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Development and evaluation of a scale assessing therapist fidelity to guidelines for delivering therapist-assisted Internet-delivered cognitive behaviour therapy

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ABSTRACT

Internet-delivered cognitive behaviour therapy (ICBT) is often accompanied by therapist emails, but there is limited research on the quality of this therapist-assistance. In this study, an ICBT Therapist Rating Scale (ICBT-TRS) was developed and evaluated to assess whether therapist emails showed fidelity to specific therapist behaviours. Using data from a previous ICBT trial for depression and anxiety, the ICBT-TRS was used to rate 706 emails sent by 39 therapists to 91 randomly selected patients. Emails were rated for adherence (absent/present) and quality (inadequate/competent) on the following behaviours: *Builds Rapport*, *Seeks Feedback*, *Provides Symptom Feedback*, *Provides Psychoeducation*, *Facilitates Understanding*, *Praises Effort*, *Encourages Practice*, *Clarifies Administrative Procedures*, and *Communicates Effectively*. Inter-rater reliability was high. Most behaviours were identified as present in 72–100% of emails, with the exception of *Provides Symptom Feedback* and *Facilitating Understanding* which were only present in 54 and 61% of emails. The majority of emails were rated as high quality (88–98% of messages). While not related to symptom improvement, ICBT-TRS ratings were higher when patients were more engaged in ICBT (e.g. log-ins) and among therapists who specialized in ICBT or had a background in Psychology. The ICBT-TRS has potential to facilitate ICBT research and clinical training.

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Therapist fidelity; Internet-delivered cognitive behaviour therapy; therapist-assistance; depression; anxiety

Introduction

Therapist-assisted Internet-delivered cognitive behaviour therapy (ICBT) shows promise for improving patient access to treatment (Andersson, Cuijpers, Carlbring, Riper, & Hedman, 2014). In ICBT, patients read treatment materials delivered via the Internet. This is commonly paired with therapeutic assistance using asynchronous secure emails (Andersson,

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2016). Results demonstrate that ICBT is efficacious, especially for depression and anxiety (Arnberg, Linton, Hultcrantz, Heintz, & Jonsson, 2014) with effects comparable to face-to-face CBT (Andersson et al., 2014). Although there are exceptions (Titov et al., 2015), comparisons of therapist-assisted and non-assisted interventions suggest that assistance results in better completion rates and outcomes (Baumeister, Reichler, Munzinger, & Lin, 2014).

In order to understand therapist-assistance in ICBT, researchers have investigated therapist emails. Paxling et al. (2013) coded therapist emails to patients receiving ICBT for generalized anxiety and identified eight distinct behaviours: Deadline Flexibility, Task Reinforcement, Alliance Bolstering, Task Prompting, Psychoeducation, Self-disclosure, Self-efficacy Shaping, and Empathetic Utterances. Schneider, Hadjistavropoulos, and Faller (2016) found these same behaviours in therapist emails sent to patients receiving ICBT for depression along with three additional behaviours: Administrative Statements, Questionnaire Feedback, and Asking Questions. In another study of ICBT for depression, similar themes were identified among therapist emails (Hollandare et al., 2016). Notably, the frequency of therapist behaviours differed among these studies and differential relationships were found between therapist behaviours and outcomes. Paxling et al. (2013) reported Deadline Flexibility had a negative impact on outcomes while Task Reinforcement had a positive impact on outcomes. Comparatively, Schneider et al. (2016) reported that Administrative Statements, Alliance Bolstering, Psychoeducation, Self-efficacy Shaping, Task Prompting, Asking Questions, and Deadline Flexibility were associated with poorer outcomes; they hypothesized that low engagement and poor outcomes drove increased therapist behaviours.

While the above studies helped to characterize therapist-assistance, they did not assess therapist adherence to *recommended* behaviours or *quality* of behaviours in therapist emails. Therapist fidelity involves examining therapists' adherence to as well as quality of recommended therapeutic behaviours (Perepletchikova, 2011). In face-to-face therapy, studying therapist fidelity has led to improved understanding of therapy. High therapist fidelity has been found to be related to multiple factors, such as lower treatment complexity, as well as therapist (e.g. experience), patient (e.g. motivation) and setting (e.g. resources) variables (Perepletchikova, Treat, & Kazdin, 2007). Notably, therapist fidelity is not consistently related to therapy outcomes (Ginzburg et al., 2012); restricted range and elevated therapist fidelity scores represents one plausible explanation for a limited relationship with outcomes (Barber, Sharpless, Klostermann, & McCarthy, 2007).

To date, there is a lack of research on therapist fidelity in ICBT; this may reflect that ICBT is an emerging area of research. It may also reflect that ICBT largely involves presenting structured materials to patients and therapists play a smaller role in treatment (Andersson, 2016). Despite less involvement of therapists in ICBT, it remains important to assess therapist fidelity to understand how therapists deliver ICBT, the circumstances that influence therapist fidelity, and to draw meaningful conclusions about the relationship of therapist behaviours to outcomes. An ICBT Therapist Rating Scale (ICBT-TRS) could improve understanding of how therapist assistance is delivered in ICBT and could also be valuable for therapist training. Overall, study of therapist fidelity is seen as being a core methodological procedure in treatment-research.

In face-to-face CBT, a number of scales exist to assess therapist fidelity, with the most common being the 11-item Cognitive Therapy Scale (CTS; see Muse & McManus, 2013).

Given that ICBT differs substantially from face-to-face CBT and involves presenting materials over the Internet and communicating with patients via text, the current study aimed to develop and evaluate an ICBT-TRS. The scale was designed to measure adherence to and quality of a number of therapist behaviours that we recommend to therapists who deliver ICBT and are also consistent with the ICBT literature (Andersson, 2016). To evaluate the ICBT-TRS, the scale was examined for: (1) inter-rater reliability and internal consistency; (2) face validity in terms of the frequency and quality of therapist behaviours in therapist emails; and (3) construct validity by examining the relationship between the ICBT-TRS ratings and therapist (speciality in ICBT, professional background) and patient (background, engagement, satisfaction, outcomes) variables. It was hypothesized that the scale would be reliable and show evidence of face and concurrent validity.

Methods

Patients

Using www.random.org 20% of patients were randomly selected from a trial ($n = 458$) of therapist-assisted ICBT for depression or anxiety (ISRCTN42729166; Hadjistavropoulos et al., 2016). Specifically, 75 patients were randomly selected from 378 patients who completed post-treatment measures and 16 patients from 80 patients who did not complete post-treatment measures. G*Power analysis (Faul, Erdfelder, Lang, & Buchner, 2007) using a two-tailed correlation point-biserial model revealed that a minimum sample of 82 participants (alpha .05; power .80) was suitable to detect medium-to-large effects, which were assumed based on prior research (Paxling et al., 2013; Schneider et al., 2016).

Patients, who were self or provider referred, completed an online screening followed by a telephone interview to assess inclusion/exclusion criteria including: (1) being at least 18 years-old and residing in Saskatchewan; (2) access to a computer and Internet; (3) consent to participate and for physician notification; (4) depression or anxiety symptoms; (5) no severe or unmanaged mental health condition (e.g. suicide, schizophrenia); and (6) no regular psychotherapy. The study was approved by the institutional research ethics boards. The average pre-treatment Patient Health Questionnaire 9-Item score (PHQ-9; Kroenke, Spitzer, & Williams, 2001) was 11.79 (SD = 5.08) with 67% reporting clinically significant depression. The average Generalized Anxiety Disorder 7-Item score (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006) was 11.31 (SD = 4.97) with 63% reporting clinically significant anxiety. Only 21% had nonclinical depression or anxiety.

ICBT course

Patients completed an 8-week transdiagnostic ICBT programme (Dear et al., 2015; Titov et al., 2015) licensed from Macquarie University, Sydney, Australia consisting of 5 online lessons. Using text and images, lessons cover: (1) the cognitive behavioural model; (2) thought challenging; (3) de-arousal strategies and pleasant activity scheduling; (4) graduated exposure; and (5) relapse prevention. Also included are patient stories, lesson summaries and homework assignments. There are 15 brief (<10 sentences) automatic emails sent over 8 weeks that describe the content and availability of lessons and remind patients to complete questionnaires.



Table 1. Internet-delivered cognitive behavioural therapy therapist rating scale description.

	Description	Inadequate ^a	Examples	Excellent ^a
Behaviour				
Builds Rapport	<ul style="list-style-type: none"> • Demonstrates warmth, concern, genuineness, empathy, and acceptance • Addresses any patient dissatisfaction with course or support received • Encourages patient to ask questions or for help • Asks for feedback on symptom measure interpretation, lessons, or course skills. • Provides feedback on questionnaires, screening, or emails about symptom progress • Addresses risk of harm (if present) • Highlights relevant aspects of the current or upcoming lesson • May state why therapy materials are beneficial and normalize challenges • Directs patients to specific materials • Asks questions to facilitate patient understanding of emotions, thoughts, and behaviours • Clarifies questions about lessons/techniques • Reflects patient emotions, thoughts, and behaviours • Provides feedback on patient's course progress and praises effective use of course skills • Encourages patient to practice skills and emphasizes the importance of practice • Addresses if patient is behind in the course • Provides clear instructions about the course (e.g. programme format, check-in date, questionnaire completion) • Clear emails with no glaring spelling or grammatical errors. Short, full sentences; avoids complex language • Uses an appropriate amount of bolding, capitals, or emoticons 	<p>We are one week away from the 10-week mark. My time with people runs for 8 weeks and no longer</p> <p>I hope you're finding the course material useful</p> <p>It looks like things are going well for you</p> <p>Thought challenging is tricky</p>	<p>Thank you for your thoughtful message. Please let me know if you have any questions. I'm happy to help!</p> <p>Do you have any questions about challenging unhelpful thoughts?</p> <p>When I look at your scores on the anxiety and depression symptoms, both seem to have gone down—I am so happy for you!</p> <p>Thought challenging is a difficult skill to learn, however, patients get a lot from the thought challenging sheet</p>	
Seeks Feedback				
Provides Feedback				
Provides Psychoeducation				
Facilitates Understanding		<p>It's expected that you will wonder about your thoughts. Good luck this week</p>	<p>One statement in your email stood out. You had said "... how on earth could I be this stupid ...?" I wonder how this thought would bear up to the question "what is the evidence for this?"</p>	
Praises Effort		<p>I am glad to see that you had a chance to look at lesson 1</p> <p>Hopefully you have found the Additional Resources section</p> <p>If you are not ready for this program, you can discontinue</p>	<p>It is great to see that you are on pace and have read my emails—way to go!</p> <p>The more you practice thought challenging, the more believable these new thoughts will become</p> <p>You will have two weeks to work through Lesson 2. I will email you again next Friday</p>	
Encourages Practice				
Clarifies Administrative Procedures		<p>Misspelling patient name, improper punctuation, and incomplete sentences</p>		
Communicates Effectively				

^aEmails rated: 0 = absence of behaviour; 1 = inadequate performance—significant recommendations made; 3 = excellent performance—minor recommendations.

Measures

Symptoms were assessed using online questionnaires at pre-treatment, 8-week post-treatment and 3-month follow-up. The PHQ-9 assessed depression (range 0–27; ≥ 10 = clinical depression; Manea, Gilbody, & McMillan, 2012). The GAD-7 assessed anxiety (range 0–21; ≥ 10 = clinical anxiety; Spitzer et al., 2006). Measures had strong internal consistency in our sample ($\alpha = .86$ and $.88$, respectively). The Working Alliance Inventory-Short Revised (WAI-SR; Tracey & Kokotovic, 1989) assessed post-treatment alliance ($\alpha = .90$). To assess treatment satisfaction, patients indicated whether they would recommend the treatment to a friend and whether the course was worthwhile.

Therapist-assistance

Patients were assigned to the first available therapist who worked in a specialized ICBT clinic ($n = 14$) or community clinic ($n = 25$) where therapists primarily deliver face-to-face therapy rather than ICBT. Therapists were registered professionals or graduate students under supervision in psychology (9 registered; 10 students), social work (16 registered; 3 students) or nursing (1 registered).

Therapists completed a one-day workshop (Hadjistavropoulos, Thompson, Klein, & Austin, 2012) and were supervised in ICBT. Patients messaged their therapists on the secure web server as many times as they desired each week. Therapists responded to emails on a designated day each week (~15–20 min). In emails, therapists were to: (1) be supportive; (2) ask about progress; (3) provide feedback on symptoms; (4) answer questions; (5) assist with skill use; (6) reinforce progress and skill practice; (7) encourage lesson completion and skill use; and (8) clarify administrative procedures. Therapists could phone patients or send additional messages if they felt this would facilitate treatment. Patients did not submit homework-sheets to therapists for feedback, but were encouraged by therapists to share experiences with homework in emails. Patients logged in $M = 23.20$ (SD = 12.03; range 3–60) times and sent $M = 4.46$ (SD = 3.03; range 0–16) emails. Therapists sent $M = 7.76$ (SD = 1.62; range 1–10) emails and made $M = .58$ (SD = .94; range 0–4; 36% received phone-calls) phone-calls. Patients waited $M = 3.72$ (SD = 3.12; range 0–19) days for an email response.

Therapist rating scale

There are no concrete guidelines for delivering therapist-assistance in ICBT. The ICBT-TRS was, therefore, developed to be generally consistent with practices described in the literature (Andersson, 2016) and with guidelines we recommend for ICBT. The first draft of the measure was piloted by 4 therapists who rated emails sent to 4 patients using a 0 (*absent*) to 3 (*excellent*) scale. Modifications were then made and the final measure consisted of nine therapist behaviours: *Builds Rapport*, *Seeks Feedback*, *Provides Symptom Feedback*, *Provides Psychoeducation*, *Facilitates Understanding*, *Praises Effort*, *Encourages Practice*, *Clarifies Administrative Procedures*, and *Communicates Effectively*. See Table 1 for domain descriptions. Provides Psychoeducation, Facilitates Understanding, Praises Effort, and Encourages Practice reflect whether therapists adhered to ICBT content, while other domains reflect non-specific therapist behaviours.

Notably, some ICBT-TRS domains overlap with past qualitative research (e.g. Builds Rapport, Provides Symptom Feedback, Provides Psychoeducation, Praises Effort, Encourages Practice, Clarifies Administrative Procedures; Schneider et al., 2016). Other behaviours, however, were purposefully not included on the ICBT-TRS (i.e. Self-disclosure, Deadline Flexibility), as they are infrequent and not recommended in ICBT (less than 1% of therapist statements; Schneider et al., 2016). Other behaviours on the ICBT-TRS, such as Seeks Feedback and Facilitates Understanding, were more specific than the broad category of Asking Questions that has been identified in past research (Schneider et al., 2016).

Using feedback from the pilot, the rating scale was simplified to: 0 (*absence of feature*), 1 (*inadequate performance/significant improvement needed*), or 2 (*competent*). The exception to this rating was the domain, Communicates Effectively, which was always rated as either 1 (*inadequate*) or 2 (*competent*). To collect information about negative behaviours not captured by the ICBT-TRS, raters also made qualitative comments about any negative therapist behaviours they observed in the emails.

For each domain, an adherence score (i.e. % therapist emails displaying each therapist behaviour) and quality score (i.e. % therapist emails rated as competent on the therapist behaviour) were calculated. A priori, it was expected that adherence would be very high but would not be 100%, as sometimes the behaviour may not be necessary or appropriate (e.g. Psychoeducation). Second, the average ICBT-TRS total score per patient (i.e. sum of 9 ICBT-TRS domain ratings for each email out of 18 divided by number of emails) was calculated. Third, the average, ICBT-TRS domain scores were calculated (i.e. total domain rating divided by number of emails).

Rating procedures

Each email was rated separately on all domains, with two exceptions: (1) emails sent in close proximity were coded as one email; and (2) brief 2–3 sentence administrative emails (e.g. request to complete questionnaire, set phone-call) were not coded (37/743 emails sent to 31 patients). ICBT-TRS ratings were made by three raters, who had completed or were enrolled in a Psychology Master's degree. One rater had delivered ICBT, while the others had conducted ICBT research. Prior to being assigned a group of emails to code independently, raters coded eight sample emails together. Inter-rater reliability was then established by all three raters independently coding emails ($n = 99$) to 12 patients; this represents an adequate sample for establishing inter-rater reliability (Koo & Li, 2016).

Statistical analysis

To assess whether coders were consistent in rating the ICBT-TRS domains and total score, two-way mixed, consistency, single-measures, Intraclass Correlation Coefficients (ICC) and associated 95% confidence intervals were calculated (Koo & Li, 2016). Internal consistency was assessed using Cronbach's alpha coefficient, with $\geq .70$ as the standard for reliability (Tavakol & Dennick, 2011).

Descriptive statistics were used to examine the percentage of emails that contained each therapist behaviour and the percentage of emails that were rated as competent for each therapist behaviour. Correlational analyses were used to examine the inter-correlations among the average ICBT-TRS scores as well as the relationship of the average ICBT-TRS total score

Table 2. Intercorrelations, adherence to and quality of therapist behaviours.

Behaviour	1	2	3	4	5	6	7	8	9	10
1. Rapport	–									
2. Seeks feedback	.31*	–								
3. Provides feedback	.15	.20	–							
4. Psychoeducation	.34**	.34**	.20	–						
5. Facilitates understanding	.31*	.24	.12	.70**	–					
6. Praise	.28*	.08	.18	.42*	.47**	–				
7. Encouragement	.22	.27	.13	.64**	.70**	.39**	–			
8. Admin statements	.32*	.17	.10	.32*	.25	.15	.34**	–		
9. Communication	.33*	.21	.00	.44**	.26	.04	.27**	.55**	–	
10. Total score	.42**	.48**	.33**	.84**	.85**	.60**	.79**	.36**	.39**	–
% Emails adhere to therapist behaviour	99	72	54	79	61	76	72	98	100	76
% Emails rated high quality	97	97	97	92	96	98	88	98	91	95

* $p < .01$; ** $p < .001$.

and domain scores to: (1) patient background variables; (2) patient engagement variables; (3) patient outcomes; (4) patient satisfaction and therapeutic alliance; and (5) therapist variables. All variables within these categories are listed in Table 3. Spearman's rank-order correlation coefficients (Spearman's Rho) were used to calculate correlations because it is a robust test that guards against violations of statistical assumptions and is appropriate with mixed variable types (e.g. ordinal and continuous). Alpha was set at $p < .01$ as a partial control for the number of correlations examined.

Results

Reliability

Examination of ICC values showed *excellent* inter-rater reliability among coders in total scores (ICC = .91; CI = .78, .97) and *good* and to *excellent* inter-rater reliability for domain scores (ICC range = .60–.92; CI range = .27, .97). ICC was lowest for scores on Provides Symptom Feedback (ICC = .60; CI = .27, .85) and highest for Communicates Effectively (ICC = .92; CI = .80, .97). Internal consistency of the average ICBT-TRS domain scores was very high ($\alpha = .94$).

ICBT-TRS adherence and quality

Adherence was generally high. Builds Rapport and Clarifies Administrative Procedures were observed in the majority of emails (99 and 98%), while Provides Symptom Feedback and Facilitates Understanding had lower adherence levels (54 and 61%). Quality ratings were high; Encourages Practice received the lowest quality score, with 88% of emails rated as competent (Table 2).

Inter-correlations

All domain scores showed a moderate to strong significant correlation with the total ICBT-TRS scores ($r = .36$ –.85, $p < .001$). Most domain scores were moderately to strongly correlated with two to seven other domain scores. Provides Psychoeducation showed the highest

number of correlations with other domains while Provides Symptom Feedback was not related to other domains (Table 2).

Total score correlations

There were no significant correlations between the ICBT-TRS total score and patient background, outcome or satisfaction variables, with one exception. There was a low moderate relationship between being male and having a higher ICBT-TRS score. In terms of engagement, the ICBT-TRS total score was positively associated with number of log-ins, lessons started, and emails sent to and received from the therapist. The ICBT-TRS total score was also higher among therapists who worked in a specialized ICBT clinic and therapists with a psychology background. Relationships were moderate in strength (r range: .32–.57).

Domain correlations

Patient engagement variables (e.g. log-ins, lessons started) showed multiple relationships with the ICBT-TRS domains, especially Provides Symptom Feedback, Provides Psychoeducation, Facilitates Understanding, Praises Effort and Encourages Practice. Rapport, Asks for Feedback, Provides Administrative Statements and Communicating Effectively showed few correlations with the patient or therapist variables. Therapists working in a specialized ICBT clinic and therapists with a psychology background obtained higher scores on many therapist behaviours. All correlations were moderate (r range: .27–.55). See Table 3.

Qualitative analysis

Eight comments were made about negative behaviours that were not captured by the ICBT-TRS. Comments concerned (1) the timing of emails ($n = 5$); and (2) the critical tone of emails ($n = 3$).

Discussion

While past research has coded therapist behaviours in ICBT, this is the first study to develop a scale assessing fidelity to therapist behaviours in ICBT. Supporting the reliability of the scale, Intraclass Correlation Coefficients ranged from good to excellent and the scale had very high internal consistency. Applying the scale to emails sent to 91 patients highlighted the value of the scale for monitoring clinical practice. Therapists exhibited a majority of recommended behaviours in their emails. Two therapist behaviours with lower frequency were identified including Provides Symptom Feedback (54% of emails) and Facilitates Understanding (61% of emails). It is recognized that there are likely instances when it would not be desirable and or feasible for therapists to address all domains (e.g. it would be hard to facilitate understanding if the patient wrote brief messages or to provide symptom feedback if patients did not complete questionnaires). In general, however, lower adherence ratings should be regarded as potential areas therapists could address in their emails and not definitive areas of concern.

Quality ratings on the ICBT-TRS provide greater direction for therapists to improve in emails. In the current study, most therapist behaviours, when present in emails, were rated as competent. Encourages Practice, however, was rated as needing improvement in 12% of emails and Communicates Effectively in 9% of emails and suggest areas to monitor and

Table 3. Internet-delivered cognitive behaviour therapist rating scale correlations.

	ICBT-TRS total	Builds rapport	Seeks feedback	Provides feedback	Provides psychoeducation	Facilitates understanding	Praise	Encouragement	Administrative procedures	Communication
<i>Background</i>										
Age	.33**	.15	.09	.23	.15	.07	.24	.12	.06	.13
Female (0)/Male(1)	.37**	.21	.01	.20	.38**	.26	.11	.21	.05	.12
Not married(0)/Married(1)	-.22	.00	-.11	.00	-.11	.05	.00	.07	-.04	-.08
No University(0)/University(1)	.23	.23	.14	.07	.11	.22	.20	.11	.11	.12
Not employed(0)/Employed(1)	.10	.07	.10	.09	.12	.05	-.03	.16	.12	.05
No psychotropic meds (0)/Psychotropic meds(1)	.12	-.03	.01	.11	.00	.10	.12	.18	-.09	-.03
PHQ-9 pre-treatment	.00	.09	.04	.01	.01	-.08	-.06	.03	.14	.26
GAD-7 pre-treatment	.05	.10	.03	.02	.03	-.01	.08	.09	.12	.00
<i>Engagement</i>										
Log-Ins	.55**	.17	.10	.35**	.35**	.55**	.40**	.49**	.13	.05
# Lessons	.57**	.36**	.06	.36**	.36**	.52**	.51**	.50**	.31*	.12
Emails to therapist	.39**	.14	-.07	.16	.28*	.44**	.45**	.35**	.05	-.10
Emails to patient	.32*	.17	.07	.01	.25	.36**	.33**	.29*	.06	-.03
Phone-calls	.00	-.07	.07	-.08	-.05	-.09	-.04	.09	.10	.03
<i>Satisfaction</i>										
WAI-SR-Bond	-.09	.00	-.22	.17	-.09	-.04	.24	-.14	-.01	.00
WAI-SR-Task	-.01	.03	-.13	.10	-.08	.11	.21	-.05	.01	.07
WAI-SR-Goal	.05	.20	-.05	.06	-.03	.02	.33*	.22	.22	.24
WAI-SR-Total	-.01	.11	-.13	.13	-.06	.03	.28	-.05	.08	.12
Not recommend(0)/Recommend(1)	.01	.19	-.08	.14	-.14	-.05	.09	.10	-.07	-.10
Not worthwhile(0)/Worthwhile (1)	-.08	.04	-.09	-.20	.16	-.04	-.15	-.01	.05	.07
<i>Patient outcome</i>										
GAD-7-Change-score	-.01	.07	-.06	.11	-.12	-.04	.11	.06	-.01	-.11
PHQ-9-Change-score	.17	.07	-.11	.14	.06	.13	.24	.20	.06	.12

(Continued)



Table 3. (Continued).

	ICBT-TRS total	Builds rapport	Seeks feedback	Provides feedback	Provides psychoeducation	Facilitates understanding	Praise	Encouragement	Administrative procedures	Communication
<i>Therapist variables</i>										
Community clinic(0)/ Specialized clinic(1)	.33**	.29*	.15	-.07	.37**	.24	.10	.27*	.29*	.26
Social work/ Nursing(0)/ Psychology(1)	.37**	.06	.10	-.03	.38**	.35**	.21	.38**	.39**	.36**
Graduate student (0)/ Registered professional(1)	-.22	-.22	-.07	.03	-.26	-.16	-.13	-.22	-.20	-.10

Notes: WAI-SR = Working Alliance Inventory-Short Revised; GAD-7 = Generalized Anxiety Disorder-7; PHQ-9 = Patient Health Questionnaire-9.

* $p < .01$, ** $p < .001$.

improve. Overall, the results demonstrate the face validity of the ICBT-TRS as a measure of therapist fidelity to guidelines for delivering ICBT and indicate a high level of therapist fidelity in this sample.

Supporting the scale's sensitivity, ICBT-TRS scores were related to several programme engagement and therapist variables. Higher ICBT-TRS total scores were obtained when patients showed greater ICBT engagement (e.g. more log-ins, lessons started), which could reflect that it is difficult or impossible for therapists to exhibit certain behaviours if patients are not engaged in ICBT. The findings are correlational, however, and, it could be that patients receiving higher quality therapist emails are more inclined to write therapists. ICBT-TRS scores were also related to therapist variables suggesting the scale is sensitive to therapist experience. Higher ICBT-TRS scores among therapists with a psychology background could reflect greater training in research among psychology personnel and thus greater adherence to therapeutic guidelines. Higher ICBT-TRS scores among therapists working in a specialized clinic could reflect that therapists from community clinics have competing demands on their time which may interfere with therapist fidelity (Hadjistavropoulos, Nugent, Dirkse, & Pugh, 2017).

There were no significant relationships between ICBT-TRS scores and patient outcomes, patient satisfaction, and overall working alliance. The findings were unexpected in that past researchers have found some relationships between frequency of therapist behaviours (without attention to adherence and quality) and outcomes, albeit inconsistently. Paxling et al. (2013) identified Deadline Flexibility was correlated with poorer outcomes, while Task Reinforcement was correlated with positive outcomes. On the other hand, Schneider et al. (2016) found increased therapist behaviours when patients showed low ICBT engagement and symptom improvement. It is difficult to know why the current findings are discrepant from past studies. Lack of a relationship between ICBT-TRS scores and outcomes, satisfaction, and alliance in the current study, could be related to low power for identifying small effects, high and non-variable ICBT-TRS scores, or limitations of some measures (e.g. dichotomous variables).

In terms of comparison to the face-to-face literature, there is some evidence in face-to-face trials that increased therapist fidelity is related to patient outcomes (e.g. Shaw et al., 1999), however, this relationship is not consistent. A lack of relationship between therapist fidelity and patient outcomes in face-to-face trials (similar to the current trial) has been attributed to restricted range in therapist behaviours (Barber et al., 2007) and limitations of outcome measures (Webb, DeRubeis, & Barber, 2010). Nevertheless, it is acknowledged that the possibility exists that therapist behaviours play less of a role in predicting outcomes in ICBT than in face-to-face therapy (Andersson, 2016). There is a clear need for additional research.

Strengths and limitations

While the ICBT-TRS was not related to patient outcomes in the current study, development of the ICBT-TRS still represents an important step as it improves our understanding of how ICBT is delivered, specifically showing the extent to which behaviours are present and also the quality of these behaviours. This is the only known study to assess adherence to and quality of recommended therapist behaviours in ICBT in a clinical setting with a large number of therapists. Past studies have only examined the frequency of therapist behaviours.

The ICBT-TRS was found to have a high degree of inter-rater reliability and internal consistency. The study is noteworthy as it highlights patient and therapist variables that correlate with higher ICBT therapist fidelity. Findings show consistency with face-to-face therapy research where it also found that therapist fidelity is related to greater therapist experience, patient motivation, and setting resources and is inconsistently related to outcomes (Ginzburg et al., 2012; Perepletchikova et al., 2007).

The ICBT-TRS has potential to advance research by allowing for better comparison of how therapist assistance is delivered across settings. Furthermore, the ICBT-TRS can be used to teach and promote recommended practices in ICBT. This is similar to how the CTS is used to improve the practice of face-to-face CBT (Muse & McManus, 2013) and is vital for assessing entry level criteria and monitoring quality (Shaw et al., 1999).

In terms of limitations, findings may have differed if quality was rated on a scale with greater variance (e.g. 1–5). On the lower end, it may be beneficial to differentiate between when therapist behaviour is appropriately or inappropriately absent. It is possible that raters with greater clinical experience may identify a greater number of low quality emails than less experienced raters. It is acknowledged that relationships between therapist emails and outcomes could be greater if there was less of a delay between when patients emailed and therapists responded (e.g. <3.72 days). Of note, a large number of correlations were examined, which means that some of the significant relationships could be due to chance. It is possible that relationships between the ICBT-TRS and outcomes may have been greater if there was greater therapist variability in delivering ICBT and greater variability in patient outcomes.

Future directions

While the ICBT-TRS scores were not related to outcomes in the current study, such relationships should be examined in other settings. Given that the ICBT-TRS is consistent with past descriptions of therapist-assisted ICBT (Andersson, 2016), it is hypothesized that the scale will be appropriate for use in other settings; nevertheless, this requires systematic investigation and tailoring of the measure may be required. For example, if submission of homework is required as part of ICBT programs, the ICBT-TRS may need to be modified to take this into account. Notwithstanding, many of the ICBT-TRS categories should still apply (e.g. Facilitates Understanding, Praises Effort and Encourages Practice). As another direction, the ICBT-TRS could be expanded to include specific negative behaviours, such as poorly timed emails and overly critical tone. These behaviours may have been observed more frequently if specific items had captured these areas. The ICBT-TRS currently only captures “negative behaviours” when rating therapist behaviours as inadequate (e.g. inadequate rapport, psychoeducation, facilitating understanding).

Future studies could investigate the utility of the scale for aiding supervision and evaluating therapists in ICBT. It would also be beneficial to have raters with more clinical experience apply the scale and distinguish between “very good” and “excellent” emails. Examination of inter-correlations suggests that some domains may be more highly related than others and factor analysis of the domains in a larger sample could reveal ICBT-TRS subscales, such as scales assessing nonspecific versus specific behaviours. The ICBT-TRS may also be a valuable tool in dismantling or experimental studies that examine the effect of removing or manipulating selected therapist behaviours (e.g. see Mulder, Murray, & Rucklidge, 2017).

The tool could be used to confirm therapist fidelity to assigned conditions. As an additional future direction, it may be beneficial to examine how nonspecific and specific therapist behaviours are related to symptom change over the course of treatment or the potential moderating effect of individual difference variables (e.g. is there a relationship between therapist fidelity and outcome in those with severe depression?).

Conclusions

The ICBT-TRS shows promise for assessing adherence and quality of therapist behaviours in ICBT. High inter-rater reliability and internal consistency were found. Promisingly, among 39 therapists, most behaviours were identified as being present in emails and were rated as adequate quality. Supporting the validity of the ICBT-TRS, ratings were higher when patients were more engaged in ICBT and among therapists who specialized in ICBT and had a psychology background. The ICBT-TRS has potential to facilitate ICBT research and clinical training.

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