Ego-pathology, body experience, and body psychotherapy in chronic schizophrenia

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Objectives. In a recent pilot RCT, looking at the efficacy of body oriented psychological therapy (BPT) in patients with chronic schizophrenia, a marked improvement in negative symptoms was found in the treatment group. To date, there have been no studies to evaluate the therapeutic processes, correlates and predictors of change in-patients receiving BPT. The aims of this study are to address three specific questions, namely how: (1) Ego-pathology and (2) Body experiences, may change during the treatment (BPT). We also looked at: (3) If these pathologies, and/or changes in them, or other characteristics are associated with specific clinical outcomes.

Design. Analysis of data obtained within a pilot randomized controlled trial.

Method. In a sample of patients with a diagnosis of chronic schizophrenia, allocated to receive a course of body oriented group psychotherapy, certain parameters were assessed pre- and post-treatment: (1) Ego-pathology, using the ego-pathology inventory (EPI); (2) Body experiences, (size perception/image marking procedure – IMP, body image/body distortion questionnaire – BDQ, and body cathexis/visual-analogue-scales – VAS); and (3) Common symptom factors, using the Positive And Negative Symptom Scale (PANSS). Subjective experiences were also recorded.

Results. Four out of six ego-pathology symptom scores improved over the course of therapy ($t = 2.9–3.5$, $p < .05–.01$). Amongst the measures of body experiences, only the body perception indices of the lower extremities changed significantly from underestimation pre-therapy (BPI median 92.3), becoming accurate estimates post therapy (BPI median 101.1). Contrary to the hypothesis a reduction of negative symptoms in chronic schizophrenia patients was not associated with systematic improvements of ego-pathology or body experiences. The strongest predictor of change was a high score of ego-demarcation pre-treatment ($\beta = 0.89$, $p < .001$).

Conclusions. In patients with chronic schizophrenia, body oriented psychological interventions may be effective for both positive therapeutic changes in ego-pathology and negative symptoms, even though these effects are not necessarily related. High scores of ego-pathology at baseline predicted a poor treatment outcome. This

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finding deserves more systematic studies, as it could potentially identify patients with poorer prognosis and underpin the development of new intervention strategies. Further studies are required to clarify more precisely the exact nature of the processes in BPT.

In recent years, there has been a growing and renewed interest in the phenomenology of disturbed ego-/self-experiences in schizophrenia. Furthermore, an association between these phenomena and body image aberration has also been noted in the scientific literature.

Inspired by 19th century conceptualization of schizophrenia as a severe ego-disorder (Heinroth, 1818), and later mainly influenced by the work of Jaspers (1959), a line of phenomenological psychiatrists evolved, who have pursued the concept of the phenomenology of self-disturbances as both fundamental to the development of schizophrenic symptoms/syndromes, and possibly also the longer term outcome (Kurt Schneider, Klaus Conrad, Wolfgang Blankenburg, Christian Scharfetter, Louis Sass, and Josef Parnas). A common phenomenological denominator of the core psychopathological syndrome of disturbed self-experience in schizophrenia is often described as the consequence of the loss of an individuals' natural self-evidence or 'disturbed ipseity' (Blankenburg, 1971). This phenomena can also be described in respect of 'the corporeal aspect of self-awareness', constituting 'a smooth and hardly noticed foundation of all experiencing' as outlined by Parnas (2003, p. 226). He emphasized descriptions of dissociations of body experiences in the early stages of schizophrenia, leading essentially to states of disembodiment, with an increasing dissociation between subjectivity and corporeality. In the fully manifested illness, Sass and Parnas (2003) described two main facets of self-experience: 'decline in the fundamental sense of existing as a subject of awareness and action (diminished self-affection) and exaggerated, reflexive awareness of aspects of experience that are normally tacit or presupposed (hyper-reflexivity)'. The latter is also clearly present within a range of abnormal bodily sensations, often referred to as 'cenesthesias', that frequently precede the development of somatic hallucinations (Jenkins & Röhricht, 2007).

The concepts of disturbed ego-consciousness (Scharfetter, 1981, 2003) or self-disturbance (Sass & Parnas, 2001, 2003) and body image aberration (Priebe & Röhricht, 2001) in schizophrenia, have been applied in different areas of empirical research. Referring to the work of Scharfetter (1995), and for the purpose of this study, ego-pathology (the disturbances within the basic dimensions of ego-consciousness) is conceptualized according to Kant's definition of the 'empirical ego', as an '. . . "object of perception" by the "inner sense", it is conscious, awareness of oneself as the subject of acts' (Scharfetter, 1995, p. 20). Four areas appear to be in the focus of contemporary research:

(1) Phenomenological characteristics suggestive of a nosological subtype of the group of schizophrenias (Huber, 1992; Röhricht & Priebe, 2002).
(2) The importance of disturbed self-experiences as basic symptoms for early detection of schizophrenic symptoms (Klosterkötter, Hellmich, Steinmeyer, & Schultze-Lutter, 2001; Maggini & Raballo, 2004; Parnas, 2005).
(3) Explanatory models for the development of specific psychopathological syndromes (e.g. negative symptoms, Sass & Parnas, 2001).

(4)   A starting-point for the development of psychological intervention strategies (France & Uhlin, 2006; Lysaker, Buck, & Hammoud, 2007; Röhricht, 2000; Scharfetter, 1999).

In a much wider sense, self-experiences in schizophrenia have been an issue in the context of a renewed interest in subjective experiences in schizophrenia (e.g. Lysaker, Buck, Taylor, & Roe, 2008; Peralta & Cuesta, 1994; Strauss, 1989).

Drawing on Blankenburg (1971), and his concept of the 'crisis of common sense', Stanghellini (2000) outlined 'different dimensions of schizophrenic vulnerability', and defined 'sensory-level disorders' as those involving perception of self, body, and the world. He pays particular attention to observations regarding the disconnectedness from common sense, involving a 'lack of intuitive attunement'. He draws a hypothesis that these factors are relevant with respect to developing relational deficits and impairments in social functioning seen in chronic schizophrenia. Equally, Lysaker *et al.* (2007) refer to impoverished or so-called 'barren' self-experiences, and propose a new and integrated psychological intervention strategy. Most recently, some authors (e.g. Lysaker *et al.*, 2008) have suggested a need to assess self-experiences as a valid subjective domain within recovery in schizophrenia, concentrating on 'the degree to which individuals coherently and meaningfully experience themselves as unique with a sense of purpose and value' (p. 32).

Considering these hypotheses, theoretical considerations and research findings, a pilot trial was conducted with the aim of investigating the efficacy of a manualised body-oriented psychological therapy in a group of patients suffering from chronic schizophrenia (Röhricht & Priebe, 2006). This novel intervention strategy aims to utilize reconstructive body–mind work as a means of fostering a coherent sense of embodied self, self-directed and vitalized social interaction and emotional expressiveness. The results indicated positive effects within the experimental treatment group on negative symptoms (namely: psychomotor retardation; blunted affect; and emotional withdrawal) with a significant reduction in both PANSS-negative and brief psychiatric rating scale (BPRS) anergia symptom scores (effect size of 0.78). No significant changes were observed in the control group of patients who received supportive counselling.

The improvements seen were independent of the dose of antipsychotic medication (measured as Chlorpromazine equivalents), extrapyramidal symptoms (measured on a specific EPS scale), or any improvement in positive symptoms. Patients in both groups evaluated the treatment positively, using the client assessment of treatment scale. However, they did not rate any increase in the subjective quality of life after treatment, as assessed using the Manchester Short Assessment Quality of Life.

The variance of therapeutic responses in the experimental group remains to be explored, particularly regarding the impact of self-experiences and body image aberration on outcomes.

The objectives of this study now are to evaluate the processes associated with therapeutic responses, addressing the question of whether the improvements in negative symptoms are associated with changes in ego-pathology scores and/or indicators of body image aberration, and if any of these pathologies might be of predictive value with respect to clinical outcomes.

Our hypothesis is that specific body oriented psychological interventions will lead to clinically significant improvements of body image aberration in close association with reductions in ego-pathology symptom scores. It is furthermore hypothesized

that the degree of baseline pathology and any changes in these areas may be associated with improvements of negative symptoms (predictor of change).

Methods

Patients

Patients were recruited after identification by consultant psychiatrists from out-patient and community-based mental health services in the borough of Newham, East London. Only those assessed as clinically stable were included. The study was approved by the North East London Strategic Health Authority Ethics Committee and written informed consent was obtained from all patients before entering the trial.

The following inclusion criteria were applied: aged 20–60 years. Diagnosis of schizophrenia according to DSM IV (Established by the responsible consultant psychiatrist and confirmed by a researcher during a structured interview). At least two episodes of acute psychotic symptoms. Time since last in-patient treatment greater than 1 month. Experiencing persistent symptoms of schizophrenia for at least 6 months, including a high degree of negative symptoms at baseline. PANSS subscore 'Negative' ≥ 20 and/or one of the 'anergia' items, 'emotional withdrawal', 'motor retardation', or 'blunted affect' ≥ 6 (6 = severe). Stable on prescribed antipsychotic medication prior to entering the study. Exclusion criteria were: evidence of organic brain disease and/or severe or chronic physical illness and substance misuse as primary diagnosis.

All patients with chronic schizophrenic illness, who participated in the experimental treatment group (BPT), were included in the analysis presented in this paper.

Design and assessments

All participants gave written informed consent prior to entering the study. The assessments of ego-pathology, common symptom scores and body experiences were carried out longitudinally at baseline prior to commencing psychotherapy and for follow-up within 2 weeks of completing the therapy. We also investigated how any changes were associated with main clinical outcomes (in this case improvement of negative symptoms). The interviewer, a research psychiatrist, was not involved in treatment.

The applied instruments were:

(1) The modified *Image-Marking Procedure* (IMP; Askevold, 1975; Meermann, 1985; Röhricht & Priebe, 1996) for recording segmental body size perception of the lower extremities (four distances, united to a segment called 'Legs'). Patients marked distances as estimated in response to a two-point tactile stimulus made by the investigator (using a beam bender similar to an instrument called an 'anthropometer'). Body Perception Indices were calculated according to the established formula: perceived size/real size × 100 (Slade & Russell, 1973).

(2) Body cathexis ('How satisfied are you with your body?') was self rated on a 10 cm long *visual analog-scale* (extreme points: 0 = totally satisfied and 10 = totally dissatisfied). The scale combines qualities of a visual analog-scale with features of a 11-point rating scale, with 1 cm between each scale point, in order to increase the accuracy and consistency of ratings (Bröker, Röhricht, & Priebe, 1995; Priebe & Bröker, 1999).

(3) The same type of scale was applied to assess aspects of body image (body concept) entitled 'Small' (feeling as if the body or its parts is/are unusually small), 'Large'

(feeling as if the body or its parts is/are unusually large), and 'Alteration of body size' (feeling as if the body size has changed). Each item had the extreme scores 0 (absolutely right) and 10 (absolutely wrong).

(4)   Two other aspects of body image were assessed using subscales of the body distortion questionnaire (BDQ): 'Boundary loss' and 'Depersonalization' each having 10 items (Fisher, 1970). The 'Depersonalization' subscale refers only to body related items and therefore represents Desomatisation.

The instruments were chosen based on previous findings from phenomenological studies (Priebe & Röhricht 2001; Röhricht & Priebe, 1996).

Psychopathology was assessed using the following scales:

(1)   Positive and Negative Symptom Scale (PANSS; Kay, Fiszbein, & Opler, 1987).
(2)   Ego psychopathological interview schedule (EPI; Scharfetter, 1995).

The latter structured instrument was developed and validated by Scharfetter and based on his theoretical conceptualization of schizophrenia as an ego-disorder. He first published the specific characteristics of the instrument in 1981 (Scharfetter, 1981). The EPI consists of 53 items, covering five basic characteristics of ego/self-awareness ('Identity', 'Demarcation', 'Consistence/Coherence', 'Activity', and 'Vitality'). It also includes additional factors (apart from 'Body' not used in this study) detailed as: 'Over-compensation'; 'Body'; 'Psychomotor Behaviour'; and 'Thought Process'. The latter captures symptoms otherwise commonly referred to as 'Ich-Störungen' in German literature, whereas the five basic dimensions include a much wider and different range of symptoms of the ego being experienced as '. . . annihilated, destroyed, dissolved, incoherent, split, transformed etc.' (Scharfetter, 1995, p. 55).

Subjective experiences were recorded at the end of each session, using a structured protocol with the following headings: events in each of five-part session; subjective experiences/any specific features noted including references to how body feels or responds; general evaluation of session outcome; predominant movement themes; predominant psychological themes; and interrelational observations.

The body oriented psychological intervention (BPT)

Patients in the experimental group received a manualised form of body psychotherapy, integrating body oriented psychological interventions from different schools: predominantly dance movement psychotherapy, Neo-Reichian body psychotherapy and sensory awareness. The manual describes five sections, regularly repeated in each session (20 sessions of 90 minutes therapy each over 10 weeks): (1) Opening circle; (2) Warm-up section; (3) Structured task section; (4) Creative movement section; and (5) Closing circle (detailed description in Röhricht & Priebe, 2006).

Results

Demographic and clinical characteristics

A total of 24 patients with chronic schizophrenic illness, fulfilling the inclusion criteria, were allocated to the experimental treatment (12 women and 12 men) with a mean age of 38.8 ($SD = 9.3$), mean duration of illness 12.1 years ($SD = 10.5$), and mean number of previous hospitalizations 3.7 ($SD = 2.8$). All patients fulfilled the inclusion criteria.

Ego pathology and common psychopathological symptom scores

Psychopathological symptom scores at baseline and after treatment are summarized in Table 1.

Table 1. Psychopathological symptom scores of sample ($N = 24$) at baseline and after 10 weeks/20 sessions of group therapy (BPT)

	Baseline		Post-treatment		t test (paired)	
	$N = 24$		$N = 24$		$df = 23$	
	Mean	SD	Mean	SD	t	p
PANSS-negative	23.4	4.1	18.9	4.3	4.6	.000
PANSS-positive	16.5	5.4	15.3	5.1	1.6	ns
PANSS-general	39.1	8.4	37.1	8.7	1.3	ns
EPI body	5.8	4.6	4.3	4.0	2.9	.008
EPI-activity	2.3	1.6	1.6	1.6	2.3	.029
EPI-vitality	1.9	1.6	1.5	1.6	1.3	ns
EPI-identity	1.6	1.9	1.0	1.4	1.5	ns
EPI-consistency	3.1	1.3	2.3	1.5	3.5	.002
EPI-demarcation	2.8	1.3	1.9	1.3	3.5	.002
EPI-sumscore						

SD = standard eviation, ns = not significant.

The means suggest a moderate degree of ego-pathology and positive/general symptoms, as well as a high degree of negative symptoms at baseline. The pre–post treatment comparison reveals significant improvement in negative symptoms as well as ego-pathology scores for the subscales 'body', 'activity', 'consistency', and 'demarcation'.

Body experiences

The scores for the instruments assessing aspects of disturbed body experience are summarized in Table 2.

The mean scores indicate relevant body related pathology in all areas, for the group as a whole, pre-treatment. Specifically this includes underestimation of lower extremities (BPI legs median < 100), boundary loss and somatic depersonalization (BDQ mean > 5), and sensations of diminishment, enlargement and body size change (VAS mean scores < 5). The body cathexis scores however, indicate an average overall body satisfaction.

Over the course of treatment only the perception scores improved significantly from underestimation to accurate perception, whereas all other scores remain unchanged.

Predictors of change: Regression analysis (linear, stepwise)

Dependent variable: PANSS negative difference score.

Independent variables: Age, gender, duration of illness, number of previous hospitalizations, number of attended therapy sessions, baseline scores for: PANSS (positive, general, and negative); EPI (identity, consistency, activity, vitality, and body); VAS scales (cathexis, small, large, and body size change); and BPI (legs).

Table 2. Body (self) experiences of sample ($N = 24$) at baseline and after 10 weeks/20 sessions of group therapy (BPT)

	Baseline		Post treatment		t test (paired)	
	$N = 24$		$N = 24$		$df = 23$	
	Median		Median		t	p
BPI-legs	92.3		101.1		−2.4	<.05
BDQ-boundary loss/desomatisation	7.5	6.4	5.4	4.9	1.5	ns
VAS-small	3.1	3.7	3.5	3.9	−0.63	ns
VAS-large	2.9	4.3	2.8	3.8	0.16	ns
VAS-body size change	2.9	4.1	2.5	3.8	0.62	ns
VAS-body cathexis	4.1	3.4	4.5	2.7	−0.52	ns

$SD=$ standard deviation, $ns=$ not significant.

Total variance explained (adjusted R^2): .86.

Predictors: Number of attended sessions ($\beta = 0.26$, $t = 2.8$, $p = .016$); EPI consistence at baseline ($\beta = 0.43$, $t = 3.8$, $p = .003$); PANSS negative scores at baseline ($\beta = 0.63$, $t = 6.7$, $p = .000$); and EPI-demarcation at baseline ($\beta = -0.84$, $t = -7.4$, $p = .000$).

The change in scores of the PANSS negative subscale were not significantly correlated with either change scores of ego-pathology (EPI sum score, Spearman's $\rho = -.07$, sig. two-tailed $= .76$) or body size perception (BPI legs, Spearman's $\rho = -.13$, sig. two-tailed $= .53$).

Subjective experiences of participants undergoing body psychotherapy – a qualitative observational summary (as obtained from therapist's session protocols)

The individual experiences of the participants in the group were varied, but a number of shared common themes emerged. At the beginning of the sessions, individuals frequently voiced their exhaustion. In contrast, by the end of the BPT intervention they spoke about the positive experience of the group.

The range of BPT activities enabled the participants to directly engage with their bodies, and this in-turn assisted them in recognizing and articulating unusual reflections suggestive of disembodiment, somatic disintegration and other abnormal bodily sensations. For example 'I can't connect with myself', 'I have no sense of my body', 'My head is here, but the rest of me is somewhere else', 'I feel like a ghost'.

A theme that emerged a number of times was a pre-occupation with morbid thoughts and ideas, especially with death, which could be triggered by something as simple as a full body stretch. Mirroring exercises evoked particularly strong responses which seemed to be related to a poor sense of ego. For example 'I am losing my identity in this' (mirroring), this (mirroring) is very unpleasant as I can leave with another person's image, it is difficult enough to keep my own'. In terms of movement qualities, the generalized lack of participant's capacity to engage with strong weight was noticeable.

Towards the end of therapy the following changes were identified (separated into main themes):

(1) Body and Movement:

  At the beginning of therapy movements were often observed to be disorganized/uncoordinated and without much energy, which changed towards a clearer differentiation of movement (e.g. expansion and contraction in all three dimensions). The feeling of lifelessness and passive weight shifted as patients became able to engage with strong weight. Overall, patients' ability to verbally express their bodily sensations improved.

(2) Relationship to props and different activities and exercises as well as interrelationships:

  At first patients presented in a rather passive and anxious manner, not interested in participating in the group exercises. By the end of the therapy they became more positively engaged and began to utilize the playfulness of some of the interventions related to objects (e.g. balls, and body sculpturing). Despite the fact that patients generally remained relatively guarded in their ability to engage in relationships, there was some indication of a positive development in this area, more specifically, eye-contact improved between group members.

(3) Emotions:

  The main changes came about as an improved ability to identify, embody and express basic emotions (happiness, anger, fear, anxiety, and when the group was ending, sadness) in relation to likes and dislikes about the content of the actual session.

Discussion

The results of this study suggest a complex, although as yet not fully understood interaction between ego-pathology, abnormal body-experiences, and the impact of body oriented psychological therapy (BPT) on both.

Ego-pathology

Although there were no significant changes in general and positive symptom scores from pre- to post-therapy assessments, four out of six ego-pathology symptom scores were found to be significantly improved over the course of BPT therapy. However, these scores were not significantly correlated with other change scores, suggesting that those patients benefiting from BPT with regard to improvement in negative symptoms did not specifically respond in relation to improved ego-pathology symptoms. These symptom changes could be interpreted as responses to BPT despite not being specifically targeted.

Body-experiences

Over the course of 10 weeks in the BPT group, body size perception of the lower extremities improved significantly in the group as a whole from underestimation pre-therapy to accurate estimates post-therapy. However, this change applied only to a small subsample of the 24 participants, and no association was found between this effect and any improvement in negative symptoms (main outcome criteria).

  In previous studies on body image aberrations, a centralized body schema with underestimation of extremities has been described as a consistent finding in both acute (Röhricht & Priebe, 1996) and chronic (Wagner, 1984) schizophrenia patients.

It has also been shown that following a 2 week period of treatment as usual in hospital (no additional psychological therapy), main psychopathology scores were much improved in a sample of patients suffering from acute paranoid schizophrenia, whereas body perception scores showed only minor improvement towards more accurate estimates. The two changes were not statistically associated (Röhricht & Priebe, 1996). The intervention strategy applied in this study was not designed to specifically address body image disturbances, but included nevertheless elements of sensory-awareness training and tactile self-exploration as well as body image sculpting exercises. All these interventions are in theory robust methods to stimulate body size perception and hence, may have contributed to the improvement in some participants of the BPT group. The immediacy of the size estimates in response to tactile stimuli, as well as the results from previous studies, suggest that the changes are unlikely to be purely an effect of training. Patients did not receive any feed-back regarding the accuracy of their estimates and there was a 14 week time gap between the two assessments. Other explanations for changes in body-experiences must be considered, particularly the potential effect of movements and emotional stimulation on body-awareness.

Improvement of negative symptoms in BPT: Mediators and predictors of change

Contrary to our hypothesis, a reduction of negative symptoms in this group (as described by Röhricht & Priebe, 2006) was not statistically associated with systematic improvements in any quantitative measures of ego-pathology or body-experiences. The analysis of observational and qualitative information suggests that negative symptoms do respond to certain characteristics of a non-verbal approach. Most specifically the therapist's records recount how patients gradually shifted from poor engagement towards a better degree of engagement in therapy. This was through the use of therapeutic objects, focus on and verbalization of bodily sensations and playful elements of the interventions, which stimulated patients' creative skills. It is worth mentioning that adherence was much better in the experimental than in the control group in the pilot trial, high drop-out rates were reported for the control group receiving supportive counselling (Röhricht & Priebe, 2006), which is designed as a talking therapy. These attentional shifts may have other therapeutic consequences (as described above), particularly in respect of the importance of embodiment for reality testing and ego-stability.

The strongest (negative) predictor of change for negative symptom scores was a high score for ego-demarcation at admission. This is of particular interest, as it is consistent with findings in another study (Röhricht & Priebe, 2004), in which patients with acute paranoid schizophrenia where assessed longitudinally over the course of 2 weeks in-patient treatment, without additional body psychotherapy (treatment as usual only). High scores of ego-demarcation at admission predicted poor treatment outcome (measured using PANSS-scores). Ego-demarcation therefore appears to be an independent, relevant, predictive, and also possibly prognostic factor in the course of schizophrenia. Extrapolating these results, we would suggest that a high degree of pathology in this area might warrant specific therapeutic attention, towards the development of new psychological intervention strategies.

Interpreting these findings from the perspective of functional psychopathology, the definition of the concept of 'ego' as outlined earlier needs to be taken into account. The concepts of both 'ego' and 'self' are widely used in the psychological, psychoanalytical,

and psychiatric literature, often with different meanings. For example within the Jungian tradition (analytical psychology) the ego is a structural element within the psyche, and is considered to be the centre of consciousness. The 'self' on the other hand, (according to Jung), is the totality of the psychological world of an individual, including conscious and unconscious functions. At one and the same time, 'the self is not only the centre, but also the whole circumference which embraces both conscious and unconscious, it is the centre of this totality just as the ego is the centre of consciousness' (Jung, 1944, par 41).

The definition of the ego used in this paper differs from the above, in that it is defined from a phenomenological position: 'It refers to the certainty of experience, it is I myself, living and functioning on my own, unified and coherent, delineated by a boundary open for communication in an afferent direction, self-identical through the course of life and in various situations' (Scharfetter, 1981). This offers a more functional definition based on experience rather than structure. For the purpose of this study, we have explored self-experiences in relation to dysfunctional aspects of this empirical 'ego', describing pathology with respect to the five basic ego dimensions (vitality, activity, consistency and coherence, demarcation, and identify), as conceptualized by Scharfetter (1981).

A speculative interpretation of these findings can be undertaken within the context of a conceptualization of schizophrenia as a fundamentally severe ego-disorder. Implicitly referring to the vulnerability-stress model, Parnas and Sass (2001) propose an etiological model with a 'fragile constitution of self-hood' as core/root phenomena. Consistent with this proposal, the findings in this study suggest that ego pathology may have an underlying prognostic and also potentially therapeutic relevance in both the development and course of schizophrenic illness. The observed behaviour of emotional and social withdrawal, psychomotor retardation and reduced affective reactivity (commonly described as the negative syndrome), and also described by Lysaker *et al.* (2007) as 'barren' or 'empty selves', may well be regarded as a dysfunctional coping/response strategy in relation to an otherwise overwhelming, unbearable range of external (social and environmental) and internal (unpleasant bodily sensation/cenesthesias) stressors/stimuli (also referred to as 'hyperreflexivity'). This interpretation is in concordance with another, similar explanatory model, offered by Blankenburg (1971), in which he describes the loss of natural self-evidence and the resulting perplexity as underlying phenomena for the withdrawal of and into the self. Based on a literature review regarding the discrepancy between subjective experiences and observation based psychometric ratings (Selten, Wiersma, & van den Bosch, 2000), Dintino (2002) conducted phenomenological interviews in order to investigate subjective experiences in relation to observed negative symptoms and found no evidence for a subjectively perceived reduction in feeling and/or thinking.

Limitations

The sample size was relatively small and the quantitative analysis will therefore need to be interpreted with caution. Because of the sample size, we did not compute comprehensive multivariate analyses which would have been unlikely to produce reliable findings, and there was no sufficient statistical power to provide sound evidence for negative results. Also, we did not adjust for multiple testing which may have increased the risk of having false positive findings. Yet, we consider this an appropriate approach in a study of a largely exploratory nature.

During the pilot trial, a controlled condition of supportive counselling was provided to another group in parallel. The drop-out rate was considerably higher in the control group with only 14 patients receiving the allocated intervention (and a much lower

number of therapy sessions attended). Given these differences and because the focus of this analysis is the treatment effect of body psychotherapy, the paper does not relate directly to a robust control group.

Conclusions

Based on the findings of this study and in relation to the theoretical considerations regarding the potential for the development of novel psychological interventions in the treatment of schizophrenia, we conclude that further detailed exploration of the methodology of body oriented psychotherapy, aiming at achieving ego consolidation, is required. In doing this, the importance of early self-referential body experiences for ego-development need to be taken into account. From the qualitative information gathered in this study and in respect of the treatment of negative symptoms, it is an important observation that the interventions were cited as generally helpful, with an emphasis on how the therapy improved the participants' ability to direct their movements intentionally and to make choices. These processes also warrant further detailed investigation.

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