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Original article

Anxiety symptoms in a major mood and schizophrenia spectrum disorders

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ABSTRACT

Background: Comorbid anxiety symptoms and disorders are present in many psychiatric disorders, but methodological variations render comparisons of their frequency and intensity difficult. Furthermore, whether risk factors for comorbid anxiety symptoms are similar in patients with mood disorders and schizophrenia spectrum disorders remains unclear.
Methods: The Overall Anxiety Severity and Impairment Scale (OASIS) was used to measure anxiety symptoms in psychiatric care patients with schizophrenia or schizoaffective disorder (SSA, $n = 113$), bipolar disorder (BD, $n = 99$), or depressive disorder (DD, $n = 188$) in the Helsinki University Psychiatric Consortium Study. Bivariate correlations and multivariate linear regression models were used to examine associations of depressive symptoms, neuroticism, early psychological trauma and distress, self-efficacy, symptoms of borderline personality disorder, and attachment style with anxiety symptoms in the three diagnostic groups.
Results: Frequent or constant anxiety was reported by 40.2% of SSA, 51.5% of BD, and 55.6% of DD patients; it was described as severe or extreme by 43.8%, 41.4%, and 41.2% of these patients, respectively. SSA patients were significantly less anxious ($P = 0.010$) and less often avoided anxiety-provoking situations ($P = 0.009$) than the other patients. In regression analyses, OASIS was associated with high neuroticism, symptoms of depression and borderline personality disorder and low self-efficacy in all patients, and with early trauma in patients with mood disorders.
Conclusions: Comorbid anxiety symptoms are ubiquitous among psychiatric patients with mood or schizophrenia spectrum disorders, and in almost half of them, reportedly severe. Anxiety symptoms appear to be strongly related to both concurrent depressive symptoms and personality characteristics, regardless of principal diagnosis.

1. Introduction

Anxiety symptoms are conceptualized as anxiety disorders (ADs) when they constitute specified syndromes and are intensive, recurrent, and impede an individual's psychosocial functioning [1]. ADs are the most common psychiatric conditions in the general population, with typical estimates for lifetime prevalence of 16–28% [2–5]. ADs also commonly co-occur with other psychiatric conditions. For instance, up to 38% of patients with schizophrenia [6], 45% of patients with bipolar disorder [7], and 73% of patients with depression [8] reportedly suffer from a lifetime comorbid AD(s). ADs impair quality of life and are associated with poorer prognosis and outcome of psychotic and affective disorders [9–13]. This is true also for comorbid subthreshold anxiety [14–16]. Thus, careful recognition and proper treatment of comorbid anxiety, either as diagnosable disorders or as subthreshold states, are important in clinical practice.

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Abundant literature on anxiety disorder comorbidity among patients with major mental disorders exists [6,17,18]. The majority of these studies have focused on the presence of specific comorbid disorders [19], rarely reporting on subthreshold anxiety symptoms, even if clinically relevant. Few studies on comorbid anxiety disorders or symptoms have included both uni- and bipolar mood as well as non-affective psychotic disorders, and methodological variations have rendered comparisons of the results difficult. Hence, it remains unclear whether prevalence of anxiety symptoms and their putative risk factors are similar in patients with schizophrenia or schizoaffective disorder (SSA), bipolar disorder (BD), and depressive disorder (DD).

Anxiety and depressive disorders constitute the main internalizing mental disorders [20,21], with a high level of temporal covariation [22]. Recent studies have found that bipolar disorder shares some etiological and pathogenetic connections with the internalizing domain as well [23,24]. The internalizing disorders are likely to share most of their genetic basis [25–27]. The personality trait of high neuroticism is the most significant risk factor for internalizing pathology [28,29] and a likely mediator of the underlying genetic diathesis for these disorders [30]. However, many other putative risk factors also contribute to the anxiety and depressive disorders. These factors include childhood and adolescence psychological trauma [31], low self-efficacy [32,33], borderline personality disorder [34], and negative experiences in close relationships [35]. Some findings indicate that the same factors could also affect the onset of schizophrenia and worsen its outcome [36–39]. However, whether similar covariation of depressive and anxiety symptoms exists and whether the same putative risk factors underlie anxiety in schizophrenia spectrum disorders and internalizing disorders remain unclear.

This study had both clinical and theoretical aims. The clinical aim was to compare the point prevalence of comorbid anxiety symptoms among psychiatric patients with depression, bipolar disorder, and schizophrenia or schizoaffective disorders. We hypothesized that the level of anxiety symptoms in patients with schizophrenia or schizoaffective disorder would be lower since, in contrast to mood disorders, these psychotic disorders are not diagnostically defined by the presence of negative affect as a central pathognomonic feature. The theoretical aim was to investigate the relationships of anxiety symptoms with neuroticism, depressive symptoms, and other putative risk factors. We expected that anxiety symptoms would show a clear association with these factors in patients with mood disorders, and explored whether the same relationships would apply to patients with schizophrenia spectrum disorders, in other words beyond the internalizing domain.

2. Methods

2.1. Setting

The current study was a part of the Helsinki University Psychiatric Consortium (HUPC) study performed in collaboration between the Faculty of Medicine, University of Helsinki; the Department of Psychiatry, Helsinki University Central Hospital; the Department of Health and the Mental Health Unit of the National Institute of Health and Welfare, Helsinki; the Department of Social Services and Health Care, Psychiatric Services, Helsinki; and the Department of Psychiatry, Helsinki City Health Department. The catchment area with 1,139,222 inhabitants in 2012 covered the metropolitan area of Helsinki, including the municipalities of Helsinki, Espoo, Vantaa, Kauniainen, Kerava, and Kirkkonummi. Specialized secondary mental health service is provided to these residents. The study was carried out in 10 community mental health centers, in 24 psychiatric inpatient units, in one day-care hospital, and in two residential communities. The HUPC study was approved by the Ethics Committee of Helsinki University Hospital and the pertinent institutional authorities.

2.2. Sampling

Stratified patient sampling was performed from 12 January 2011 to 20 December 2012. Patients were randomly drawn either by identifying all eligible patients on a certain day or week in a unit or from patient lists. Inclusion criteria were age from 18 to 64 years and provision of written informed consent. Patients with mental retardation, neurodegenerative disorders, and insufficient Finnish language skills were excluded. Of the 1361 eligible patients, 610 declined to participate and 304 were lost for other reasons. The final number of participants was 447, yielding a response rate of 33%. For the current study, patients with a principal diagnosis of anxiety disorder, eating disorder, neuropsychiatric disorder, or substance use disorder ($n = 47$) were excluded from the final analyses due to the low number of patients in each group. The total number of patients, thus, was 400.

2.3. Diagnostic assessment

Diagnostic assessments were made according to the International Statistical Classification of Diseases and Related Health Problems, 10th Revision [40] following the principle of lifetime main diagnosis. The authors (K.A, I.B., M.K., and B.K.) verified the clinical diagnoses given by attending psychiatrists by re-examining information obtained from all available medical records. In cases of any diagnostic uncertainty, the senior research psychiatrists (G.J. and E.I.) were consulted. Altogether, 69 cases were consulted. According to the principal diagnosis, patients were divided into three diagnostic groups: schizophrenia or schizoaffective disorder (SSA, $n = 113$), bipolar disorder (BD, $n = 99$), and depressive disorder (DD, $n = 188$).

2.4. Measurement of symptoms and traits

Overall Anxiety Severity and Impairment Scale (OASIS) [41] is a brief, 5-item self-report questionnaire to assess severity and impairment associated with any anxiety disorder, multiple anxiety disorders, or subthreshold anxiety. The authors of the current article translated the OASIS into Finnish, which was then back translated into English and the translation revised in collaboration with the creator of OASIS, Dr. Sonya Norman. The questionnaire includes five questions regarding the frequency and severity of anxiety symptoms as well as anxiety-related avoidance behavior and decreased functioning at home/work/school and in social life. Responses range from zero (no anxiety or anxiety-related issues) to four (extreme anxiety and massive anxiety-related issues). A recommended cut-off score for screening of anxiety disorder is eight points [42]. Cronbach's alpha for OASIS in the total sample was 0.84, and specifically, 0.88 for SSA, 0.86 for BD, and 0.78 for DD patients, showing good internal consistency overall and in the subgroups.

Beck Depression Inventory (BDI) [43] is a 21-item self-report questionnaire for measuring the severity of depression symptoms. The "Short Five" (S5) [44] is a 60-item questionnaire constructed for measuring 30 facets of the Five-Factor Model identified by the NEO (Neuroticism-Extraversion-Openness) Personality Inventory. The current study used six items describing neuroticism (S5N). The S5N scale as well as the other four scales (Extraversion, Openness, Agreeableness, and Conscientiousness) showed good internal consistency (Cronbach's alpha for S5N see below, other values not shown). The Experiences in Close Relationships-Revised