

How beneficial is cognitive behaviour therapy in the treatment of atopic dermatitis? A single-case study

ANJA WITTKOWSKI & HELEN L. RICHARDS

Division of Clinical Psychology, University of Manchester, UK

Abstract

A single-case design was used to examine the benefits of cognitive behaviour therapy (CBT) in the treatment of two patients with atopic dermatitis (AD). Improvements were indicated for both cases in global outcome measures, with reductions in anxiety, depression and stigmatization beliefs and improvements in quality of life. Self-rated AD severity remained relatively stable across treatment time. For both cases, treatment gains were particularly evident in terms of reducing avoidance behaviours. The findings were discussed in relation to the need for CBT as an adjunct treatment for patients with AD and its potential role in improving psychological functioning.

Keywords: *Atopic dermatitis, cognitive behaviour therapy, single-case design*

Introduction

The psychosocial impact of chronic skin conditions, such as atopic dermatitis (AD), has been widely demonstrated in the literature. Consequently, psychological approaches, such as cognitive behaviour therapy (CBT), as an adjunct to dermatological treatment have been explored for a number of years with encouraging results (e.g., Ehlers, Stangier, & Gieler, 1995). Furthermore, single-case studies have highlighted the efficacy of such therapeutic interventions on the psychosocial impact of AD (e.g., Halford & Miller, 1992; Haynes, Wilson, Gaff, & Britton, 1979; Horne, Taylor & Varigos, 1999; Horne, White & Varigos, 1989; Rosenbaum & Ayllon, 1981). These studies mostly focused on specific treatment aspects, such as relaxation, biofeedback, stress reduction or habit reversal. However, the assessment of individually identified constructs as targets of internal change (e.g., affects, cognitions, etc.) may be essential in order to capture clinically relevant dimensions (Beutler & Hamblin, 1986). In addition, beliefs about stigmatization and rejection fears have not been specifically addressed despite their implication in AD-related distress (Wittkowski, Richards, Griffiths, & Main, 2004). Thus this study set out to (a) examine the benefits of CBT in the treatment of patients with AD, (b) to explore the impact of stigmatization beliefs in a clinical setting and (c) to evaluate outcome of specific cognitive–behavioural strategies on quality of life and general psychosocial functioning.

Methods

A single-case multiple baseline across subjects design was used in order to investigate the usefulness and efficacy of CBT in the psychosocial treatment of adults with AD.

Recruitment

Patients with AD, referred to Behavioural Medicine by consultant dermatologists were recruited, if the referral reason included difficulties coping with AD and symptoms of anxiety or depression.

Measures

Patients completed the Dermatology Life Quality Index (DLQI; Finlay & Khan, 1994), the Rosenberg Self-esteem Scale (RSE; Rosenberg, 1965), the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983), the Fear of Negative Evaluation Scale (FNE; Watson & Fiend, 1969), the Stigmatisation and Eczema Questionnaire (SEQ; adapted from Ginsburg & Link, 1989) and self-rated their AD severity at pre-treatment, mid-treatment (session 4) and termination. The questionnaires were rated by an independent assessor (HR).

Prior to each session, patients were asked to rate their perceived AD severity, perceived stigmatization, anxiety in social situations and avoidance behaviours on a visual analogue scale, ranging from 0 (not at all) to 100 (a great deal). These scales were used as indicators for self-rated degree of conviction and strength of beliefs throughout therapy.

Procedure

The intervention consisted of eight, weekly, 60-min sessions. At the request of one patient, sessions were held fortnightly. On the basis of a detailed analysis, a specific problem list was established for each patient. From the patient's history, an individual formulation was derived and shared with the patient. Therapeutic goals were established in collaboration with the patient. Patients were reassured that their symptoms and distress were real and that psychological intervention was an additional approach to conventional dermatological care. Standard CBT strategies were employed (e.g., guided discovery and behavioural experiments) to allow patients to modify maladaptive beliefs, gain insight and practice more adaptive coping strategies in social situations.

Case 1

Richard (all names have been changed), a 29-year-old, employed, married man, had severe AD requiring inpatient admissions in the past.

Presentation and formulation. Richard had experienced low mood in relation to his skin condition in the past. However, at the time of referral, he was concerned about the impact of stress on his AD (perceiving this to contribute to exacerbations) and about his poor quality of life. For example, he had been avoiding social and leisure activities (playing sports). Richard was worried about the visible nature of his AD, especially on his face, and expressed concerns about being rejected by others and feeling stigmatized. His performance at work

had suffered as a consequence of him worrying excessively about the impression his colleagues had of him.

At presentation, Richard was very motivated and his difficulties were formulated by drawing out the interactions between physical symptoms, cognitions, affect and behaviours. Intervention addressed his tendency to worry, his avoidance of social situations and his thoughts about rejection.

Case 2

Rosie (all names have been changed), a 57-year-old, employed, married woman, had severe AD. Onset was in early childhood, with a remission during adolescence. She reported flare-ups in response to hormonal and mood changes.

Presentation and formulation. Rosie was tearful at initial assessment, when she related a catalogue of life events. She ruminated a lot and found it difficult to disengage from her worries, which resulted in her worrying about worrying having a detrimental impact on her skin condition. Her difficulties were conceptualized within a generalized anxiety disorder framework, which she reported matched her experience.

Results

In line with recommendations for small sample size, visual inspection of the data was used to detect effective and clinically relevant changes (Michael, 1974; Wilson, 2000).

Visual inspection of Figure 1 indicates that baseline ratings (T2–T3) were brief, making it difficult to draw firm conclusions about the stability of the data. However, throughout the treatment phase, there is a marked increase in activity level. A downward trend is also apparent for avoidance of activities, rejection belief and social anxiety. Severity ratings of AD and perceived stigmatization beliefs remain relatively stable over time.

Visual inspection of self-reported visual analogue ratings for case 2 (Figure 2) suggests a more stable baseline period for all scales. Avoidance of activities showed a steady decline over time. Severity, rejection belief, perceived stigma and social anxiety increased slightly following session 4 but then gradually lowered across the remaining sessions. With the exception of AD severity, all scales show a marked decrease at post-treatment.

In terms of global outcome measures (Table I), visual inspection of graphs and the data for these measures reveal steady improvements over time in terms of quality of life.

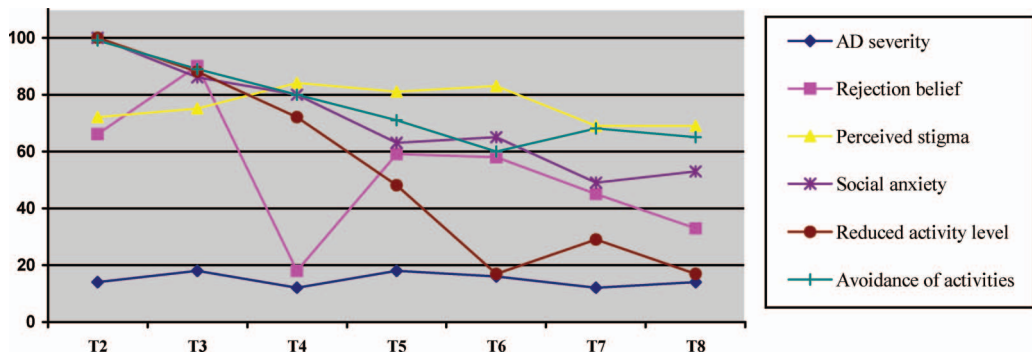


Figure 1. Self-reported visual analogue scale ratings for case 1 over time.

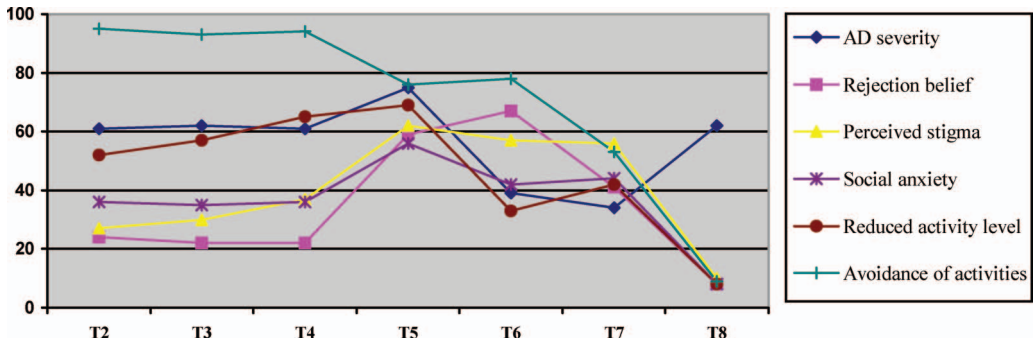


Figure 2. Self-reported visual analogue scale ratings for case 2 over time.

Table I. Raw data for global assessment measures across time for Case 1 and 2.

	DLQI	SEQ	HADS Anxiety	HADS Depression	FNE	RSE
Case 1	15 (Pre)	72 (Pre)	14 (Pre)	9 (Pre)	30 (Pre)	24 (Pre)
	9 (Mid)	105 (Mid)	5 (Mid)	3 (Mid)	29 (Post)	23 (Post)
	9 (Post)	104 (Post)	9 (Post)	3 (Post)		
Case 2	10 (Pre)	139 (Pre)	12 (Pre)	3 (Pre)	6 (Pre)	20 (Pre)
	11 (Mid)	132 (Mid)	12 (Mid)	5 (Mid)	2 (Post)	20 (Post)
	4 (Post)	148 (Post)	10 (Post)	3 (Post)		

DLQI, Dermatology Life Quality Index; SEQ, Stigmatisation and Eczema Questionnaire; HADS, Hospital Anxiety and Depression Scale; FNE, Fear of Negative Evaluation Scale; RSE, Rosenberg Self-esteem Scale.

Improvement in perceived stigmatization (i.e., high scores on the SEQ) were also apparent, while the subscales of the HADS remained relatively stable for both cases showing a slight reduction at post-treatment (Table I). RSE and FNE scores remained unchanged.

Discussion

The aim of this study was to examine the benefits of CBT in the treatment of patients with AD. Overall, CBT has been shown to be a useful adjunct to conventional dermatological care. The two patients demonstrated improvements in various aspects of psychological functioning, in particular in relation to avoidance, which indicates that they were able to minimize the negative impact of their AD on their social lives, thereby reducing overall AD-related distress. The findings show improvements in patients' quality of life and a reduction in perceived stigmatization. However, case 1's perception of stigma remained relatively stable throughout treatment, while his belief in being rejected showed a more marked decline and an associated dramatic increase in activity levels. Case 2 showed an increase in perceived stigma during intervention, which could be related to increased hypervigilance when asked to assess people's reactions to her during social interactions as part of behavioural experiments. However, at the end of treatment these beliefs were significantly reduced.

These overall improvements in psychological functioning and reductions in belief convictions occurred despite the fact that AD severity remained stable throughout intervention. Case 1 consistently rated his AD as relatively mild. Case 2, on the other hand, viewed her AD as fluctuating in severity but overall as moderately severe. The lack of

an objective assessment of AD severity is one of the limitations of this study. However, empirical studies suggest patient self-ratings of dermatological conditions correlate well with clinical ratings (Feldman et al., 2005).

Although it is impossible to generalize from such a small sample, this study showed that stigma and rejection beliefs need to be addressed, when AD patients present to psychological services, but it also highlights that these beliefs might be difficult to change, over a short period of time.

In conclusion, this study suggests that CBT as an adjunct to dermatological care should focus on improving psychological functioning rather than AD severity per se.

Acknowledgements

We would like to thank all participants who took part in this study.

References

- Beutler, L. E., & Hamblin, D. L. (1986). Individualized outcome measures of internal change: Methodological considerations. *Journal of Consulting and Clinical Psychology, 54*(1), 48–53.
- Ehlers, A., Stangier, U., & Gielers, U. (1995). Treatment of atopic dermatitis: A comparison of psychological and dermatological approaches to relapse prevention. *Journal of Consulting and Clinical Psychology, 63*(4), 624–635.
- Feldman, S. R., Clark, A. R., Venkat, A. P., Fleischer, A. B., Anderson, R. T., & Rajagopalan, R. (2005). The self-administered psoriasis area and severity index provides an objective measure of psoriasis severity. *British Journal of Dermatology, 152*(2), 382–383.
- Finlay, A.Y., & Khan, G. K. (1994). Dermatology Life Quality Index (DLQI)—A simple practical measure for routine clinical use. *Clinical and Experimental Dermatology, 19*, 210–216.
- Ginsburg, I. H., & Link, B. G. (1989). Feelings of stigmatization in patients with psoriasis. *Journal of the American Academy of Dermatology, 20*(1), 53–63.
- Halford, W. K., & Miller, S. (1992). Cognitive behavioural stress management as treatment of atopic dermatitis: A case study. *Behaviour Change, 9*(1), 19–24.
- Haynes, S. N., Wilson, C. C., Gaff, P., & Britton, B. (1979). Biofeedback treatment of atopic dermatitis. Controlled studies of eight cases. *Biofeedback and Self-Regulation, 4*, 195–209.
- Horne, D. J. de, Taylor, M., & Varigos, G. (1999). The effects of relation with and without imagery in reducing anxiety and itchy skin in patients with eczema. *Behavioural and Cognitive Psychotherapy, 27*, 143–151.
- Horne, D. J. de, White, A. E., & Varigos, G. A. (1989). A preliminary study of psychological therapy in the management of atopic AD. *British Journal of Medical Psychology, 62*, 241–248.
- Michael, J. (1974). Statistical inference for individual organism research: Mixed blessing or curse? *Journal of Applied Behavior Analysis, 7*, 647–653.
- Rosenbaum, M. S., & Ayllon, T. (1981). The behavioural treatment of neurodermatitis through habit-reversal. *Behaviour Research and Therapy, 19*, 313–318.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Watson, D., & Fiend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology, 33*, 448–457.
- Wilson, S. L. (2000). Single case experimental designs. In G. M. Breakwell, S. Hammond, & C. Fife-Schaw (Eds.), *Research methods in psychology* (2nd ed.). London: Sage Publications.
- Wittkowski, A., Richards, H. L., Griffiths, C. E. M., & Main, C. J. (2004). The impact of psychological and clinical factors on quality of life in individuals with atopic dermatitis. *Journal of Psychosomatic Research, 57*, 195–200.
- Zigmond, A., & Snaithe, R. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica, 67*, 361–370.

Copyright of *Psychology, Health & Medicine* is the property of Routledge and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.