

The Relationship between Personality Organization and Psychiatric Classification in Chronic Pain Patients

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Key Words

Chronic pain · Psychiatric comorbidity · Psychic structure · Structured Interview of Personality Organization

Abstract

Background: The present study investigated the relationship between psychiatric classification and personality organization (PO) in a secondary/tertiary clinical sample of chronic pain patients (CPPs). **Sampling and Methods:** Forty-three patients were administered the Structured Clinical Interview for DSM-IV (SCID I+II) and the Structured Interview of Personality Organization (STIPO). The prevalence of axis I and axis II disorders was correlated with the STIPO level of PO. The STIPO dimensional ratings of patients without personality disorder (PD) were compared to those of patients diagnosed with one or more PDs. **Results:** Axis I comorbidity was high (93%), and 63% of the patients met the criteria for at least one axis II diagnosis. Twenty-five patients (58%) were diagnosed as borderline PO, with high-level impairments in the dimensions 'coping/rigidity', 'primitive defenses' and 'identity'. Higher axis I and axis II comorbidity corresponded with greater severity of PO impairment. No difference was found between the dimensional ratings of patients without PD and those of patients with one or more PDs. **Conclusions:**

The assessment of PO is a crucial issue for diagnosis and treatment planning in CPPs, since it represents a measure of structural impairment that is to a considerable extent independent of axis I and II diagnoses. Moreover, the STIPO dimensional rating focuses on the most salient dysfunctions at a given time.

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Introduction

According to the International Association for the Study of Pain, pain is 'an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage'. This broad definition recognizes that sensory fibers reflecting tissue damage and emotional factors reflecting suffering form an amalgam that is difficult to sort out. Chronic pain, defined as pain which has been present for more than 6 months [1], is often associated with psychopathology. Among the most common psychiatric disorder diagnoses that chronic pain patients (CPPs) receive is pain disorder, which is one of the somatoform disorders listed in DSM-IV. However, the DSM definitions of the criteria for somatoform disorders have been widely criticized

over the years [2, 3], and a new diagnostic system has been proposed for DSM-V [4]. Studies revealed high variability of comorbid depressive disorders and anxiety disorders [5], and syndrome overlap of depression, anxiety and somatization was reported [6, 7]. High rates of personality disorders (PDs) have been documented in CPPs, with a prevalence ranging from 31 [8] to 81% [9]. Little consistency has been found in terms of specific PDs, with histrionic [10], dependent [11], paranoid [12] and borderline PDs [8] identified as the most common specific axis II disorders. Moreover, diagnoses of PDs in CPPs based on the Structured Clinical Interview for DSM-IV (SCID) have failed to show the expected degree of diagnostic stability over time [5].

Alternative approaches to the assessment of personality in the chronic pain population have identified different personality traits associated with chronic pain. The Minnesota Multiphasic Personality Inventory suggested somatization and denial as modal defense strategies in CPPs [13]. The NEO Personality Inventory identified a relationship between neuroticism and introversion and the development and maintenance of chronic pain [14]. The Temperament and Character Inventory revealed higher scores on the 'harm avoidance' temperament and lower scores on the dimensions 'self-directedness' and 'cooperativeness' [15]. However, assessments of personality traits primarily based on self-report inventories have also been brought into question [16].

Looking for new ways of assessing personality, psychoanalytic research has identified a number of key structural elements contributing to an individual's personality functioning [17–19]. A well-established approach to the assessment of psychic structure is Kernberg's model of personality organization (PO) [18]. The model differentiates 3 levels of PO according to the domains identity integration, defense mechanisms and reality testing. Neurotic PO is characterized by mature defense mechanisms, good sense of identity and reality testing. Borderline PO is characterized by immature defense mechanisms and identity diffusion, whereas reality testing is generally maintained. Psychotic PO is marked by archaic defense mechanisms, severe identity diffusion and poor reality testing. The Structured Interview of Personality Organization (STIPO) [20] provides a guide to the evaluation of the individual's PO according to Kernberg's psychodynamic conceptualization. The STIPO allows a dimensional rating of several domains central to personality functioning and a more refined assessment of the level of PO.

To date, the German version of the STIPO has been employed in several clinical studies. In borderline PD (BPD) patients, one study revealed a correlation between low levels of PO and clinical severity [21] and a second study showed correlations between the level of PO and the number of axis I and axis II diagnoses [22]. PO has also been used as a measure of change in psychotherapy. In a randomized, controlled trial, transference-focused psychotherapy was shown to be significantly superior in terms of changing levels of PO in comparison to treatment of BPD patients by experienced community psychotherapists [23]. Walter et al. [24] investigated negative affects and identity disturbance according to the STIPO in patients with BPD and patients without PD.

The principal aim of the study was to apply the concept of PO to the investigation of CPPs and to relate this structural diagnostic approach to the categorical classification of the DSM-IV. We firstly investigated psychiatric comorbidity according to axis I and II diagnoses and psychic structure according to the STIPO level of PO and STIPO dimensional ratings. Then we assessed the relationship between the two constructs in terms of the correlation between the number of axis I and axis II diagnoses and the level of PO. Finally, we explored the STIPO dimensional ratings of patients without PD and those of patients diagnosed with one or more PDs.

We hypothesized a high prevalence of axis I and II disorders in our secondary/tertiary clinical sample. In addition, we hypothesized a higher prevalence of low-level PO in comparison to the general population. We expected that higher numbers of axis I and II diagnoses would be associated with lower levels of PO. Finally, we also expected significant differences between the STIPO dimensional ratings of patients without PD and patients with PD.

Methods

Study Sample and Procedure

During the study period, from July 2006 to May 2008, all patients referred to the Behavioral Medicine Pain Clinic in the Department of Psychiatry and Psychotherapy of the University of Vienna as candidates for behavioral group therapy were consecutively assigned to the study. Patients aged between 18 and 65 years with chronic pain conditions according to International Association for the Study of Pain [1] criteria were included. Patients were excluded if they met criteria for schizophrenia, bipolar disorder, severe substance abuse or mental retardation. A total of 50 patients were eligible for the study, and complete data were available for 43 patients. All patients provided written informed consent. The study was approved by the ethical board of the Medical University of Vienna.

The sample consisted of 38 women and 5 men with an average age of 51.5 years (SD \pm 8.9, minimum = 27, maximum = 65). With regard to civil status, 63% of the participants were married, 19% divorced, 5% widowed and 12% single. The highest educational attainment for 30% was compulsory school, for 37% vocational school, for 21% secondary school and for 7% tertiary studies. With regard to employment status, 21% of the patients were employed, 26% unemployed, 44% retired (partly due to their disorder) and 7% were housewives.

The participants represented a heterogeneous group of CPPs, including those with low back and leg pain, head, neck and arm pain, orofacial pain, and skin and muscular pain. Three quarters of the patients (76%) suffered from permanent pain and 67% reported multilocular pain. Three quarters of the patients (74%) had suffered from pain for more than 2 years, 16% for more than 1 year and 7% for more than 6 months. Pain intensity during the previous month was 6.9 (SD \pm 2.0, minimum = 3, maximum = 10), disability in work was 7.9 and disability in leisure was 7.8 on the 10-point visual analogue scale.

Measures

Structured Clinical Interview for DSM-IV

Psychiatric disorders according to DSM-IV were assessed by the German versions of the SCID-I [25] and SCID-II [26].

Structured Interview of Personality Organization

The STIPO [20] is a 100-item semistructured interview that yields 7 dimensions of personality functioning: (1) identity consolidation; (2) quality of object relations; (3) use of primitive defenses; (4) quality of aggression; (5) adaptive coping versus character rigidity; (6) moral values, and (7) reality testing and perceptual distortions. In addition to the item-based scoring method, which was examined by Stern et al. [27], the interviewer can complete a clinical rating for each dimension ranging from absence of pathology (score of 1) to very severe pathology (score of 5) on a 5-point scale. These 5-point clinical ratings yield a personality profile that depicts the individual's functioning on the different dimensions. Moreover, the level of PO is scored on a 6-point scale according to which subjects can be described as falling within the normal, neurotic (neurotic 1, neurotic 2) or borderline (borderline 1 to borderline 3) level of PO. Thus, borderline 1, borderline 2 and borderline 3 represent increasing PO pathology across the dimensions of the STIPO. A detailed description of the instrument is given by Hörz [28]. The psychometric qualities of the STIPO have been shown to be adequate to good, with high interrater reliability data for all of the STIPO domains, ranging from 0.84 to 0.97, a mean intraclass correlation coefficient of 0.92 and generally high internal consistency for the 7 STIPO domains, with Cronbach's alpha ranging from 0.63 (reality testing) to 0.92 (object relations), with a mean of 0.83 [27].

SCID interviews were conducted by two psychiatrists who received comprehensive interview training and demonstrated satisfactory reliability. STIPO interviewers (C.M., S.H.) were trained by the respective authors of the English (at the Personality Disorders Institute, White Plains, N.Y., USA) and German version (at the University of Innsbruck, Innsbruck, Austria) of the instrument and had obtained good interrater reliability. The intraclass correlation coefficient of the STIPO clinical ratings was 0.70. STIPO interviewers were blinded to SCID results.

Table 1. Axis I and axis II disorders in our sample of CPPs

	Patients, n
Axis I diagnoses	
Substance abuse	6 (14.0%)
Affective disorders	29 (67.4%)
Anxiety disorders	15 (34.9%)
Somatoform disorders	36 (83.7%)
Adjustment disorders	2 (4.7%)
Number of axis I diagnoses	
0	3 (7.0%)
1 or more	40 (93.0%)
2 or more	34 (79.0%)
3 or more	14 (32.6%)
Axis II diagnoses	
Avoidant	3 (7.0%)
Dependent	5 (11.6%)
Obsessive-compulsive	12 (27.9%)
Depressive	6 (14.0%)
Paranoid	7 (16.3%)
Schizotypal	–
Schizoid	1 (2.3%)
Histrionic	4 (9.3%)
Narcissistic	3 (7.0%)
Borderline	11 (25.6%)
Antisocial	–
Number of axis II diagnoses	
0	16 (37.2%)
1 or more	27 (62.8%)
2 or more	16 (37.2%)
3 or more	7 (16.3%)

Statistical Analysis

The relationship between the number of axis I and axis II diagnoses and the level of PO was tested by Spearman correlations. To compare scores for the STIPO dimensional ratings of patients with no PD and patients with PD, Mann-Whitney tests were applied. The significance level was set at $p < 0.05$ using SPSS 14.0.

Results

Table 1 presents the prevalence rates of axis I and axis II disorders. Somatoform disorders (83.7%) and mood disorders (67.4%) were the most frequent axis I disorders, and 93% of the patients were diagnosed with one or more axis I disorders. Of the somatoform disorders, 14.3% were somatization disorder, 17.8% were undifferentiated somatoform disorder, 57.1% were pain disorder and 10.7% were somatoform disorder not otherwise specified. On axis II, obsessive-compulsive (27.9%) and borderline (25.6%) PDs were predominant, and 62.8% of the patients were diagnosed with one or more axis II disorders.

Table 2. STIPO level of PO and dimensional ratings

Level of PO	CPPs, n
Normal	1 (2.3%)
Neurotic 1	6 (14.0%)
Neurotic 2	11 (25.6%)
Borderline 1	20 (46.5%)
Borderline 2	3 (7.0%)
Borderline 3	2 (4.7%)

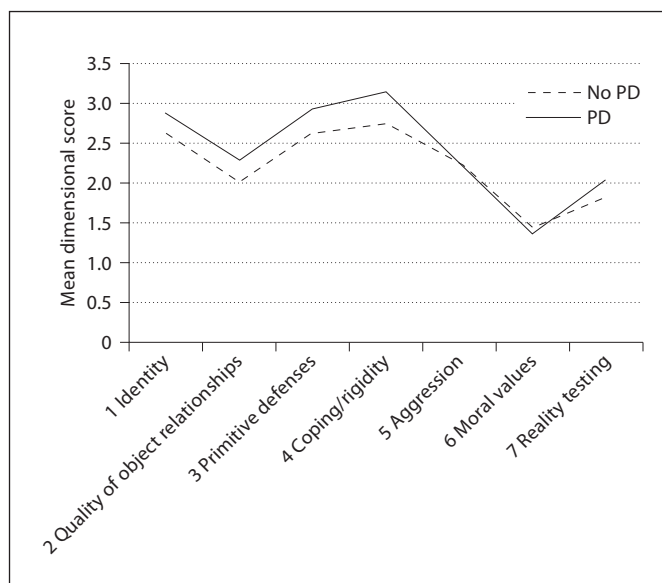
Dimensional rating	Mean \pm SD
1 Identity	2.79 \pm 0.68
2 Quality of object relationships	2.40 \pm 0.88
3 Primitive defenses	2.81 \pm 0.70
4 Coping/rigidity	3.00 \pm 0.79
5 Aggression	2.26 \pm 0.73
6 Moral values	1.40 \pm 0.66
7 Reality testing and perceptual distortions	1.95 \pm 0.84

Table 2 presents the assignment of the PO level and the ratings of each dimension of the STIPO. The prevalence of borderline PO was 58.2%, and the most severe level of impairment was found in the dimension ‘coping/rigidity’.

The level of PO was associated with the number of axis I ($r = 0.364$, $p = 0.016$) and axis II diagnoses ($r = 0.330$, $p = 0.031$). Out of the 16 patients without PD, 10 patients (62.5%) were diagnosed as having neurotic PO and 6 patients (37.5%) were diagnosed as having borderline PO. Out of the 27 patients with one or more PDs, 8 (29.6%) were diagnosed as having neurotic PO and 19 (70.4%) were diagnosed as having borderline PO. According to the STIPO dimensional ratings, no significant difference was found between patients with PD and patients without PD on Mann-Whitney tests (fig. 1).

Discussion

The present study investigated the psychiatric comorbidity and PO in a secondary/tertiary clinical sample of CPPs. In line with previous studies [5], we found high prevalence rates of axis I disorders. Overall, 93% of the patients were diagnosed with at least one axis I diagnosis, most frequently somatoform disorders (83.7%). Besides the criticism of the specificity of somatoform disorders [2, 3, 29], a syndrome overlap of depression, anxiety and somatization may account for the high comorbidity on axis I [6, 7]. A high rate of comorbid PDs (62.8%) was also confirmed. Unlike previous findings of a predominance

**Fig. 1.** Group comparison: profile of STIPO dimensional ratings of subjects with PD ($n = 27$) versus those without PD ($n = 16$).

of histrionic, dependent and paranoid PDs [10–12], in our sample, obsessive-compulsive PD was most frequent. An investigation of CPPs in different institutional settings has shown psychiatric pain clinic patients to be more obsessive in comparison to primary care patients [30].

From the total sample, 58.2% of the patients were classified as having borderline PO, predominantly borderline I (46.5%), which corresponds to moderate structural impairment. In comparison to an estimation of 10% prevalence in the general population [31], the prevalence of borderline PO in our sample was substantially high. The prevalence rate for DSM-IV BPD of 25.6% was also substantially higher than the rate of 1–2% in the general population [32].

According to the STIPO dimensional ratings, the most severe impairment was found in the STIPO dimension ‘coping/rigidity’, followed by ‘primitive defenses’ and ‘identity’. Coping is one of the most discussed psychological variables in CPP literature [33]. Furthermore, chronic pain is frequently related to an inherent self-regulation difficulty around the experience of pain [34]. This self-regulation difficulty might be associated with the use of primitive defensive operations. Moreover, passive coping and primitive defense mechanisms have negative reinforcing effects on the individual’s capacity to invest in work or studies and leisure activities, which are key elements of ‘identity’.

The number of axis I disorders corresponded to the STIPO level of PO, and a moderate association was found between the number of axis II disorders and the STIPO level of PO. However, the STIPO dimensional ratings of patients with PD and patients without PD showed no significant differences. Thus, the dimensional ratings revealed a homogeneous profile of impairment in all of the 7 dimensions of the STIPO independent of comorbid PD. Structural impairment of the personality cannot be explained as a result of comorbid PD, but rather could be regarded as an independent dimension in chronic pain. As a consequence, the diagnosis and treatment of structural deficits represents a crucial extension of clinical axis I and II diagnoses. Larger samples and longitudinal studies using the STIPO may clarify the bidirectional relationship between pain and personality, such that pain intensifies personality pathology and personality pathology intensifies the experience and perception of pain.

Several limitations of the study have to be noted. The first limitation is the comparably small sample size. Further limitations are the participants' characteristics, including a predominance of women, heterogeneous pain symptoms and the preselection of the sample (referral to a psychiatric unit). Moreover, the STIPO is a relatively new instrument, and comparison values for CPPs are not yet available.

One strength of the present study is the assignment of an instrument to the investigation of CPPs that contributes to the general discussion on a revision of the DSM-IV and to the specific demands of the assessment of CPPs. There is a growing body of research on axis I and axis II comorbidity associating personality dysfunction with more challenging courses of axis I symptomatology [35, 36]. The recent literature has focused on the problematic boundary between axis I and axis II [37] and has emphasized the need to work towards a more unified model of personality, PDs and clinical disorders [38]. The DSM-V Research Planning Conference on PDs has suggested developing a more fundamental revision through an in-

tegration of alternative dimensional models of PD and general personality structure [39, 40]. Beyond that, psychotherapists' needs for diagnoses and classification are different from those of the medical model of psychiatric disorders as used in the DSM manuals [41].

With regard to CPPs, the recent literature has addressed the complexity of chronic pain conditions and the difficulties involved in the assessment of personality and personality pathology [42]. The literature suggests the need for multidimensional qualitative tools to assess qualitative aspects of chronic pain and its impact on emotional and social functions [43].

Conclusion

The STIPO contributes to the proposal for a dimensional classification of PDs as well as to proposals for a more unified model of personality, PDs and clinical disorders. Addressing the question of severity in the classification of PD, the STIPO represents a structured and operationalized approach towards a refined assessment by differentiating 6 levels of PO. In addition, the dimensional ratings focus on the most salient dysfunctions at a given time.

The investigation of CPPs according to the model of PO may enhance knowledge of personality features associated with the development and maintenance of chronic pain conditions. From a psychodynamic point of view, the investigation of structural aspects of personality is central for diagnostics, treatment planning and evaluation of the treatment response, in addition to descriptive diagnostic approaches.

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