ORIGINAL ARTICLE

Development and Validation of a Scale to Measure Caregiver Skills in Eating Disorders

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ABSTRACT

Objective: The aim of this study was to develop and validate a new questionnaire designed to measure caregiver skills that, in line with the interpersonal component of the cognitive interpersonal maintenance model (Schmidt and Treasure, J Br J Clin Psychol, 45, 343–366, 2006), may be helpful in the support of people with anorexia nervosa (AN). A further aim is to assess whether this scale is sensitive to change following skills-based caregiver interventions.

Method: The Caregiver Skills (CASK) scale was developed by a group of clinicians and caregivers. Preliminary versions of the scale devised for both caregivers and parents were given at baseline and at follow-up after two studies of caregiver interventions (a clinical trial of the effectiveness of guided self-help and training workshops). Exploratory and confirmatory factor analyses (CFA) were used to test the factorial structure of the CASK scale. Cronbach's alpha was used to measure internal consistency of the CASK scales.

Results: Exploratory Factor Analysis suggested a six component solution (*Bigger Picture, Self-Care, Biting-Your-Tongue, Insight and Acceptance*, *Emotional Intelligence* and *Frustration Tolerance*) and this model was confirmed with CFA. Significant clinically relevant correlations were found between the CASK scales and other standardised measures of caregivers' attitudes and behaviours. Furthermore, greater improvements on abilities measured by the CASK scale were found in caregivers who received skills-training than caregivers assigned to a 'treatment as usual' condition.

Discussion: The CASK scale is a measure of the fidelity of interventions based on the cognitive interpersonal maintenance model and is sensitive to the intensity of the intervention provided.

Keywords: caregiver; eating disorders; exploratory factor analysis; anorexia nervosa

(Int J Eat Disord 2014; 00:000–000)

Introduction

Eating disorders (EDs), particularly anorexia nervosa (AN), have a large impact on psychosocial functioning. Schmidt and Treasure (2006) have developed a cognitive interpersonal maintenance model proposing that cognitive, socio-emotional, and interpersonal elements act to both cause and maintain EDs.[1] The evidence supporting this model has been recently synthesized.[2] The interpersonal component of the model posits that the caregivers' responses to the illness can, unintentionally, contribute to the perpetuation of symptoms. Caregivers may show high levels of expressed emotion (e.g., emotional over-involvement) and accommodating and enabling behaviors; both of which may have a negative impact on ED symptoms and hinder recovery.[3–5] There is empirical evidence in adults with severe and/or enduring AN[6] that these caregiver responses are related to caregiver distress and may furthermore impact on the individual with an ED. In adolescents in the early stage of illness, caregiver accommodating behavior may be more even more apparent.[7] Empirical support for the interpersonal maintenance model at two different stages of illness has led to the development of interventions

Accepted 28 September 2014

Additional Supporting Information may be found in the online version of this article.

Supported by PB–PG-0609-19025 from National Institute for Health Research (NIHR); 55754 CSP:55754 from ECHO.

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Published online 00 Month 2014 in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/eat.22362

for caregivers (Experienced Carers Helping Others [ECHO]), targeting the interpersonal components and teaching skills to manage the illness.[8]

A recent systematic review and meta-analysis has shown that skills training and psychoeducational interventions for caregivers of someone with an ED (e.g., ECHO) have produced a moderate sized reduction in caregiver burden and distress. The outcomes from these studies have been measured with instruments that assess general caregiver self-efficacy[9] and expressed emotion[10] more recently specific ED instruments measuring caregiver burden[11] and accommodating and enabling behaviors[12] have been used. However, the assessment of the key skills taught in caregiver interventions has not been thoroughly examined and a validated instrument for this purpose has yet to be developed. The Caregiver Skills (CASK) scale was developed with this in mind, derived by compiling questions pertaining to knowledge of the core skills contained within ECHO. This was refined by asking clinicians and experienced coaches to read through the initial prototype and provide feedback. The present study had three aims: (1) to develop and examine the factor structure (construct validity) and internal consistencies of the CASK, (2) to examine whether these attitudes and behaviours are associated with other aspects of caregiving behavior (convergent validity), (3) to examine whether the instrument is sensitive to change following a targeted intervention.

Hypotheses

1. The new scale will have factors which match the curriculum of the ECHO intervention (construct validity) including but not limited to: the use of motivational interviewing strategies to improve interactions with patients; illness awareness; goal setting; implementing behavioral experiments that target their own unhelpful reactions such as high expressed emotion (criticism, over protection, increasing warmth) and accommodating and enabling.
2. CASK scale scores will correlate negatively with caregiving factors such as depression and anxiety, low general wellbeing, expressed emotion, and accommodation/enabling behaviors (convergent validity).
3. The instrument will be sensitive to change in that interventions with a larger interpersonal input such as "guidance" will show greater change over time than self-help alone or "treatment as usual".

Method

Sample

Data for the validation of this instrument were collected from a variety of participants involved in support for caregivers of someone with an ED. These included: (1) Caregivers ($N = 198$, 135 mothers, 56 fathers [5 step-fathers], 5 siblings, 1 grandmother, and 1 aunt) who took part in the baseline assessment of a multicenter randomized controlled trial (RCT) evaluating a skills-based intervention for caregivers of someone with AN (ECHO).[8] Ethical approval was granted by the National Research Ethics Service Committee (11/H0724/4); (2) Data collected from caregivers attending the National Carers Conference, caregiver workshops, the volunteer database at Guy's Hospital, the Beat volunteer database and from the community through poster advertisement ($N = 127$, relationship to patient unavailable). The collection of these questionnaires was approved by the local research ethics committee. See Table 1 for participant demographics.

TABLE 1. Caregiver demographics

	Community N = 127	ECHO Trial N = 198	Total N = 325
Age (Mean, SD)	51.8 (7.5)	47.9 (7.2)	49.4 (7.6)
Frequency (%)			
% Female:% Male	83:17	72:28	76:24
Education			
No qualification	17	2	8
O/A-levels	21	40	33
University/higher degree	58	51	54
Other/missing	4	7	5
Employment			
Paid employed			
Full-time:part-time	37:34	45:29	42:31
Homemaker/unemployed/ sick/retired	23	16	18
Student	2	3	3
Other/missing	4	7	6
Marital status			
Married	84	68	75
In a relationship	6	10	8
Single/divorced/widowed	10	22	17
Ethnicity			
White (British, Irish, Other)	96	94	95
Asian/Asian British/Mixed	3	3	2
Other/missing	1	4	3

Data examining sensitivity to change included: (1) Caregivers ($N = 136$, 94 mothers, 36 fathers [2 step-fathers], 4 siblings, 1 grandmother and 1 aunt) who were followed-up at six month postintervention ($N = 44$: skills training book[13] and five DVDs [ECHO] in addition to treatment as usual [TAU], $N = 49$: caregivers who received the aforementioned self-help materials and an additional five coaching sessions with an 'experienced carer' [ECHOc] with TAU, $N = 43$: TAU only). (2) Caregivers ($N = 47$, relationship to patient unavailable) who were assessed following a one-day (6h) psychoeducational workshop.

Measures

In addition to the CASK scale, this study used the following measures to assess converging validity:

The Depression Anxiety and Stress Scale (DASS-21)[14] is a 21-item self-report measure validated in both clinical and non-clinical samples with good internal reliability.

The General Health Questionnaire (GHQ)[15] is a well-validated 12-item measure assessing general wellbeing over the previous few weeks using a 4-point Likert scale.

The Family Questionnaire (FQ)[10] is a 20-item self-report measure of expressed emotion in caregivers. Scores are given on a 4-point Likert scale. Two subscales: emotional over-involvement and criticism. Good internal consistency for emotional over-involvement (0.78–0.80) and criticism (0.91–0.92).

The Accommodation and Enabling Scale for Eating Disorders (AESED)[12] is a 33-item self-report measure. Internal consistency for the scale is good (0.77–0.90 for subscales, 0.92 for total scale).

The Development of the Assessment Measure CASK (Item Pool Generation)

A focus group of experienced clinicians and researchers working at the Institute of Psychiatry in London met and generated items targeting caregivers' knowledge on the skills that are helpful in managing ED behaviors. Items were drawn from a collaborative care model[16] and included the core skills and values taught in the clinical guide.[13] These included: communication about ED symptoms and their relationship to nonarticulated emotions; a compassionate caring stance to self and other family members and the individual with an ED; hope and positive framing; a Motivational Interviewing[17] form of communication including affirmation, sidestepping arguments, and yet gentle firmness on boundaries and non-negotiable rules; keeping a focus on the bigger picture and avoiding too much focus on detail of eating behavior; accepting the illness and not blaming self or individual; quality time for self and other members of the family; and the need to role model emotional intelligence. This was refined by asking clinicians and experienced coaches to read through the prototypes and provide feedback. Face and content validity were considered as items were included. In total, 33 items were generated for the pilot scale. Each item was scored with a visual analog scale, with anchors 0 and 100 and decile points and adjectives.

Statistical Analysis

In the first stage, the following analyses were conducted to test the psychometric properties of the CASK scale. Exploratory factor analysis (EFA) with principal-axis factoring as an extraction method was used to determine the number of factors underlying the data. As factors were assumed to be highly correlated, an oblique rotation method (direct oblimin) was used.[18] Factorability was assessed using the Kaiser–Meyer–Olkin Index (KMO) test[19] and the Bartlett's test of sphericity. A combination of methods was used for factor retention, including Kaiser's criteria (retention of factors with eigenvalues >1.0), a close examination of the scree test (examination of a plot of the eigenvalues for breaks or discontinuities), factor interpretability and theoretical relevance. To determine item inclusion in a factor, a factor loading above 0.30 was considered acceptable.[20]

Using EQS 6.1,[21] a confirmatory factor analysis (CFA) was carried out on the CASK scale to confirm the factors determined in the EFA. The model tested used maximum likelihood estimation (ML). The following indices were used to evaluate the overall goodness model fit: the Satorra-Bentler robust χ^2 test statistics (S-Bχ^2/df ratios < 3 indicate reasonable fitting models), the robust comparative fit index (CFI, with values 0.90 or over indicating better fitting models) and the root-mean-square error of approximation (RMSEA, with values of 0.05 or less indicating close fit, as well as values <0.08 is indicative of reasonable fit).[22] The internal consistency between items within each retrieved factor was determined by calculating Cronbach's alpha. Convergent validity was established by correlating all six subdomains and total score of the CASK scale with standardized measures of caregivers' expressed emotions (FQ), accommodation and enabling (AESED), general health (GHQ), and distress (DASS). Analyses were conducted using Spearman's correlation coefficient and version 17.0 of PASW.

In the second stage, the following analyses were conducted to test the sensitivity of the CASK scale ($N = 183$). Responsiveness to change was evaluated by administering the questionnaire at two time points, pre- and post-intervention. ECHO caregivers ($N = 136$) were assessed at six month follow-up postself-help intervention. Workshop caregivers ($N = 47$) were assessed immediately after a one-day workshop. Because of non-normality, Wilcoxon's signed-ranks test for paired samples was used to assess change following the caregiver intervention. Effect sizes were calculated using Cohen's d to indicate the magnitude of pre- and postdifferences. Cohen's effect sizes are understood as negligible (≥ -0.15 and <0.15), small (≥ 0.15 and <0.40), medium (≥ 0.40 and <0.75), large (≥ 0.75 and <1.10), very large (≥ 1.10 and <1.45), and huge (≥ 1.45).[23]

Results

Item and Descriptive Analyses

Thirty-two out of the 33 corrected item-total correlations were higher than 0.30 (except for item 30). See additional online file. Interitem correlation coefficients ranged from 0.032 to 0.735 and almost achieved statistical significance (at almost $p < .05$). See additional online file. In addition, t-tests for extreme groups (30th and 70th percentiles of the CASK mean score, with $n = 99$ and $n = 102$ subjects,

respectively) revealed that all 33 items had F-values that reached a good level of significance ($p < .001$), suggesting that all items yielded good discriminating power. As a result, all questionnaire items were retained for subsequent factor analysis.

Exploratory Factor Analysis

Exploratory factor analysis (EFA) was performed to examine the latent structure of the 33-items of the CASK scale and to select relevant items. The Kaiser–Meyer–Olkin Index of sampling adequacy value (KMO = 0.92) verified the sampling adequacy for the proposed analysis. Bartlett's test of sphericity (approximate Chi-square = 5,412.247; $p < .001$) indicated that correlations between items were sufficiently large for principal-axis factoring.

Examination of Kaiser's criteria and the screeplot yielded empirical justification for retaining six factors with eigenvalues exceeding 1, explaining 51% of the total amount of accounted variance. Item loadings on the six factors are displayed in **Table 2**. The names assigned to each factor were determined by item content. Factor 1, labeled *Bigger Picture*, was comprised of nine items and was related to concerns about the ability to be more positive about changes with a hopeful, long-term view. Factor 2, labeled *Self-Care*, was comprised of four items and was related to concerns about the ability to take time for self and other family members. Factor 3, labeled *Biting-Your-Tongue*, comprised three items and was related to concerns about the ability to control the urge to enquire and avoid repetitive nagging conversations. Factor 4, labeled *Insight and Acceptance*, comprised four items and was related to concerns about the ability to accept and manage negative emotions. Factor 5, labeled *Emotional Intelligence*, comprised four items and was related to concerns about the ability to discuss and manage feelings. Factor six, labeled *Frustration Tolerance*, comprised six items and was related to concerns about the ability to side step conflict yet be firm, calm, and understanding towards the person with the ED.

Two items (CASK 30 and CASK 31) were removed because they did not meet the criteria for inclusion.

The CASK scale total score and the six derived factors showed statistically significant associations (range from 0.65 to 0.84) and the correlation between the six derived factors ranged from 0.09 to 0.60 (**Table 3**).

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was performed to assess the robustness of the six-factor model derived from EFA. Initial model fit did not meet criteria for good fit (S-Bχ^2 = 1066.53; $df = 422$; S-B$\chi^2/df = 2.53$; Robus CFI = 0.840; RMSEA = 0.07) and items were removed iteratively to improve fit. An asterisk in **Table 2** indicates removed items. The χ^2 value of the model was significant (S-B$\chi^2 = 644.05$; $df = 313$; S-B$\chi^2/df = 2.06$; $p < .001$). Examination of other fit indexes indicated an adequate fit between the theoretical model and the data, with Robust CFI = 0.90; RMSEA = 0.06. All the standardized factor loadings of the items into their correspondent latent construct were statistically significant (at least $p < .05$), ranging between 0.28 and 0.84 with a mean of 0.66.

Internal Consistency

Cronbach's alpha was used to determine the internal consistency for the total score and for each of the six derived factors. All of them have high internal consistency: 0.92 for the total score; 0.85 for Factor 1; 0.77 for Factor 2; 0.77 for Factor 3; 0.71 for Factor 4; 0.77 for Factor 5 and 0.84 for Factor 6. Corrected item-total correlations were in the 0.30–0.66 range for the total CASK scale score, 0.50–0.70 for Factor 1, 0.48–0.66 for Factor 2, 0.59–0.63 for Factor 3, 0.49–0.58, for Factor 4, 0.37–0.63 for Factor 5 and 0.55–0.72 for Factor 6.

Convergent Validity

The correlations between the scores on each CASK scale factor and those on the DASS, the AESED, the GHQ and the FQ appear in **Table 3**. The following theoretically predicted correlations were found: (a) caregivers' expressed emotion (FQ) was negatively associated with *Biting-Your-Tongue* ($r = -.366$, $p < .01$), with *Acceptance* ($r = -.233$, $p < .01$) and with *Frustration Tolerance* ($r = -.464$, $p < .01$); (b) caregivers' accommodating and enabling behaviors (AESED) were negatively correlated, although weakly, with *Emotional Intelligence* ($r = -.149$, $p < .05$); and (c) *Self-Care* was negatively associated with caregivers' general health (GHQ, $r = -.609$, $p < .01$) and with caregivers' distress (DASS, $r = -.446$, $p < .01$).

Sensitivity to Change

To evaluate changes between T1 and T2, caregivers were grouped according to type of intervention they had been allocated to: self-help alone ECHO ($N = 44$; $M = 10$; $F = 34$), guided self-help ECHOc ($N = 49$; $M = 14$; $F = 35$), workshop ($N = 47$; $M = 8$; $F = 39$), and treatment as usual (TAU, $N = 43$; $M = 12$; $F = 31$). The overall change for the whole group of caregivers was also analysed. **Table 4** shows the results of these analyses.

TABLE 2. Matrix summary of exploratory factor analysis (*N* = 325)

Category	Item	Factor Loadings 1	2	3	4	5	6	*M*	SD
1. Bigger Picture	10. Be reassured by even the smallest signs of improvement?	0.792						6.46	2.42
	11. Keep hope that X will recover	0.630						7.51	2.32
	23. Keep your eye on X's overall progress/the bigger picture	0.680						7.11	2.02
	19. Praise change or attempts at change by X even if the effects/results were less than you were hoping for	0.671						7.14	2.17
	9. Engage X so that she thinks more positively about making changes[a]	0.598						6.29	2.32
	27. Reflect and understand the effect of your behaviour on X	0.417						6.64	2.14
	17. Do things with X not related to the eating disorder, including things s/he enjoyed before the illness[a]	0.396						6.79	2.49
	26. Separate X as a person from the illness	0.387						6.88	2.39
	24. Resist relying solely on weight as a marker of how s/he is doing	0.313						6.50	2.41
2. Self-Care	7. Take some time for yourself when you need a break		0.799					4.83	2.68
	1. Keep doing the things that you enjoy whilst caring for X		0.775					5.29	2.49
	12. Step back and trust that X will cope with day to day challenges by themselves		0.408					5.10	2.34
	32. Find time to spend with other members of the family		0.432					6.13	2.22
3. Biting-Your-Tongue	20. Resist constantly reminding/asking about agreed behavior targets			0.779				6.02	2.32
	18. Control the urge to keep enquiring or checking on X's behavior even when you are very worried			0.692				5.55	2.19
	22. Avoid getting caught in repetitive conversations with X about food and eating			0.612				6.01	2.28
4. Insight and Acceptance	29. Accept that the one cause or trigger for the eating disorder may not be the solution to recovery				0.638			7.07	2.28
	28. Accept that the eating disorder is not your fault				0.525			6.05	2.67
	33. Manage your anxiety levels so that you don't feel overwhelmed				0.426			5.51	2.38
	25. Avoid getting caught in repetitive conversations with X about weight and shapea[a]				0.314			6.27	2.40
5. Emotional Intelligence	2. Discuss and explain your own feelings about the eating disorder openly with X					0.581		5.46	2.81
	3. Discuss the eating disorder openly with all other immediate family members involved					0.476		6.46	2.75
	8. Talk and listen with X about difficult and complex emotions that s/he is feeling					0.431		6.77	2.50
	13. Agree boundaries, plans, or household rules in collaboration with X					0.403		5.63	2.45
	14. Uphold boundaries/rules consistently in a compassionate tone, even when X is arguing with you					0.355		5.66	2.38
6. Frustration Tolerance	6. Be calm when dealing with difficult behaviors associated with the eating disorder						0.747	6.53	1.96
	4. Be understanding towards X, even when you are angry or frustrated with them						0.693	6.96	1.95
	5. Avoid getting drawn into arguments about the eating disorder with X						0.648	6.38	2.14
	15. Control the urge to argue against the eating disorder behaviours, even though you believe your argument to be logical						0.406	5.89	2.26
	16. Have pleasant verbal interactions with X, not related to the eating disorder						0.365	7.68	2.11
	21. Intervene without criticizing X when s/he is engaging in ED behavior[a]						0.317	5.83	2.24

[a]Dropped to improve model fit.

We found a significant improvement on the total score as well as on the factors of the CASK scale with effect sizes ranging from −0.36 to −0.61 for the whole group of caregivers (**Table 4**). Grouping caregivers according to type of intervention, the total score of the CASK scale showed an improvement after the ECHO intervention with and without coaching and the one-day workshop. The effect size (ES) was small for ECHO without coaching (ES = −0.31), large for ECHO with coaching (ES = −0.77) and very large after the one-day workshop (ES = −1.19). There was no improvement in total score in the TAU group. All six subscales of the CASK scale showed an improvement in the ECHO intervention group with coaching and one-day workshop with varying effect sizes (**Table 4**). Improvements were demonstrated in *Bigger Picture* and *Frustration Tolerance* in the ECHO intervention without coaching and in *Self-Care* and *Frustration Tolerance* in the TAU group.

TABLE 3. Bivariate correlations for caregiving measures with the CASK scale

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Bigger Picture	48.25	11.55	–									
2. Self-Care	21.32	7.51	0.391**	–								
3. Biting-Your-Tongue	17.59	5.63	0.478**	0.377**	–							
4. Insight and Acceptance	18.62	5.83	0.490**	0.461**	0.421**	–						
5. Emotional Intelligence	30.02	9.33	0.584**	0.442**	0.357**	0.433**	–					
6. Frustration Tolerance	33.44	8.15	0.696**	0.391**	0.549**	0.415**	0.563**	–				
7. CASK Total	169.23	36.45	0.853**	0.662**	0.661**	0.680**	0.781**	0.818**	–			
8. AESED	48.98	23.21	−0.149*	−0.532**	−0.250**	−0.233**	−0.149*	−0.281**	−0.328**	–		
9. FQ	48.31	9.46	−0.392**	−0.546**	−0.366**	−0.417**	−0.329**	−0.464**	−0.548**	0.608**	–	
10. DASS-21	31.52	21.93	−0.267**	−0.446**	−0.186**	−0.386**	−0.253**	−0.212**	−0.376**	0.423**	0.533**	–
11. GHQ	15.42	6.25	−0.315**	−0.609**	−0.281**	−0.518**	−0.301**	−0.311**	−0.507**	0.460**	0.574**	0.680**

Bigger Picture = Caregiver Skills Scale – factor 1; Self-Care = Caregiver Skills Scale – factor 2; Biting-Your-Tongue = Caregiver Skills Scale – factor 3; Insight and Acceptance = Caregiver Skills Scale – factor 4; Emotional Intelligence = Caregiver Skills Scale – factor 5; Frustration Tolerance = Caregiver Skills Scale – factor 6; CASK Total = Caregiver Skills Scale total score; AESED = Accommodation and Enabling Scale for Eating Disorders; FQ = Family Questionnaire; DASS-21 = Depression Anxiety and Stress Scale; GHQ = General Health Questionnaire.

Discussion

The aim of this study was to validate a scale to measure caregiver skills that, in line with the interpersonal component of the cognitive interpersonal maintenance model, may be helpful in the support of people with AN. Exploratory and confirmatory factor analysis demonstrated strong factorial validity for an instrument with 27 items and six factors: *Bigger Picture*, *Self-Care*, *Biting-Your-Tongue*, *Insight and Acceptance*, *Emotional Intelligence,* and *Frustration Tolerance*. Our first hypothesis was confirmed as these factors encapsulate the specific attitudes and behavior that are targeted in the ECHO intervention. For example, *Self-Care* is taught as a way of reducing stress, strain, and developing resistance. *Biting-Your-Tongue* and *Frustration Tolerance* encompass high expressed emotion (criticism and over protection). The use of motivational interviewing strategies to improve interactions with patients is contained within *Emotional Intelligence*. Reducing rigid thinking and promoting flexibility is reflected in *Bigger Picture* and increasing warmth in *Insight and Acceptance*. Furthermore, the internal consistencies of the six factors were high above the standard of 0.70 set by Nunnally and Bernstein[24] for newly developed research tools.

The convergent validity was first examined comparing the CASK with the General Health Questionnaire and Depression, Anxiety and Stress Scale as general measures of caregiver wellbeing. As hypothesized, caregivers' general health (GHQ) and distress (DASS) were negatively correlated with the *Self-Care* factor. The convergent validity was furthermore examined between the CASK and existing measures of caregiver behaviors: the Family Questionnaire and the Accommodation and Enabling Scale for ED. As hypothesized, expressed emotion (FQ) was negatively correlated with the *Biting-Your-Tongue* factor, the *Insight and Acceptance* factor and the *Frustration Tolerance* factor. Additionally, accommodating and enabling behavior (AESED) was negatively correlated with the *Emotional Intelligence* factor.

The secondary aim of this study was to examine whether the dimensions measured by the CASK might be sensitive to change. As expected, the total score increased significantly after skills-training interventions (ECHO, ECHOc, and workshop) aimed at changing intrafamilial maintaining factors. This increase was not demonstrated in the TAU group. Therefore, it is likely that the CASK was effective in measuring improvements in knowledge about the key skills taught. As expected, the interventions with a greater level of interpersonal training produced the most change and this has implications for the development of future training interventions. In a qualitative study examining the impact of the intervention, patients reported changes in their caregivers that included a greater understanding and awareness of the illness, improved coping abilities, better communication, and reduced anxiety suggesting that these skills are implemented in practice.[25]

Limitations

Other psychometric aspects remain to be tested, e.g., test–retest reliability. Finally, in order to test the interpersonal component of the model it would be interesting to examine whether score improvements on the CASK scale are associated with changes in patient well-being or symptoms.

TABLE 4. Pre- to post-intervention effect from the CASK scale

	CASK T1 (Pre-Intervention)		CASK T2 (Post-Intervention/ Follow-Up)				
	M	SD	M	SD	*Z*	*p*	*d*
Whole group (N = 183)	47.70	11.14	52.29	9.67	−5.959	.000	−0.44
F1. Bigger picture	20.37	7.48	24.96	7.56	−7.729	.000	−0.61
F2. Self-care	17.20	5.43	19.68	4.93	−5.560	.000	−0.48
F3. Biting-your-tongue	18.17	5.75	20.69	4.99	−5.917	.000	−0.47
F4. Insight and acceptance	30.46	9.35	33.52	7.45	−4.900	.000	−0.36
F5. Emotional intelligence	33.09	7.82	36.45	7.44	−6.180	.000	−0.44
F6. Frustration tolerance	166.99	35.21	187.60	34.31	−7.807	.000	−0.59
CASK total							
ECHO group (N = 44)							
F1. Bigger picture	49.36	10.42	52.52	8.41	−2.164	.030	−0.33
F2. Self-care	21.79	8.64	24.07	8.20	−1.850	.064	−0.27
F3. Biting-your-tongue	17.84	5.00	18.98	4.49	−1.281	.200	−0.24
F4. Insight and acceptance	18.66	5.57	20.27	5.08	−1.710	.087	−0.30
F5. Emotional intelligence	32.34	9.46	32.34	7.63	−0.163	.871	−0.00
F6. Frustration tolerance	33.20	7.88	35.34	8.03	−2.288	−.022	−0.27
CASK total	173.20	34.59	183.52	31.62	−2.210	.027	−0.31
ECHOc group (N = 49)							
F1. Bigger picture	47.16	10.16	53.31	9.76	−3.882	.000	−0.62
F2. Self-care	19.94	6.67	25.31	7.12	−4.496	.000	−0.78
F3. Biting-your-tongue	18.06	5.08	20.16	5.56	−2.658	.008	−0.39
F4. Insight and acceptance	18.00	4.93	21.00	4.64	−3.970	.000	−0.63
F5. Emotional intelligence	31.14	8.87	35.65	5.98	−3.825	.000	−0.60
F6. Frustration tolerance	34.29	7.31	37.37	6.27	−2.828	.005	−0.45
CASK total	168.59	30.30	192.80	32.19	−4.778	.000	−0.77
Workshop group (N = 47)							
F1. Bigger picture	42.74	12.43	51.11	10.07	−4.918	.000	−0.74
F2. Self-care	18.51	6.26	26.42	6.32	−5.778	.000	−1.26
F3. Biting-your-tongue	14.72	5.01	20.00	4.27	−4.819	.000	−1.13
F4. Insight and acceptance	16.02	6.61	20.98	4.95	−4.820	.000	−0.85
F5. Emotional intelligence	26.40	9.04	33.62	7.21	−4.824	.000	−0.88
F6. Frustration tolerance	29.04	7.42	36.04	7.15	−5.057	.000	−0.96
CASK total	147.45	33.51	188.17	35.01	−5.759	.000	−1.19
TAU group (N = 43)							
F1. Bigger picture	52.02	9.47	52.21	10.50	−0.117	.907	−0.02
F2. Self-care	21.45	8.05	23.88	8.52	−2.107	.035	−0.29
F3. Biting-your-tongue	18.28	6.00	19.49	5.33	−1.515	.130	−0.21
F4. Insight and acceptance	20.20	5.11	20.46	5.47	−.409	.683	−0.05
F5. Emotional intelligence	32.21	9.05	32.21	8.61	−0.007	.994	0.00
F6. Frustration tolerance	36.02	7.17	36.98	8.36	−1.426	.154	−0.12
CASK total	180.18	34.92	185.23	38.68	−1.335	.182	−0.14

ECHO, experienced carers helping others intervention; ECHOc, experienced carers helping others with coaching intervention; and TAU, treatment as usual.

Conclusion

This study provides evidence for the factorial and convergent validity and the internal consistency of a 27 item measure of Caregiver Skills (CASK). The CASK scale, with the emphasis on skills and strengths rather than symptoms and deficits, maybe a useful clinical tool e.g., as a "checklist" to raise awareness before goal-setting. Also it is a measure of the fidelity of interventions based on the cognitive interpersonal maintenance model and is sensitive to the intensity of the intervention provided.

The views expressed in this publication are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health. The authors acknowledge financial support from the National Institute for Health Research (NIHR) Specialist Biomedical Research Centre for Mental Health award to the South London and Maudsley NHS Foundation Trust and the Institute of Psychiatry, King's College London and the Psychiatry Research Trust.

Our great thanks go to the experienced coaches who are took part in this study: S. Ahir, L. Best, Y. Boughton, R. Cooper, S. Doyle, J. de Guzman, A. Harrison, J. Langley, E. Ritchie, Y. Round, J. Shipway, M. Waldrum, and C. Walker.

The authors also thank the principal investigators who were involved in the recruitment of participants at outpatient sites: S. Clark-Stone, 2gether NHS Foundation Trust; W. Clarke, Anuerin Bevan Local Health Board; D. Robertson, Birmingham and Solihull Mental Health

NHS Foundation Trust; N. Dawson, Bradford District Care Trust; C. Schrieber-Kounine, Avon and Wiltshire Mental Health Partnership NHS Trust; J. Shapleske, Cambridgeshire and Peterborough NHS Foundation Trust; J. Whittaker, Central Manchester University Hospitals NHS Foundation Trust; A. Jones, Cornwall Partnership NHS Trust; K. Goss, Coventry & Warwickshire Partnership NHS Trust; H. Crowson, Derbyshire Mental Health Services NHS Trust; K. Higgins, Dudley and Walsall Mental Health NHS Trust; N. Green, Humber Mental Health Teaching NHS Trust; A. Lodwick, Hywel dda Health Board; N. Jacobs, Kent and Medway NHS and Social Care Partnership Trust; C. Newell, Kimmeridge Court, Dorset Healthcare University NHS Foundation Trust; J. Morgan, Leeds Partnership NHS Foundation Trust and St George's University of London; J. Arcelus, Leicestershire Partnership NHS Trust; H. Birchall, Lincolnshire Partnership NHS Foundation Trust; R. Thompson, Norfolk and Waveney Mental Health Foundation Trust; H. Stephens, North Bristol NHS Trust; I. Lea, North Essex Partnership Foundation NHS Trust; L. Addicott, Nottinghamshire Healthcare NHS Trust; S. Sankar, Northamptonshire Healthcare NHS Trust; J. Holliday, Oxford Health NHS Foundation Trust; B. Waites, Powys Local Health Board; H. Strachan, Royal Bolton Hospital; A. Fennell, Black Country Partnership NHS Foundation Trust; A. Wolton, Somerset Partnership NHS Foundation Trust; H. Gahan, South Essex Partnership University NHS Foundation Trust; G. Moss, Sheffield Children's Hospital; J. Orme, Sheffield Health and Social Care NHS Foundation Trust; K. Moore, South Staffordshire and Shropshire Healthcare NHS Foundation Trust; G. Burgoyne, Suffolk Mental Health Partnership NHS Trust; I. Eisler, South London and Maudsley NHS Foundation Trust; B. Bamford, South-West London and St George's Mental Health Trust; I. Yi, Surrey and Borders Partnership NHS Foundation Trust; and P. Parker, Worcestershire Mental Health Partnership NHS Trust. Our appreciation extends also to the Mental Health Research Network who have been instrumental in the successful setup of this project.

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