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Rate and risk factors of depressive symptoms in Chinese patients presenting with first-episode non-affective psychosis in Hong Kong

Wing Chung Chang [a,b,*], Rowan Cheung [a], Christy Lai Ming Hui [a], Jingxia Lin [a], Sherry Kit Wa Chan [a,b], Edwin Ho Ming Lee [a], Eric Yu Hai Chen [a,b]

[a] Department of Psychiatry, The University of Hong Kong, Queen Mary Hospital, Pokfulam, Hong Kong
[b] State Key Laboratory of Brain and Cognitive Sciences, The University of Hong Kong, Hong Kong

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ABSTRACT

Background: Depressive symptoms are a distinct symptom dimension in psychotic disorders and are associated with elevated suicide risk, and poorer clinical and functional outcomes. Previous research on depressive symptoms mainly focused on chronic patients and few studies were conducted to investigate factors associated with depression in the early illness course. We aimed to examine the prevalence and risk factors of depressive symptoms, and their impacts on functioning, subjective quality of life (QoL) and self-efficacy in first-episode non-affective psychosis.

Method: Three hundred fifty-one Hong Kong Chinese aged 26-55 years presenting with first-episode non-affective psychosis to early intervention service were recruited. Assessments encompassing sociodemographics, premorbid adjustment, clinical and treatment profiles, functioning, QoL and perceived self-efficacy were conducted. Patients who had Calgary Depression Scale for Schizophrenia (CDSS) total score ≥6 were classified as having depressive symptoms.

Results: Fifty-three (15.1%) patients exhibited depressive symptoms at entry. Depressed patients had worse functioning, poorer QoL and lower level of self-efficacy than non-depressed counterparts. Multivariate regression analysis showed that previous exposure to stressful life events, unemployment, being married, more severe positive symptoms, higher level of antipsychotic-induced Parkinsonism and negative attitude towards medication treatment were independently associated with depression status.

Conclusions: Depressive symptoms were frequently observed in adult patients with first-episode nonaffective psychosis, and were linked to poor functioning and QoL. Our findings indicated that, aside from social and clinical risk factors, presence of drug-induced Parkinsonism and negative treatment attitude may render patients more vulnerable to developing depression in the early stage of psychotic illness.

1. Introduction

Depressive symptoms are frequently observed in patients with schizophrenia and other non-affective psychoses. Literature has shown that the prevalence of depression in schizophrenia ranged between 6% and 75% with a modal rate of 25% (Siris and Bench, 2003). Comorbid depression is associated with lower level of functioning (Schennach-Wolff et al., 2011), poorer subjective quality of life (QoL) (Sim et al., 2004; Cotton et al., 2010), a higher relapse rate (Subotnik and Nuechterlein, 1988), greater healthcare service utilization (Conley et al., 2007) and an increased risk of suicide (Hawton et al., 2005). Evidence has indicated that depression is a distinct psychopathological dimension in schizophrenia independent of positive and negative symptoms, disorganization, and cognitive impairment (Murray et al., 2005). The incorporation of depression as one of the key symptom dimensions for psychosis in DSM-5 further highlights its clinical significance in schizophrenia and related psychotic disorders.

Although depression may occur at any time during the course of illness (Sands and Harrow, 1999), accumulating evidence shows that depressive symptoms are highly prevalent in first-episode psychosis (FEP) with the rate ranging from 15.5% to 81% (House et al., 1987; Koreen et al., 1993; Subotnik et al., 1997; Hafner et al., 1999; Wassink et al., 1999; Bottlender et al., 2000; Oosthuizen et al., 2002; Sim et al., 2004; Romm et al., 2010; Upthegrove et al., 2010; Cotton et al., 2012; Rieldel et al., 2012; Sonmez et al., 2013, 2014). Previous first-episode studies further revealed that depression strongly predicted unmet needs (Landolt et al., 2012), emergence of suicidal ideation (Chang et al., 2014) and behavior (Challis et al., 2013), and depressive symptom severity at follow-up (an der Heiden et al., 2005; Upthegrove et al., 2010; Sonmez et al., 2013). As the first 1 to 2 years of treatment for FEP was found to confer the highest suicide risk (Nordentoft et al., 2004; Dutta et al., 2010), it is thus suggested that early identification

* Corresponding author at: Department of Psychiatry, The University of Hong Kong, Queen Mary Hospital, Pokfulam, Hong Kong.
E-mail address: changwc@hku.hk (W.C. Chang).

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and intervention of depression in the initial stage of illness may represent an important strategy for suicide prevention.

Despite its profound clinical implications, particularly in the early course of illness, relatively few studies have been conducted to examine the rate and risk factors of depression in FEP. Thus far, the majority of prior research on depression recruited patients with chronic illness (Buckley et al., 2009). It is also worth noting that there was a marked discrepancy in prevalence estimates of depression among those few first-episode studies. This, in fact, may partly be attributed to methodological variations across studies. First, affective psychoses were included in several studies (Sim et al., 2004; Romm et al., 2010; Upthegrove et al., 2010; Sonmez et al., 2014) and may confound the results on depression rate. Conversely, many studies only examined patients with schizophrenia (House et al., 1987; Koreen et al., 1993; Subotnik et al., 1997; Wassink et al., 1999; Bottlender et al., 2000; Rieldel et al., 2012). Given that a diagnosis of non-affective psychosis other than schizophrenia is relatively unstable in the initial few years of illness with a significant proportion having diagnostic shift towards schizophrenia at follow-up (Chang et al., 2009), it is thus suggested that studying a sample of a broader psychosis spectrum including diagnostic entities of other non-affective psychoses would provide a more accurate prevalence estimate and assessment of risk factors for depression. Second, many past studies examined "first-admission" rather than "first-contact-to-treatment" sample (Koreen et al., 1993; Subotnik et al., 1997; Hafner et al., 1999; Wassink et al., 1999; Bottlender et al., 2000; Rieldel et al., 2012), thereby introducing bias by excluding patients who had milder illness without requiring hospitalization at initial presentation. Additionally, previous studies suggested that depression might be an intrinsic component of acute psychosis as evidenced by its frequent co-occurrence with acute psychotic episodes and resolution with treatment of positive symptoms (Siris and Bench, 2003). Hence, studies that recruited first-admission patients only might overestimate the rate of depression. Third, the severity threshold of "caseness" for depression was variably defined among studies including the presence of a single depressive symptom, clinically significant depressive symptoms as operationalized by a cut-off score derived from rating scales, or major depressive disorder verified according to diagnostic criteria. Fourth, the choice of instruments employed in measuring depression varied considerably across studies. Some studies applied depressive symptom rating scales while others used selected items from a more general symptom assessment instrument (e.g., Positive and Negative Syndrome Scale, PANSS, Kay et al., 1987). In fact, the Calgary Depression Scale for Schizophrenia (CDSS, Addington et al., 1990), which was specifically designed for measuring depression in schizophrenia, was consistently shown to outperform other depression scales in distinguishing depressive symptoms from negative symptoms and antipsychotic-induced Parkinsonism (Lako et al., 2012), and was recommended as the most suitable instrument evaluating depression in schizophrenia and other non-affective psychoses. Nonetheless, very few studies have used CDS to examine the rate and correlates of depression in FEP (Romm et al., 2010; Upthegrove et al., 2010; Sonmez et al., 2013).

To better understand the risk profiles for depressive symptoms in first-episode schizophrenia and related psychoses, in particular those identifiable factors emerging in the early stage of illness, is crucial to early prevention of comorbid depressive disorder and suicidal behavior, as well as promotion of functional recovery. In this regard, we present a study conducted in a large representative cohort of adult patients presenting with first-episode non-affective psychosis to a specialized early intervention program in Hong Kong with an aim to (1) examine the prevalence of (clinically significant) depressive symptoms, assessed by CDSS, after clinical stabilization with treatment for acute psychosis; (2) identify socio-demographic, premorbid, clinical and treatment factors associated with depressive symptoms; and (3) evaluate the impacts of depressive symptoms on functional outcome, subjective QoL and general self-efficacy.

2. Materials and methods

2.1. Participants and setting

This study was conducted as part of the Jockey Club Early Psychosis (JCEP) project, which is a territory-wide early intervention service aiming to provide phasic-specific case management to individuals aged 26–55 years presenting with FEP in Hong Kong (Hui et al., 2014a). A total of 360 patients were recruited from publicly-funded generic adult psychiatric outpatient units between June 2009 and August 2011. Patients with intellectual disability, substance-induced psychosis, psychotic disorder due to general medical condition or who had received antipsychotic treatment for more than 12 months before study entry were excluded. Of the initial cohort, 351 patients who had a DSM-IV diagnosis of non-affective psychotic disorder were retained as the sample of the current report. Nine patients who had either schizoaffective disorder ($n = 4$) or bipolar disorder with psychotic symptoms ($n = 5$) were excluded as they may confound the relationships of depressive symptoms with illness characteristics. The data of this study were derived from baseline assessments (conducted with a mean of 120.2 days (range: 1–363 days) after first contact with the service) of an ongoing 4-year JCEP study, and findings regarding gender differences and predictors of duration of untreated psychosis (DUP) have been reported elsewhere (Hui et al., 2014b, 2015). The study was approved by the local institutional review boards and all of the subjects gave written informed consent before participation.

2.2. Assessments

Best-estimate consensus diagnosis of each participant was ascertained according to DSM-IV criteria by two senior research psychiatrists using all available information including Chinese-bilingual Structured Clinical Interview for DSM-IV (CB-SCID-I/P, So et al., 2003) administered at intake, informant histories and medical records. Premorbid functioning was assessed with Premorbid Adjustment Scale (PAS, Cannon-Spoor et al., 1982). Interview for the Retrospective Assessment of the Onset of Schizophrenia (IRAOS, Hafner et al., 1992) was employed to confirm the first-episode status, and to determine duration of untreated illness (DUI, time interval between onset of first non-psychotic symptom of the illness and treatment initiation), duration of untreated psychosis (DUP, time interval between onset of psychotic symptoms and treatment initiation), age and mode of onset of psychosis. Psychopathology was assessed using PANSS. Separate symptom dimension scores (positive symptoms, negative symptoms, disorganization, depression and excitement) were derived from PANSS ratings based on a previous factor-analytic study conducted in a FEP sample (Emsley et al., 2003). Insight was measured using item G12 in PANSS. Depressive symptoms were evaluated by CDSS. Psychosocial functioning was measured with Social and Occupational Functioning Assessment Scale (SOFAS, Goldman et al., 1992) and Role Functioning Scale (RFS, Goodman et al., 1993). Short form-12 Health Survey (SF-12, Ware et al., 1996) was used to evaluate subjective QoL. Chinese General Self-Efficacy Scale (CGSS, Chiu and Tsang, 2004) was applied to examine patients' subjective sense of self-efficacy. Extrapyramidal side-effects were assessed with Simpson–Angus Scale (SAS, Simpson and Angus, 1970), Barnes Akathisia Rating Scale (BARS, Barnes, 1989) and Abnormal Involuntary Movement Scale (AIMS, Guy, 1976). Medication Adherence Rating Scale (MARS, Thompson et al., 2000) was administered to examine attitude and adherence behavior towards antipsychotic treatment. Data on socio-demographics, occupational status, family history of mental illness, presence of stressful life events occurred in the past year before study entry, type and dose of antipsychotic medications, and use of antidepressants were also obtained.