (37%) in reply to an advertisement in posters and the local press.

Mean age was 38 years (range 14–72, SD 12.6 years) and mean problem duration 10 years (SD 11 years, range 1 month – 50 years); 45 (23%) had seriously considered suicide recently and 153 (78%) felt moderately to severely depressed. An SI appointment offered by the clinic was not attended by 31 referrals and attended by 165. Mean SI duration was 39 minutes (SD 14, range 15–120 minutes).

Problem type at the SI were (number of patients, %): phobic anxiety (42, 23%); other anxiety (28, 17%); obsessive-compulsive (19, 12%); reaction to severe stress/adjustment problem (20, 12%); depression (42, 26%); other or sub-clinical 14, 7%).

At the SI, 29 of 165 referrals (18%) were unsuitable for CCBT because (number of patients): primary problem not anxiety or depression (8); current plan for suicide or self-harm (5); psychosis (1); severe personality disorder (1); substance misuse (1); lack of motivation (6); patients unable to describe behaviours/thoughts associated with the problem (3); poor English (1); no funding (1); problem in remission (2). Each clinician at the SQ identified different rates of and reasons for unsuitability (Table 1) (number of patients in brackets):

### **Inter-clinician agreement on SI-based problem type and suitability**

When 2 clinicians each independently rated a same subgroup from among 15 referrals, they agreed completely on problem type and on suitability (clinician A vs B, B vs C and A vs C), justifying the use of the SI as a validity standard despite the small numbers.

### **Inter-clinician agreement on SQ-based problem type and suitability**

On problem type, agreement among the 3 clinicians was significant and higher than the 0.40 fair-agreement cut-off of Cohen's kappa (Robson, 1993). Clinicians B vs C agreed for 73% (127/174) of referrals ( $k=0.67$ ,

Table 1. *Reasons for unsuitability at the screening interview which clinicians did not note from the screening questionnaire (clinician A=DMC, B=MK, C=LG).*

Reasons for unsuitability	SI-based (n=29)	SQ clinician A (n=28)	SQ clinician B (n=28)	SQ clinician C (n=29)
Primary problem not anxiety/depression	8	4	3	5
Lack of motivation	6	0	2	1
Plan for suicide/self-harm	5	3	1	4
No behaviours/thoughts associated with problem	3	1	2	2
Problem in remission	2	0	0	0
Psychosis	1	0	1	0
Substance misuse	1	0	0	1
Severe personality problem	1	0	0	0
Poor English	1	0	0	0
No funding	1	0	0	0
Total	29	8	9 (1 missing)	13

$p < 0.001$ ), A vs B for 68% (116/170) of referrals ( $k = 0.61, p < 0.001$ ) and A vs C for 66% (115/175) of referrals ( $k = 0.58, p < 0.001$ ).

On suitability or unsuitability too, inter-clinician agreement was significant and moderately good: clinicians B vs C agreed on 93% (166/179) of referrals ( $k = 0.65, p < 0.001$ ), A vs B on 87% (155/179) of referrals ( $k = 0.58, p < 0.001$ ) and A vs C on 85% (152/178) of referrals ( $k = 0.58, p < 0.001$ ).

**SQ-SI agreement on problem type and suitability**

SQ- vs SI-based problem type agreed well in clinician B, in 70% (108/155) of referrals ( $k = 0.62, p < 0.001$ ) and agreed fairly well in clinicians A and C, each in 59% (93/157) of referrals ( $k = 0.50, p < 0.001$ ).

For SQ- vs SI-judged agreement on suitability, Cohen’s kappa was respectively only 0.21, 0.31, 0.31 for clinicians A, B and C, because of poor agreement between SQ and SI-judged unsuitable referrals and despite the high agreement between SQ and SI-judged suitable referrals.

For referrals considered suitable at the SI, SI- vs SQ-judgements of suitability agreed well (Table 2). This was reflected by the SQ’s high sensitivity (number of referrals rated as suitable both from the SQ and at the SI divided by number of referrals rated as suitable at the SI) ranging from 0.87 for clinician C to 0.92 for clinician B. Only

14–15% of patients rated as suitable from the SQ were rated as unsuitable at the SI. The SQ’s ability to identify suitable referrals is reflected by its high positive predictive value. This was 0.86 for 2 clinicians and 0.87 for 1 (SQ and SI agreed suitable patients/SQ suitable), which meant that only 14–15% of patients who were identified as suitable by the SQ were found unsuitable by the SI.

For the 29 referrals judged as unsuitable at the SI, SI- vs SQ-judgements of unsuitability agreed poorly, mainly because clinicians judged some referrals as suitable on the SQ but as unsuitable on the SI done a few days later. This led to low specificity (number of referrals judged as unsuitable from both the SQ and the SI divided by the number judged as unsuitable at the SI only) ranging from 0.29 (8/28) for clinician A to 0.45 (13/29) for clinician C. However, clinicians also rated 38–50% of patients as unsuitable when in fact they were suitable, which is reflected in the low negative predictive values (SQ and SI agreed unsuitable patients/SQ suitable) ranging from 0.38 (8/21) for clinician A to 0.5 (10/20) for clinician B.

**Discussion**

Three clinicians agreed well on their independent judgements of the problem type and suitability for CCBT self-help for anxiety/depression of self-referrals when judgements from referrals’ answers to a SQ were

Table 2. Comparison of screening questionnaire- vs screening interview-based ratings of suitability.

SQ-based suitability	SI-based suitability		Agreement	Cohen’s kappa	Sensitivity	Specificity	Positive predictive value	Negative predictive value
	No	Yes						
Clinician A (n=159)	No	8 (5%)	126 (79%)	0.21 (p=0.008)	0.90	0.29	0.86	0.38
	Yes	20 (13%)						
Clinician B (n=161)	No	10 (6%)	132 (82%)	0.31 (p<0.001)	0.92	0.34	0.87	0.5
	Yes	19 (12%)						
Clinician C (n=157)	No	13 (8%)	124 (79%)	0.31 (p<0.001)	0.87	0.45	0.87	0.43
	Yes	16 (10%)						

SQ=screening questionnaire; SI=screening interview.

compared with judgements made at the clinicians' later SI. We used the SI as a validity standard against which to test the SQ because other interviewing tools (e.g. SCID: First et al., 1997; SCID and CIDI: Carlbring et al., 2002) yield diagnoses, not suitability for CBT (Marks, 1986). The SI included suitability items denoting broad problem types suitable for 1 of the clinic's 4 self-help systems for different disorders.

Because the present SQ had high sensitivity, a clinician relying on it alone would detect most self-referrals who would prove suitable for CCBT at SI and be able to assign them to whichever of the 4 self-help systems was appropriate. In contrast, the present SQ's low specificity means a clinician relying on it alone would detect only 38–50% of referrals who would prove unsuitable at interview. How much of a problem this is depends on how flexible the suitability criteria are. Suicide risk apart, offering CCBT to some unsuitable patients is less a clinical than a financial problem from spending resources on patients who are less likely to benefit from it.

The current SQ's specificity could be improved by sharpening its questions about reasons for unsuitability such as: low motivation, suicide plan, no description of behaviours/thoughts related to the problem, problem is in remission (Table 1). Clinicians sometimes judged a patient as unsuitable because s/he failed to answer certain SQ questions. A clinician may need to do a post-SQ SI only with referrals s/he has already judged as unsuitable from the SQ, to confirm whether they are indeed unsuitable.

SQ-judged detection of broad problem type was good, so the SI's mean duration of 39 minutes taken up mostly by its many problem-type-related questions (to select for phobia/panic, depression, general anxiety, or obsessive-compulsive problem) might be reduced to just 15 minutes or less by shifting its focus to other suitability issues. Clinicians who carried out a SI for a trial of only phobia/panic patients (Marks et al., 2004) without using a preceding SQ took just 25 rather than 39 minutes to rate suitability.

### Limitations

The study randomized which referrals saw which clinician for a SI within 10 days of the clinic's receipt of the SQs, but did not

randomize whether that interview was done before or after referrals completed their SQ; all interviewed patients had already completed a SQ, which may have affected their answers in the interview. Another limitation is that screening for a broad spectrum of anxious/depressed referrals to use 1 of 4 self-help systems for phobia/panic, depression, general anxiety or obsessive-compulsive disorder may use somewhat different criteria from the screening of referrals with only 1 of those problems, e.g. phobia/panic, or with different problems. Studies are needed to test the generalizability of findings from the present sample to different samples. Finally, our suitability criteria may have been too conservative; some patients at the clinic who did not meet all suitability criteria nevertheless benefited from CCBT (Gega, Marks, & Mataix-Cols, 2004). We cannot know how many others deemed unsuitable at the SI might in fact have improved had they been offered CCBT – this issue applies to almost all clinics as very few treat every single referral.

In conclusion, the present SQ could reduce clinicians' time in channelling suitable anxiety/depression sufferers to appropriate CBT or CCBT. A brief SI can be carried out for referrals judged as unsuitable from their SQ answers. Further refinement is desirable in order to sharpen questions to spot unsuitability.

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Screening questionnaire/screening interview guide available by e-mail from the corresponding author.

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