ANXIETY AND DEPRESSION JOURNAL Open Access

SCIENTIFIC LITERATURE

RESEARCH ARTICLE

Attachment and Therapeutic Outcome: Intensive Confrontation Therapy in Panic Disorder Patients

Wichmann Susann[1*], Wintermann Gloria[2], Schurig Susan[2], Lorenz Thomas[2], Joraschky Peter[2], and Petrowski Katja[2]

[1]Department of Psychology and Psychotherapy, University of Witten/Herdecke, Germany
[2]Department of Psychotherapy and Psychosomatic Medicine, University Hospital Carl Gustav Carus Dresden, Germany

ARTICLE INFO

Article history:
Received: 02 October 2017
Accepted: 24 January 2018
Published: 31 January 2018

Keywords:
Adult attachment;
Panic disorder;
Therapy outcome;
Cognitive behavioral therapy

Citation this article: Susann W, Gloria W, Susan S, Thomas L, Peter J et al. Attachment and Therapeutic Outcome: Intensive Confrontation Therapy in Panic Disorder Patients. Anxiety Depress J. 2018; 2(1):113.

Correspondence:
Wichmann Susann, Department of Psychology and Psychotherapy, University of Witten/Herdecke, Alfred-Herrhausen-Straße 50, 58455 Witten, Germany; Fax: 0049 2302 926-412; Tel: 0049 2302 926-0; Email: Susann.Wichmann@uni-wh.de

ABSTRACT

Background: Research showed an impact of attachment style on the therapy success of psychotherapy patients. Anxiety patients often show a demanding need in care challenging confrontation therapy, e.g. due to seeking safety signals or assistance of the therapist. The current study aimed at testing the hypothesis that an insecure attachment style of the patient is associated with less improvement from psychotherapy.

Methods: Fifty-five Panic Disorder (PD) patients received five weeks of manual-based Cognitive Behavioral Psychotherapy (CBT) with focus on confrontation therapy. Established questionnaires assessed self-evaluated attachment style. Psychotherapy outcome measures were global disease severity, panic-related symptoms and depressiveness.

Results: Psychotherapy showed strong effects ($\eta p2 \geq .335$). 94.5% of the patients reported an insecure attachment style. Patients with characteristics of a secure attachment style (high readiness for self-disclosure, low level of problems feeling accepted) showed more benefit from CBT than patients who reported characteristics of an insecure attachment style.

Conclusions: Our results suggest an impact of attachment style on therapy success: characteristics of a secure attachment style promoted a successful outcome. Therapeutic implications will be discussed.

Introduction

Panic Disorder (PD) is a serious condition affecting daily functioning and the quality of life of those affected [1]. Symptoms of PD diagnosis include sudden intense fear and discomfort that peak within minutes, as well as physical symptoms such as racing heartbeat, difficulties breathing, sweating or trembling. Symptoms of PD further include persistent fear of having another panic attack, persistent concern about the health consequences of panic attacks as well as substantial changes in behavior related to the disorder [1].

Even though effective treatments for reducing PD symptoms and improving quality of life are available, studies documented relapse rates between 39% and 65% [2]. Specifically, Cognitive Behavioral Therapy (CBT) including confrontation therapy showed a strong effectiveness and is preferable to the

anxiolytic pharmacotherapy [3]. For PD patients, CBT including confrontation therapy showed high pre-post effect sizes for predominant panic-related symptoms and psychosocial impairment, with higher effect sizes observed for prolonged confrontation therapy (16h) than less intense confrontation therapy [4]. However, studies showed drop-out rates of 15% [5] and there is still an amount of patients who show no or little improvement from psychotherapy [6,2]. Various variables have been investigated for predicting therapy success, e.g. symptom severity as a useful negative predictor [7,8] a normative cortisol stress response predicting improvement in avoidance behavior [9], comorbid psychiatric disorders [10-12] as well as motivation for psychotherapy [12], both having no impact on the therapy success. However, there is an evidence that the attachment style as conceptualized by Bowlby [13] has profound implications for conducting psychotherapeutic interventions [14,15].

Research showed that early experiences of anxiety and insecurity [16-18] and an insecure-ambivalent attachment style [19,20] are well-documented risk factors for the development of anxiety disorders. Different samples of anxiety patients reported early childhood experiences of loss, separation or divorce [17,18,21]. A recent meta-analysis documented a substantial impact of attachment security as well as of attachment anxiety on the psychotherapy outcome [22]. Specifically, psychotherapy patients who showed a higher attachment security demonstrated a greater therapy success as compared to patients who showed high attachment anxiety. However, until now little emphasis has been put on the impact of specific attachment characteristics on different therapeutic interventions as a function of mental disorder.

Psychotherapy is an interpersonal process during which the patient's attachment representations might have differential effects on the therapy and especially on the quality of the therapeutic relationship [23]. The therapist becomes a significant person potentially triggering interpersonal schemata that originated in relationship to early significant attachment figures [24]. The establishment of a secure basis for exploration behavior is one of the most crucial attachment-related factor in the therapeutic alliance [24,25]. One might hypothesize that patients with an insecure attachment representation show difficulties in accepting an exploration basis and thus less benefit from psychotherapy (assumed that the therapist is capable of creating a safe basis for exploring e.g. disorder-specific cognitions and alternatives to avoidance). Previous research showed that patients who fail to develop a secure attachment to the therapist were less cooperative and less in accord with therapy goals than patients who were able to develop a secure attachment to the therapist [26]. Further, Mallinckrodt et al. (1995) reported that a secure attachment to the therapist was associated with intense exploration-directed therapeutic work.

The aim of the current investigation was to explore the relationship between the patient's attachment representation in general and to the therapist and its relation to the psychotherapy success. We exposed PD patients to CBT including intensive confrontation to feared situations individually in a semi-residential care setting. Based on previous research results, we expected that those PD patients who show an insecure attachment style concurrently show a higher symptom severity. We further expected that those PD patients with an insecure attachment style to the therapist show less improvement from psychotherapy.

Method

1. Participants

Patients were recruited from the University Hospitals of the Technische Universität Dresden and the Friedrich-Schiller-Universität Jena, Germany from 2008 to 2011. The Structured Clinical Interview [27] for the Diagnostic and Statistical Manual of Mental Disorders [DSM-IV-TR; American Psychiatric Association (2000)] was used to identify patients with a primary diagnosis of PD with or without agoraphobia. The final sample consisted of n = 55 patients with a current primary diagnosis of PD (n = 35 female; mean age ± SD: 37.47± 10.71). Sixteen (29.1%) patients met the criteria for PD without agoraphobia (F41.0) and thirty-nine (70.9%) for PD with agoraphobia (F40.01). Twenty-six (47.3%) patients

showed comorbid mental disorders (major depressive disorder: n = 25; specific phobia: n = 5). All the study participants provided written informed consent. The study protocol was conducted in accordance with the latest version of the Declaration of Helsinki and approved by the local Ethics Committee of the Medical Faculty of the Technical University Dresden, Germany.

2. Setting and measures

The duration of CBT was five weeks of semi-residential care with each six patients and two therapists in each run. The CBT was conducted by experienced therapists in individual and group sessions according to the manual of Margraf and Schneider [28] treatment included psycho-education and explanation of the confrontation rationale (administered as group sessions), confrontation of feared situations of varying duration and disputation of panic-maintaining cognitions. The therapists regularly attended supervision by an experienced psychotherapist. The following self-report instruments were used to characterize the patient sample (1, 2, 6) as well as to evaluate therapy success concerning panic-related cognitions, fear of panic symptoms and agoraphobic avoidance behavior (3-5):

(1) The Symptom-Check-List [29,30] consisting of 90 items with a five-point rating scale was used to evaluate the psychological and physical impairment. Three global scores are obtained. The Global Severity Index (GSI) is the average rating given to all items. The Positive Symptom Index (PST) is the number of items rated symptomatically (higher than 0). The Positive Symptom Distress Index (PSDI) is the average rating given to those items, which are rated higher than 0. (2) The Panic and Agoraphobia-Scale [31] consists of 13 items rated on a five-point rating-scale to assess the global severity of the PD diagnosis including panic attacks, agoraphobia, anticipatory anxiety, disability, and concerns about health. The items are then added together. (3) The Agoraphobic Cognitions Questionnaire [32] was used to assess fearful panic beliefs with 14 items on a 5-point rating-scale with response anchors from 0 ("never") to 4 ("always"). The items are then averaged. (4) The Body Sensations Questionnaire [32] was used to measure the fear of anxiety symptoms with the help of 17 items on a 5-point rating-scale ranging from 0 ("not concerned") to 4 ("extremely concerned"). The items are then averaged. (5) The Mobility Inventory [33] evaluates avoidance behavior, both when confronted with feared situations by themselves and accompanied for 26 places on a 5-point rating-scale with response anchors from 0 ("never") to 4 ("always"). The items are averaged separately for both. (6) Additionally, depressiveness was evaluated by the Beck-Depression-Inventory [34,35] that consists of 21 symptoms matching the diagnostic criteria of a depressive episode (American Psychiatric Association, 2000) rated in terms of intensity from 0 to 3. The items are then added together.

Patients self-rated their attachment style using two established questionnaires. (1) The Bielefelder Questionnaire for Client Attachment Exploration [36,37] to portray attachment style specific patterns of perceptions, cognitions, emotions, expectations, and action tendencies with the help of the three scales "problems in feeling accepted", "readiness for self-disclosure" and "conscious need for care". Distinct profiles in these scales result in five different clusters, which can be interpreted as attachment styles: avoidant (withdrawing or cooperative), ambivalent (withdrawing or cooperative), secure. (2) To assess the patients' attachment style in relationship to his/her psychotherapist, the Relationship specific Attachment Scales for adults [38] were used. The BBE allows an evaluation of the patient's attachment style in relationship to significant others (e.g. partner, parents, best friend) on two subscales ("secure-insecure" and "dependent-independent"). High values in the "secure-insecure"-scale indicate a secure attachment style. High values in the "dependent-independent"-scale indicate a dependent attachment style. All questionnaires were handed out in the German version.

3. Statistics

Psychotherapy outcome was assessed using repeated measures ANOVA with pre- and post-treatment questionnaire scores (SCL, PAS, ACQ, BSQ, MI, BDI). The degree of freedom was adjusted using Greenhouse-Geisser correction. Further, linear regressions were computed to evaluate the impact of attachment style on

psychotherapy success. Change scores in the dimensional clinical measures (ACQ, BSQ, MI) were added as dependent variable and initial pre-treatment symptomatology of the specific questionnaire as well as self-reported attachment style (BBE and BFKE subscales) were added as predictors. With reference to the prediction of therapy success in agoraphobic avoidance behavior, agoraphobic cognitions at post-treatment (including baseline pre-treatment scores) were included as additional predictor since we suggest that a change in cognitions may precede a change in avoidance behavior. Change scores were defined as percentage scores of the respective baseline pre-treatment clinical measure. Thus, low percentage scores indicate symptom reduction and thus therapy success. All analyses were performed using SPSS, version 22 for Windows (IBM, Chicago, Illinois).

Results

1. Pre-therapy measures

The study sample included moderately affected patients according to the self-evaluation of symptom severity (see Table 1 for details). A total of n = 5 (9.1%) of the patients showed a borderline symptom severity, n = 14 (25.5%) a mild, n = 21 (38.2%) a moderate, n = 12 (21.8%) a severe and n = 3 (5.5%) a highly severe symptom severity of PD. The severity of comorbid depressive symptoms [range: 0-63] in the Beck Depression Inventory [39-41] was self-rated by patients as mild (mean ± SD: 12.49 ± 5.97).

The attachment styles of the PD patients (as measured with the BFKE) were distributed as follows: Most of the patients (76.3%) evaluated their attachment style as ambivalent (ambivalent-withdrawing: 72.7%; ambivalent-clinging: 3.6%). Each 9.1% an avoidant-withdrawing or avoidant-clinging, and only 5.5% showed a secure attachment style. With reference to the attachment style in relationship to the therapist (as measured with the BBE), patients scored on average 4.43 ± 0.44 in the secure-insecure scale and 2.10 ± 0.47 in the dependent-independent scale [each range: 1-5].

Table 2 illustrates the relationship between self-rated attachment characteristics and pre-treatment severity of disease. A self-rated secure attachment style was associated with lower pre-treatment levels in agoraphobic cognitions, in depressiveness as well as in global symptom stress ($p's \leq .039$). A dependent attachment style, a higher level of problems feeling accepted and a high level of conscious need for care were significantly related to higher pre-treatment levels in global severity of PD diagnosis (only for dependent attachment style and conscious need for care), agoraphobic avoidance behavior, depressiveness and in global symptom stress ($p's \leq .042$). A lower level of readiness for self-disclosure was associated with higher pre-treatment depressiveness ($p \leq .05$).

Table 1: Self-rated psychopathology before and after the psychotherapy for panic disorder patients. Mean (SD) are listed.

Clinical measure [range]	Pre-treatment	Post-treatment	$F_{1;54}$	p	η_p^2
PAS total score [0-52]	22.65 (9.40)	12.96 (8.38)	111.067	0.000***	0.673
ACQ total score [0-4]	2.10 (0.52)	1.78 (0.56)	27.509	0.000***	0.337
BSQ total score [0-4]	2.83 (0.68)	2.17 (0.74)	39.610	0.000***	0.428
MI alone [0-4]	1.87 (0.80)	1.33 (0.52)	39.861	0.000***	0.425
MI accompanied [0-4]	2.43 (1.05)	1.59 (0.67)	55.599	0.000***	0.507
BDI sum score [0-63]	12.49 (5.97)	7.61 (6.90)	41.895	0.000***	0.437
SCL-GSI [0-4]	0.88 (0.41)	0.54 (0.33)	58.626	0.000***	0.525
SCL-PST [0-90]	43.31 (15.39)	33.73 (16.17)	37.428	0.000***	0.409
SCL-PSDI [1-4]	1.73 (0.41)	1.32 (0.26)	61.291	0.000***	0.532

Note: PAS = Panic & Agoraphobia Scale; ACQ = Agoraphobic Cognitions Questionnaire; BSQ = Body Sensations Questionnaire; MI = Mobility Inventory; BDI = Beck Depression Inventory; SCL = Symptom Checklist 90 – Revised; GSI = Global Severity Index; PST = Positive Symptom Total; PSDI = Positive Symptom Distress Index.
*** $p \leq .001$.

Table 2: Correlation matrix of the pre-treatment symptomatology and attachment style characteristics. Pearson correlation coefficient (p) are listed.

Measure	BBE secure	BBE dependet	BFKE problemsfeelingaccepted	BFKE readiness for self-disclosure	BFKE conscious need for care
PAS	-.225 (.098)	.276 (.042*)	.238 (.080)	.058 (.683)	.360 (.007**)
ACQ	-.301* (.026)	.255 (.060)	.213 (.118)	.013 (.928)	.261 (.054)
BSQ	-.140 (.312)	.178 (.199)	.184 (.183)	.102 (.470)	.155 (.264)
MI alone	-.097 (.481)	.430 (.001**)	.283 (.036*)	.085 (.551)	.249 (.067)
MI accompanied	-.222 (.104)	.292 (.031*)	.271 (.045*)	.055 (.697)	.282 (.037*)
BDI	-.428 (.001**)	.403 (.002**)	.394 (.003**)	-.342 (.013*)	.461 (.000**)
SCL GSI	-.281 (.039*)	.325 (.016*)	.378 (.005**)	-.124 (.387)	.445 (.001**)
SCL PST	-.233 (.086)	.332 (.013*)	.412 (.002**)	-.145 (.305)	.474 (.000**)
SCL PSDI	-.325 (.016*)	.102 (.459)	.083 (.547)	-.111 (.432)	.521 (.000**)

Note: BBE = Relationship specific Attachment Scale; BFKE = Bielefelder Questionnaire for Client Attachment Exploration; PAS = Panic & Agoraphobia Scale; ACQ = Agoraphobic Cognitions Questionnaire; BSQ = Body Sensations Questionnaire; MI = Mobility Inventory; BDI = Beck Depression Inventory; SCL = Symptom Checklist 90 - Revised; GSI = Global Severity Index; PST = Positive Symptom Total; PSDI = Positive Symptom Distress Index.
*p ≤ .05, **p ≤ .01, ***p ≤ .001.

2. Psychotherapy outcome

As shown in Table 1, strong therapeutic effects ($\eta p^2 \geq 0.14$) were observed with $\eta p^2 \geq .337$ for all the questionnaire outcome measures. The proportion of patients who reported borderline to mild symptom severity following CBT increased significantly from 9.1% to 36.4% (n = 20) for borderline and from 25.5% to 34.5% (n = 19) for mild symptom severity. Similarly, the proportion of patients reporting moderate to severe symptom severity decreased from 38.2% to 27.3% (n = 15) for moderate and from 5.5% to 1.8% (n = 1) for severe symptom severity (U = -5.378; p≤ .001).

Linear regression analyses were conducted with therapy outcome as dependent variable (percentage scores of the respective baseline values in ACQ, BSQ, MI), and pre-treatment severity of disease (ACQ, BSQ, MI) as well as self-reported attachment style patterns (BBE subscales: secure vs. anxious, dependent vs. independent; BFKE subscales: problems feeling accepted, readiness for self-disclosure, conscious need for care) as predictors. Overall, the inclusion of these predictors contributed to 2.6 – 47% explanation of variance (p's ≤ .311) depending on the specific outcome measure (see Table 3 for details). Specifically, findings revealed no significant predictors for the therapy success in agoraphobic cognitions (p's≥ .052).However, there was a non-significant trend finding for dependent attachment style predicting a poorer therapy outcome in agoraphobic cognitions. Further, a high level of fear of anxiety symptoms at pre-treatment, an attachment style self-rated as rather anxious and independent significantly predicted therapy success (p's ≤ .005). A non-significant trend was observed for the readiness to self-disclosure, with high levels predicting therapy success. Regarding agoraphobic avoidance, regression analyses revealed agoraphobic avoidance at pre-treatment as well as change in agoraphobic cognitions (only when confronted with the feared situation accompanied by another person) to be significant predictors of a successful reduction in agoraphobic avoidance (p's ≤ .005).Specifically, a high level of agoraphobic avoidance at pre-treatment and successful change in agoraphobic cognitions predicted therapy success in avoidance behavior. Further, results showed a non-significant trend for a high level of problems feeling accepted to be associated with low therapy success in avoidance behavior when patients were confronted with feared situation by themselves.

Table 3: Stepwise regression predicting pre- to post-therapy change in panic disorder (PD) symptoms from self-reported attachment style to the therapist and initial PD symptomatology.

Dependent	*F*	Predictor	*B*	*SE*	*β*	*p*	R^2 *adjusted*
ACQ % Baseline	1.226	Model 1				.311	.026
		ACQ pre	-10.254	6.717	-.242	.134	
		BBE secure	-2.423	9.881	-.047	.807	
		BBE dependent	14.472	7.250	.299	.052†	
		BFKE accept	-7.513	11.280	-.139	.509	
		BFKE self-disclosure	-5.493	8.313	-.126	.512	
		BFKE care	0.476	7.367	.013	.949	
BSQ % Baseline	3.925	Model 1				.003**	.256
		BSQ pre	-15.611	5.143	-.393	.004**	
		BBE secure	22.510	9.846	.366	.027*	
		BBE dependent	19.640	7.607	.337	.013*	
		BFKE accept	-2.974	11.932	-.046	.804	
		BFKE self-disclosure	-15.375	8.659	-.294	.083†	
		BFKE care	6.134	7.731	.135	.432	
MI alone % Baseline	7.641	Model 1				.000***	.477
		MI alonepre	-21.130	3.513	-.740	.000***	
		ACQ %Baseline	0.203	.113	.200	.081†	
		BBE secure	-1.219	7.148	-.023	.865	
		BBE dependent	2.755	6.255	.056	.662	
		BFKE accept	16.711	8.872	.304	.066†	
		BFKE self-disclosure	4.339	6.402	0.98	.501	
		BFKE care	-0.047	5.722	-.001	.994	
MI accompanied % Baseline	6.888	Model 1				.000***	.447
		MI accompaniedpre	-15.483	2.671	-.679	.000***	
		ACQ %Baseline	0.344	.117	.322	.005**	
		BBE secure	-5.212	7.626	-.096	.498	
		BBE dependent	2.827	6.079	.055	.644	
		BFKE accept	11.711	9.177	.203	.209	
		BFKE self-disclosure	2.109	6.708	.046	.755	
		BFKE care	.968	5.918	.024	.871	

Note: ACQ = Agoraphobic Cognitions Questionnaire; change score = percental change in questionnaire values from pre- to post-treatment; pre = pre-treatment; BBE = Relationship specific Attachment Scales; BFKE = Bielefelder Questionnaire for Client Attachment Exploration; accept = problems feeling accepted (BFKE subscale); self-disclosure = readiness for self-disclosure (BFKE subscale); care = conscious need for care (BFKE subscale); BSQ = Body Sensations Questionnaire; MI = Mobility Inventory.

*p ≤ .05, **p ≤ .01, ***p ≤ .001.

Discussion

Though psychotherapy adapted for PD documented high effect sizes [4] and is the first choice treatment for PD [3], there is still a proportion of patients who show relapses and thus don't benefit in the long run from therapy [2]. There is a growing interest in identifying variables holding a substantial impact on the prediction of the therapy success. Meta-analytic evidence exists for an impact of attachment style on psychotherapy outcome [21]. Specifically, patients with high a attachment anxiety showed less improvement by psychotherapy in comparison to patients with a high attachment security. However, until now there is a lack of studies with focus on the relationship between

attachment style and the outcome of specific psychotherapeutic interventions. In the present study, manual-based CBT with focus on confrontation therapy [26] was administered to PD patients within five weeks. Based on previous research data, we hypothesized that those PD patients who report an insecure attachment style would demonstrate a higher symptom severity after CBT, thus would show less improvement from therapy.

CBT showed strong effects in all panic-related outcome measures (agoraphobic cognitions, fear of bodily sensations, agoraphobic avoidance, and depressiveness). The vast proportion of the patient sample (94.5%) reported an insecure attachment style. 76.3% of the sample self-evaluated their attachment style as ambivalent matching the research results that an insecure-ambivalent attachment style has proved to be a risk factor for the development of an anxiety disorder [18,19]. Further, most of the patients self-evaluated their attachment style to the therapist as secure and dependent. Data analysis concerning the prediction of the therapy outcome from attachment style revealed mixed findings. Either characteristics of a secure as well as of a dependent attachment style were associated with therapy success. A better therapy outcome was found for a secure attachment style both for the fear of bodily sensations and agoraphobic cognitions (non-significant trend) as well as for a high level for the readiness to self-disclosure for the fear of bodily sensations (non-significant trend) and for a low level of problems feeling accepted regarding agoraphobic avoidance (non-significant trend).However, a dependent attachment style was also significantly related to a better outcome in the fear of bodily sensations, but to a poorer outcome in agoraphobic cognitions (non-significant trend).

A high pre-treatment severity of disease consistently predicted a better therapy outcome in the respective questionnaire measure, except for agoraphobic cognitions. Interestingly, characteristics of an insecure attachment style (dependent attachment style to the therapist, problems feeling accepted, conscious need for care) were associated with a higher pre-treatment disease severity (overall distress, avoidance behavior, depressiveness). A self-rated secure attachment style was associated with a lower pre-treatment severity of disease (overall distress, agoraphobic cognitions, depressiveness). Thus, it seems that those patients with an insecure attachment style demonstrated a higher symptom severity before CBT. This is not surprising since it is conceivable that an insecure attachment style may have an impact on daily life functioning (e.g. feelings of insecurity or unreliability in relationship to significant others) and thus results in distress or even depressive symptoms, even more in case of additional distress due to the manifestation of an anxiety disorder.

Our findings concerning psychotherapy outcome are in line with our expectations and agree with meta-analytic findings by Levy et al. (2011) [21] who also reported an association between a secure attachment and therapy success. A greater improvement from therapy was observed for a secure attachment style both regarding the fear of bodily sensations and (descriptively) for agoraphobic cognitions. Further, a high level for the readiness to self-disclosure predicted improvement in the fear of bodily sensations and a low level of problems feeling accepted predicted improvement in agoraphobic avoidance behavior (non-significant trend findings). The therapeutic relationship may provoke fears of rejection that arise generally in social relationships. Self-disclosure during psychotherapy implies the verbal disclosure of information about oneself during interaction with the therapist. During confrontation therapy, patients are interviewed concerning their anxiety level, somatic discomfort, thoughts and behavioral or cognitive avoidance strategies. It is suggested that a perceived insecurity with respect to the availability of the attachment figure (here the therapist) may lead to disclosure, especially when patients also report a high level of problems feeling accepted. Therapeutic assistance and adaptation of the confrontation session to patient-specific thoughts and avoidance behaviors may be impaired if the patient denies to disclose his state and hence may lower therapeutic success. However, a patient with a secure attachment pattern might experience more faith in his

own competence and the therapist's availability and competence. Hence, this patient is more likely to show exploration behavior and benefit from confrontation therapy. Our data support this idea by suggesting that patients with characteristics of a secure attachment style (high readiness for self-disclosure, low level of problems feeling accepted) showed more benefit from CBT than patients who reported characteristics of an insecure attachment style.

Therapeutic implications of our results could be to take a great care of the establishment of a good working alliance before confrontation therapy, especially in patients with an insecure attachment style. Therapists may select effective interventions by considering the patient's attachment style. For instance, the therapist may re-explore the patient's history of attachment to improve cooperation and working alliance [22]. Further, the therapist may adapt his own interpersonal presentation to establish complementary interaction matching the patient's interpersonal needs and motivational stage [42]. The therapists own interpersonal representations as well as his competence for installing a safe exploration basis might have an impact on his interaction with patients [22]. Therapists who are caught up in own attachment issues work more inefficient than therapists who master attachment issues [43]. Further, the therapist might also attend to interpersonal problems that may arise from attachment insecurity instead of exclusively focusing disorder-specific symptoms. Such interpersonal problems are often reported by patients during the initial anamnesis and should have consideration in the shared therapy goals and the therapy plan in addition to panic-specific interventions.

A major limitation of these results is the moderate size of explained variance. The attachment style is only one among other variables related to psychotherapy success. Secondly, we used self-reported attachment style based on questionnaire data that represent the cognitive evaluated attachment pattern of patients. However, the unconscious attachment representation is equally important which could be assessed by interviews, e.g. the Adult Attachment Interview [44]. Further, much findings were trend findings that failed to reach significance. Last, our results do not allow conclusions regarding long-term prediction of the therapy success. Since PD is an episodic disease with relapses, future studies should include a follow-up assessment to test for the stability of the improvements from therapy.

Conclusion

In conclusion, our findings suggest that characteristics of the attachment style have an impact on the psychotherapy success and that characteristics of a secure attachment style promote successful psychotherapy outcome.

References:

1. American Psychiatric Association. (2000). Diagnostic and statistical manual of mental disorders DSM-IV-TR fourth edition (text revision).

2. Keller MB, Yonkers KA, Warshaw MG, Pratt LA, Gollan JK, et al. (1994). Remission and relapse in subjects with panic disorder and panic with agoraphobia: a prospective short-interval naturalistic follow-up. The Journal of nervous and mental disease. 182: 290-296.

3. Bandelow B, Lichte T, Rudolf S, Wiltink J, Beutel M. (2014). S3-Leitlinie Angststörungen: Springer-Verlag.

4. Rief KWW. (2012). Effects of Exposure in Cognitive Behavior Therapy of Panic Disorder: Duration Matters.

5. Cox BJ, Endler NS, Lee PS, Swinson RP. (1992). A meta-analysis of treatments for panic disorder with agoraphobia: imipramine, alprazolam, and in vivo exposure. Journal of Behavior Therapy and Experimental Psychiatry. 23: 175-182.

6. Kampman M, Keijsers GP, Hendriks GJ. (2002). A randomized, double-blind, placebo-controlled study of the effects of adjunctive paroxetine in panic disorder patients unsuccessfully treated with cognitive-behavioral therapy alone. The Journal of clinical psychiatry. 63: 772-777.

7. Andersson G, Carlbring P, Grimlund A. (2008). Predicting treatment outcome in internet versus face to face treatment of panic disorder. Computers in Human Behavior. 24: 1790-1801.

8. Keijsers GP, Hoogduin CA, Schaap CP. (1994). Prognostic factors in the behavioral treatment of panic disorder with and without agoraphobia. Behavior Therapy. 25: 689-708.

9. Wichmann S, Kirschbaum C, Lorenz T, Petrowski K. (2017). Effects of the cortisol stress response on the psychotherapy outcome of panic disorder patients. Psychoneuroendocrinology. 77: 9-17.

10. Allen LB, White KS, Barlow DH, Shear MK, Gorman JM, et al. (2010). Cognitive-behavior therapy (CBT) for panic disorder: Relationship of anxiety and depression comorbidity with treatment outcome. Journal of Psychopathology and Behavioral Assessment. 32: 185-192.

11. Brown TA, Antony MM, Barlow DH. (1995). Diagnostic comorbidity in panic disorder: Effect on treatment outcome and course of comorbid diagnoses following treatment. Journal of consulting and clinical psychology. 63: 408-418.

12. Kampman M, Keijsers GP, Hoogduin CA, Hendriks GJ. (2008). Outcome prediction of cognitive behaviour therapy for panic disorder: Initial symptom severity is predictive for treatment outcome, comorbid anxiety or depressive disorder, cluster C personality disorders and initial motivation are not. Behavioural and Cognitive Psychotherapy. 36: 99-112.

13. Bowlby J. (1982). Attachment and loss: retrospect and prospect. American journal of Orthopsychiatry, 52: 664.

14. Berant E, Obegi JH. (2009). Attachment-informed psychotherapy research with adults. Attachment theory and research in clinical work with adults. 461-489.

15. Levy KN, Kelly KM. (2009). Sex Differences in Jealousy A Contribution From Attachment Theory. Psychological Science. 21: 168-173.

16. Bowlby J. (1973). Attachment and loss, vol. II: Separation: Basic Books.

17. Brown GW, Harris T. (1993). Aetiology of anxiety and depressive disorders in an inner-city population. 1. Early adversity. Psychological Medicine. 23: 143-154.

18. Faravelli C, Webb T, Ambonetti A, Fonnesu F, Sessarego A. (1985). Prevalence of traumatic early life events in 31 agoraphobic patients with panic attacks. The American journal of psychiatry.

19. Bowlby J. (1980). Loss: Sadness and depression (Vol. 3): Basic Books.

20. De Ruiter C, Brosschot JF. (1994). The emotional Stroop interference effect in anxiety: attentional bias or cognitive avoidance? Behaviour research and therapy. 32: 315-319.

21. Guidano VF, Liotti G. (1985). A constructivistic foundation for cognitive therapy. In Cognition and psychotherapy (pp. 101-142): Springer.

22. Levy KN, Ellison WD, Scott LN, Bernecker SL. (2011). Attachment style. Journal of clinical psychology, 67: 193-203.

23. Strauß B. (2006). Bindungsforschung und therapeutische Beziehung. Psychotherapeut. 51: 5-14.

24. Sachse R. (2016). Therapeutic relationship design: Hogrefe Verlag.

25. Farber BA, Lippert RA, Nevas DB. (1995). The therapist as attachment figure. Psychotherapy: Theory, Research, Practice, Training. 32: 204-212.

26. Mallinckrodt B, Gantt DL, Coble HM. (1995). Attachment patterns in the psychotherapy relationship: Development of the Client Attachment to Therapist Scale. Journal of Counseling Psychology. 42: 307-307.

27. Spitzer RL, Williams JB, Gibbon M, First MB. (1990). User's guide for the structured clinical interview for DSM-III-R: SCID: American Psychiatric Association.

28. Margraf J, Schneider S. (1990). Panic. Anxiety attacks and their treatment. Heidelberg: Springer.

29. Derogatis L. (1986). Symptom-Check-Liste (SCL-90-R). Internationale Skalen fur Psychiatrie. Weinheim: Beltz.

30. Franke GH, Derogatis LR. (1995). Die Symptom-Checkliste von Derogatis: Manual. SCL-90-R; deutsche Version: Beltz Test.

31. Bandelow B. (1997). Panik-und Agoraphobie-Skala:(PAS): Hogrefe, Verlag fur Psychologie.

32. Chambless DL, Caputo GC, Bright P, Gallagher R. (1984). Assessment of fear of fear in agoraphobics: the body sensations questionnaire and the agoraphobic

cognitions questionnaire. Journal of consulting and clinical psychology. 52: 1090-1097.

33. Chambless DL, Caputo GC, Jasin SE, Gracely EJ, Williams C. (1985). The mobility inventory for agoraphobia. Behaviour research and therapy: 23: 35-44.

34. Beck AT, Steer R, Brown G. (1987). Beck Depression Inventory Manual. San Antonio, TX: The Psychological Corporation. Harcourt Brace Jovanovich.

35. Hautzinger M, Bailer M, Worall H, Keller F. (1995). Beck-Depressions-Inventar. Testhandbuch. Becks Depressionsinventar: Testhandbuch.

36. Hoger D. (1999). Der Bielefelder Fragebogen zu Klientenerwartungen (BFKE). Psychotherapeut, 44: 159-166.

37. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. (1961). An inventory for measuring depression. Archives of General Psychiatry. 4: 561-571.

38. Pollak E, Wiegand-Grefe S, Hoger D. (2008). The Bielefeld attachment questionnaires: Overview and empirical results of an alternative approach to assess attachment. Psychotherapy Research. 18: 179-190.

39. Asendorpf JB, Banse R, Wilpers S, Neyer FJ. (1997). Beziehungsspezifische Bindungsskalen für Erwachsene und ihre Validierung durch Netzwerk-und Tagebuchverfahren. DIAGNOSTICA-GOTTINGEN. 43: 289-313.

40. Beck AT, Steer RA, Brown GK. (1996). Beck depression inventory-II. San Antonio, TX, 78204-72498.

41. Hautzinger M, Keller F, Kühner C. (2006). Beck depressions-inventar (BDI-II): Harcourt Test Services Frankfurt.

42. Lambert MJ, Barley DE. (2001). Research summary on the therapeutic relationship and psychotherapy outcome. Psychotherapy: Theory, Research, Practice, Training. 38: 357-361.

43. Bernier A, Dozier M. (2002). The client-counselor match and the corrective emotional experience: Evidence from interpersonal and attachment research. Psychotherapy: Theory, Research, Practice, Training, 39: 32-43.

44. Main M, George C, Kaplan N. (1985). Adult attachment interview. Growing points of attachment theory. Monographs of the Society for Research in Child Development.