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Symptoms, course of Illness, and comorbidity as predictors of expressed emotion in bipolar disorder

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ABSTRACT

High levels of expressed emotions (EE) reflect the amount of criticism and/or over-involvement in families and has been linked to relapse risk in various psychiatric disorders including bipolar disorder (BD). Less clear is which factors contribute to the development and/or maintenance of EE. Therefore, we tested whether patient characteristics, specifically clinical features and personality disorder traits in BD predicted key aspects of EE as assessed by patients and their relatives. Patients with remitted BD and their relatives were asked to complete the Family Attitude Scale (FAS) and the Perceived Criticism Measure (PCM). Patient characteristics were assessed with a variety of measures including SCID I and II. The FAS and PCM shared 25% of the variance for patients and 14% for relatives, suggesting a conceptual overlap, but they may not assess identical constructs. The number of previous mood episodes, current self-rated manic symptoms, and comorbid symptoms of Cluster C personality disorder predicted patient-rated FAS. Relative-rated FAS was only predicted by comorbid symptoms of Cluster A personality disorder. In BD, specific patient characteristics seem to be linked to key aspects of EE even when in remission. However, it might depend whether the patient, his/her relative, or a neutral observer assessed EE.

1. Introduction

Expressed emotion (EE) is a psychological concept that reflects the quality of intrafamily relations of patients with psychiatric disorders. EE indicates the amount of critical comments, hostility, and emotional over-involvement that family members express towards a patient (Kavanagh, 1992; Vaughn and Leff, 1976). Originally, the concept of EE has been applied to better understand risk of relapse in individuals with schizophrenia (Butzlaff and Hooley, 1998; Weintraub et al., 2017), but high levels of EE seem to relate to poorer outcome in a number of other psychiatric and somatic disorders, e.g., diabetes (Wearden et al., 2000) eating disorders (Rienecke et al., 2016), obsessive-compulsive disorder (Grover and Dutt, 2011), and unipolar depression (Florin et al., 1992; Hinrichsen and Pollack, 1997; Hooley et al., 1986; Hooley and Teasdale, 1989). Studies that have looked at bipolar disorder (BD) suggest that EE might be an important risk factor for relapse in BD as well (Johnson et al., 2016; O'Connell et al., 1991; Scott et al., 2012; Yan et al., 2004). Specifically, in the very first study on this topic high levels of EE together with negative affective style predicted 91% of the bipolar relapses (Miklowitz et al., 1988). Furthermore, EE significantly moderated the responses to medical (Priebe et al., 1989) and psychosocial treatments (Fredman et al., 2015; Miklowitz et al., 2009) in BD.

While the validity of the EE concept for BD has been shown, we know less about which variables predict EE. It has been intensely discussed whether patient characteristics relate to EE. In a review Hooley (2007) found sparse evidence that specific characteristics of the patient or the illness relate to EE. Also, EE had been found to be strongly associated with relapse in different illnesses, therefore making it questionable that EE is linked to specific symptoms of any psychiatric disorder (Hooley and Gotlib, 2000). On the other hand, Cutting et al. (2006) argue that patients are not passive but interact with their environment, and patient characteristics might mediate how they perceive the world and react to their environment. In line with this idea, it was found that BD symptoms were related to EE (Kim and Miklowitz, 2004; Yan et al., 2004). To our knowledge, there are no studies that examined the association between EE and psychiatric comorbidity in patients with BD. However, there is reason to assume that comorbid personality disorder traits in BD might relate to EE because

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psychopathological personality traits are a frequent phenomenon in BD. For example, Meyer et al. (2006) found in their systematic review that 37% of patients with BD had a diagnosis of a personality disorder, mostly Cluster B (see also Frías et al., 2016). Since interpersonal deficits are core symptoms in individuals with personality disorders, one could assume that personality disorder traits will affect interpersonal interactions and hereby also the familial climate.

The 'gold' standard to assess EE is the Camberwell Family Interview (CFI; Leff and Vaughn, 1985), which is used to score the frequency of certain behaviors and comments made by key relatives of the patient in that interview. The administration of the CFI requires extensive rater training and involves lengthy administration and rating. Therefore, Hooley and Parker (2006) suggested some alternative ways to assess EE, for example, the self-rated Perceived Criticism Measure (PCM). Another self-rating is the Family Attitude Scale (FAS, Kavanagh et al., 1997). Although it is still not clear if these self-reports measure the same construct as the CFI, it has been shown that the FAS was associated with two key elements of EE, namely criticism and hostility, but not with emotional overinvolvement (Kavanagh et al., 2008). There is mixed evidence about the association between the CFI and PCM (Chambless and Blake, 2009; Hooley and Parker, 2006) but it is used to assess one aspect of EE, namely criticism, and reliably predicted relapse (Hooley and Parker, 2006).

In order to further explore these findings, the present study aimed to investigate, if specific patients characteristics related to EE levels reported by patients and their relatives in BD. First, since this has not be done before in this population, we examined the relationship between PCM and FAS in patients with BD and their relatives. Second, we hypothesized that subsyndromal mood symptoms assessed by self- and expert-ratings, severity of BD, and traits of personality disorder predicted high levels of EE.

2. Methods

2.1. Participants

One-hundred-and-forty individuals contacted our study team, because they were interested to participate in a study relating to psychotherapy and BD. These individuals were either referred by local hospitals, psychiatrists, or were self-referrals due to public information in newspapers, brochures or radio (see also Meyer and Hautzinger, 2012). Forty-two individuals did not show up after the initial telephone contact, withdrew consent after the baseline assessment, did not fulfill the inclusion criteria, or did not complete at least one of the EE measures.

Inclusion criteria were a diagnosis of BD and age between 18 and 65. The participants had to give informed consent and to agree to continue their usual psychiatric treatments. Exclusion criteria were the presence of severe depression or mania, i.e., participants with scores ≥ 20 on the Bech-Rafaelsen Melancholia Scale (BRMS; Bech, 2002) or scores ≥ 20 on the Bech-Rafaelsen Mania Scale (BRMAS; Bech et al., 1978) were excluded. Furthermore, patients with a comorbid substance dependency requiring detoxification and/or current psychotic symptoms were also excluded. Patients were asked for informed consent to send a questionnaire to their spouse, or if single or divorced to their partner or closest relative (e.g. mother).

The present study included data of 98 patients. The sample comprised 52 males and 46 females. Of the 98 patients, 40 were married, 39 were single and 19 divorced. 20.4% of the patients indicated an age of onset before age 18. Medication status was unknown for 5.1% of the patients, 15.3% did not use medication, and 78.6% used mood stabilizer, antipsychotics, antidepressants, anxiolytics, or a combination of medication. Based on the SCID-I all participants were in full remission; looking at rating scales, most patients had scores below 15 on the BRMS (90.3%) and the BRMAS (98.9%). Table 1 displays demographical and clinical data of the participants.

Table 1
Demographic and clinical data of patients with BD.

	*N**	*M*	SD
Age	98	42.98	12.18
Mood Symptoms			
BDI	98	13.79	9.35
SRMI	97	20.12	11.92
BRMS	93	5.71	5.24
BRMAS	93	1.58	3.14
Severity			
# of Episodes	78	12.37	16.27
Age of Onset	93	28.43	10.71
Personality disorder traits			
Cluster A	90	25.86	3.52
Cluster B	75	35.63	3.81
Cluster C	90	45.30	9.12
Expressed Emotion			
Patient FAS	96	40.18	16.91
Relative FAS	92	36.24	15.88
Patient PCM	93	5.10	2.21
Relative PCM	89	4.91	1.95

Notes: BDI, Beck Depression Inventory; BRMS, Bech Rafaelsen Melancholia Rating Scale; BRMAS, Bech Rafaelsen Mania Rating Scale; FAS, Family Attitude Scale; PCM, Perceived Criticism Measure; SRMI, Self Rating Mania Inventory.
* Due to missing data *N* varied.

2.2. Measurements

2.2.1. Family Attitude Scale (FAS; Kavanagh et al., 1997)

The FAS contains 30 items that cover 4 key aspects of EE: criticism, hostility, anger and warmth. Statements relating to EE are rated on a 5 point scale ranging from "always" (4) to "never (0). The sum of scores ranges from 0 to 120, with higher scores indicating higher levels of EE. In the original study by Kavanagh et al. the mean FAS score of healthy undergraduate students who rated their mothers was 34.2 (SD = 20.5). The mean FAS score of the mothers, who rated how critical they were to their child, was 25.9 (SD = 16.0). Two versions of the FAS were used in the present study, one for the patients ("He/she thinks, that I am a real burden") and one for relatives ("He/she is a real burden"). The senior author translated the English version into German, and a native English speaker translated this back into English. Any inconsistencies were discussed and removed. In the present study, we obtained Cronbach's α = 0.94 for patients and Cronbach's α = 0.95 for relatives.

2.2.2. Perceived Criticism Measure (PCM; Hooley and Teasdale, 1989)

The rating on a 10 point scale of the question "How critical is your relative of you?" was the best indicator for EE in a number of studies (Hooley and Miklowitz, 2017; Renshaw, 2007). Therefore, we used a 10 point visual analog scale on which the patients were asked to rate the question "How critical has he/her been of you?". The relatives were asked to self-rate their level of criticism: "How critical have you been of him/her?".

2.2.3. Structured Clinical Interview for DSM-IV Axis I and II (SCID; First et al., 1997; Wittchen et al., 1997)

The SCID-I and II are widely used and reliable semi-structured interviews to assess Axis I and II disorders based on the diagnostic criteria of the DSM-IV (APA, 1994). Dimensional scores were created by adding up the number of criteria fulfilled for a specific personality disorder. Dimensional scores for Cluster A could range between 0 and 21 and included the number of fulfilled criteria for paranoid, schizoid, and schizotypal personality disorder. Cluster B scores could range between 0 and 33 and included symptoms of narcistic, borderline, histrionic, and antisocial personality disorder. Cluster C scores comprised the number of symptoms fulfilled for dependent, avoidant, obsessive-compulsive, passive-aggressive, and depressive personality disorder. The dimensional score could range between 0 and 37. The interviewers were all