

Research Article

Treatment Related Influences on Stress Coping In Adolescents with Depression

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Abstract

Children with major depression were investigated with respect to their outcome when being in cognitive behavioral treatment. Treated and non-treated patients were compared. Outcome was evaluated for stress coping, stress load, and a biological indicator for chronic stress. Children in treatment reported more inadequate coping and more stress but had lower cortisol after awakening. Treatment seemed to initiate processes of awareness insofar as the girls in treatment had a better perception of their present problems.

Keywords: Depression; Stress; Adolescents; Stress Coping; Treatment

Introduction

Depression in children and adolescents is frequent. In Germany lifetime prevalence is about 21% [1]. From non-European countries a prevalence of 57% in adolescents has been found [2]. In girls frequency of depression is double as high as compared to boys [3].

A family-based cognitive behavior therapy resulted in reduced depression in a controlled investigation of [4]. Stress related outcome criteria or activity of HPA axis, however, were not measured.

Psychosocial outcome criteria in addition to depression improved during inpatient treatment with cognitive behavioral interventions for depression in adolescents. The effects were confirmed by children as well as by their parents [5].

An online treatment, that consisted of one session resulted in significant improvement with respect to hopelessness and anxiety in young depressed adolescents [6].

Family therapy to improve the relationship between children and their parents was not successful to reduce depression in children, although several studies centers were involved [7].

Traumatic conflicts were analyzed in children with a diagnosis of depression by [8]. After the intervention, a remarkable percentage of children did not further fulfill the diagnostic criteria for a depressive disorder, but no psychological indicators or biological markers for stress were obtained.

A meta-analysis of [9] shows results of 31 controlled studies for cognitive behavioral treatment in depressed adolescents. Conclusions were based on 4300 children. The cognitive behavioral therapy in particular was effective in adolescents with a subclinical depression. Training of social activities, cognitive restructuring, and the inclusion of parents were identified as the most successful components for treatment outcome.

Psychopharmacological treatment of adolescent depression resulted in high response rates for placebos, which has been proved in a meta-analysis of [10], that included 24 studies, which were selected according to very strict criteria.

Method

74 girls were investigated. 20 were in treatment of a cognitive behavior therapy and fulfilled DSM IV criteria for major depression. Girls in treatment and girls not in treatment were compared with respect to stress load, stress coping, and several areas of psychosocial functioning. In addition, the cortisol awakening response had been measured.

Treatment was conducted according to a manual of [11] at the psychotherapeutic ambulance for adolescents in the university of Trier.

Measurement

Severity of depression was measured by the depression inventory for children and adolescents (DIKJ), which is well established in Germany to assess depressive symptoms and has an internal consistency of .92 [12].

The girls who were not in treatment had a mean of 12,9 ± 7,9, the girls in treatment of 18,2 ± 7,5. This difference was significant. Girls in treatment felt more depressive symptoms.

Stress Coping

Stress coping was assessed by the stress coping questionnaire for children and adolescents (SVFKJ), which measures strategies that increase stress as well as strategies that reduce stress. 9 subscales are available, whose internal consistency is .80.

Stress Load

The questionnaire for stress in children and adolescents [14] served to obtain subjective feelings of stress load physically as well as psychologically. In addition stress vulnerability is included. Physical stress load represents exhaustion, headache, stomach ache, circulation problems, pain in legs, and symptoms of a cold. Psychological stress load represents mainly affective symptoms such as anxiety and depression.

Test-Retest reliability of the subscales is between .60 and .82

Results

The means were compared with MANOVA for the 3 scales simultaneously.

The multivariate comparison was significant with $F(3,141) = 3,4, p < .02$.

The depressed girls in treatment felt more stress physically as well as psychologically and had a greater vulnerability to the perception of stress.

A MANOVA for repeated measurement with between subjects factor „treatment“ and repeated measurement factor cortisol over time was conducted. The main effect for mean differences in linear trend was significant with $F(3,132) = 23,4, p < .001$. The interaction effect Cortisol X time was tendentially significant with $F(1,134) = 3,6, p = .06$. Patients in treatment had lower mean cortisol at awakening and 30 minutes after awakening.

The means were compared for all subscales simultaneously by MANOVA which yielded in $F(6,138) = 3,8, p < .001$. Significant mean differences with respect to treatment status were found for downplaying, control of stress, and resignation. Girls in treatment see themselves more inadequate in stress coping.

Significant mean differences were found (each $p < .05$) for security, appreciation, and respect of others. These needs were more pronounced in the girls under treatment.

The comparison of the means with MANOVA for all problem areas simultaneously was $F(4,113) = 3,6, p < .001$. Significant differences were found for the problem areas school, self worth and family, which were seen more problematic for the girls in treatment.

Table 1: Stress load for subscales of SSKJ.

SSKJ scale	Not in treatment	In treatment
Physical stress load	10,9 ± 3,0	11,3 ± 2,8
Psychological stress load	24,2 ± 5,9	27,7 ± 5,1
Stress vulnerability	16,4 ± 2,1	17,9 ± 2,7

Table 2: Mean cortisol after awakening (± SD) in nmol / ml.

Mean cortisol	Not in treatment	In treatment
Awakening	7,2 ± 3,7	5,6 ± 2,4
+ 30 minutes	10,7 ± 4,1	9,7 ± 4,5
+ 45 minutes	10,6 ± 4,0	10,7 ± 4,0
+ 60 minutes	9,7 ± 4,1	10,1 ± 4,8

Table 3: Stress coping according to SVFKJ.

Stress coping strategy	Not in treatment	In treatment
Downplaying	17,3 ± 5,4	13,3 ± 7,2
Distraction	10,6 ± 5,3	10,6 ± 5,6
Control of stress	22,0 ± 5,0	18,2 ± 8,6
Social support	19,2 ± 5,9	18,3 ± 8,9
Passive avoidance	16,8 ± 6,9	18,7 ± 8,9
Resignation	9,9 ± 6,0	14,8 ± 8,5

Table 4: Results for questionnaire of social needs [15].

Social need	Not in treatment	In treatment
Security	15,9 ± 7,2	22,3 ± 5,5
Love	8,2 ± 3,8	9,8 ± 1,4
Appreciation	25,9 ± 15,5	43,1 ± 17,9
Respect of others	2,4 ± 2,4	4,6 ± 1,3
Self worth	5,9 ± 2,6	8,8 ± 2,0

Table 5: Results for the German version of SRA Youth Inventory [16].

Problem area	Not in treatment	In treatment
School	40,1 ± 16,1	50,1 ± 13,0
Family	32,4 ± 21,1	46,2 ± 15,4
Self worth	37,9 ± 21,2	53,2 ± 19,8
Boys and girls	16,5 ± 12,5	18,8 ± 12,6

Discussion

Several single case studies for the treatment of depression and anxiety in young college students were presented by [17]. The effective component was a training for self awareness of symptoms and correlates of depression. As a result of the studies there was not an improvement of symptoms but rather deterioration which is in support of our results.

Significant improvements in depression however were seen in a school based program of [18], which is in contrast to our results.

In support for our results in the sense of symptom persistence are [19], who evaluated an inpatient treatment program for young depressed.

In short term only a low rate of children improved by a program of [20], but reported persistence or deterioration as in the present study.

This was also the case in a controlled trial of [21] when a group based cognitive behavioral treatment for depressed adolescents was compared against treatment as usual.

Another internet-based pilot study of psychodynamic therapy for depressed adolescents [22] found large effects with respect to improvement in depression and emotional dysregulation. Change in stress coping, however, was not evaluated, but the findings would argue that treatments other than behaviorally oriented may be also useful in effective treatment of childhood depression.

This is also true in an online study targeting internalizing symptoms of depression in adolescents [24]. The effectiveness of cognitive behavioral treatment for depressed adolescents in particular at schools was demonstrated by [23] whereby a brief intervention was sufficient.

Clinical Implications

Cognitive behavioral treatment of depression in children and adolescents is effective already when session frequency is low and presentation is online.

In short term symptoms of depression may persist or deteriorate, because processes of self-awareness are promoted.

Medication may be advised, but response rates for placebos are remarkable.

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