Unhelpful metacognitive beliefs in early psychosis are associated with affective symptoms and childhood social adjustment

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ABSTRACT

Background: Previous studies have shown that individuals with schizophrenia exhibit higher levels of unhelpful metacognitive beliefs than healthy controls, but no studies have explored metacognitive beliefs in early psychosis.
Aims: We examined i) differences in levels of unhelpful metacognitive beliefs between psychosis spectrum disorders, and healthy controls, and ii) to what extent demographic and clinical characteristics predicted levels of metacognitive beliefs in the early treated phases of psychotic disorders.
Method: Patients were included within two years of first treatment for a psychotic disorder (N = 92). They were assessed on premorbid adjustment, psychotic symptoms, anxiety/depression, and self-reported metacognitive beliefs (MCQ-30). Ninety-seven controls also completed MCQ-30. Predictors of metacognitive beliefs were explored with multiple linear regression analyses.
Results: Patients scored significantly higher than controls on all metacognitive subscales except positive beliefs about worry. The regression model explained 14–38% of the variance on each metacognitive subscale. Current affective symptoms explained a significant amount of variance on all subscales, except positive beliefs about worry. Childhood (premorbid) social adjustment predicted a significant amount of the variance on all subscales, except cognitive confidence. Duration of untreated psychosis contributed significantly to more unhelpful beliefs about cognitive confidence. Negative symptoms predicted lower scores on cognitive self-consciousness.
Conclusion: Affective symptoms and childhood social adjustment could be important predictors of unhelpful metacognitive beliefs in the early treated phases of psychosis, indicating potential psychopathological relationships that warrant further investigation for clinical relevance.

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1. Introduction

Metacognitive beliefs are assumptions that individuals hold about their thoughts that outline the perceived importance or consequences of specific thoughts (Flavell, 1979; Wells and Matthews, 1996). Such assumptions may contribute to psychological dysfunction if they support unrealistic and unreasonable interpretations of thoughts (e.g. "some thoughts can make me go mad") or unattainable goal-states (e.g. "I should be in control of my thoughts all of the time"), or bias the allocation of cognitive resources (e.g. "I constantly examine my

thoughts"). In the self-regulatory executive function (S-REF) model (Wells and Matthews, 1996) unhelpful metacognitive beliefs about thoughts and self-regulation are assumed to activate and drive a dysfunctional cognitive style characterised by threat-focused attention, repetitive cognitive processing (rumination), and ineffective coping behaviours. While intended to support self-regulation in the face of unwanted cognitive and emotional experiences, this cognitive style promotes ineffective regulatory strategies. Metacognitive beliefs could thus underlie increased sensitivity to stress in patients with psychotic disorders (Palmier-Claus et al., 2011), and contribute to the development or maintenance of psychotic symptoms (Morrison, 2001; Morrison et al., 2011).

A recent meta-analysis concluded that levels of unhelpful metacognitive beliefs could play an independent role in psychosis (Varese and Bentall, 2011). Patients with long-standing schizophrenia have been found to report more unhelpful metacognitive beliefs than healthy controls (Baker and Morrison, 1998; Goldstone et al., 2013; Lobban et al., 2002; Moritz et al., 2010; Morrison and Baker, 2000;

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Morrison et al., 2007; Morrison and Wells, 2003), and unhelpful metacognitive beliefs were associated with the severity and duration of psychotic symptoms at 10-year follow-up in the OPUS trial (Austin et al., 2014). Research has further demonstrated that metacognitive assumptions about symptoms are associated with distress related to both hallucinations (Morrison et al., 2004) and delusions (Freeman and Garety, 1999). The association with distress might reflect that unhelpful metacognitive beliefs could mediate or moderate the interpretation of an affective response to other symptoms: van Oosterhout et al. (2013) found that perceiving thoughts as uncontrollable and dangerous significantly contributed to levels of anxiety and depression for patients with schizophrenia and auditory verbal hallucinations, while Bortolon et al. (2014) found that for patients with schizophrenia, intrusive thoughts increased anxiety and depression through specific unhelpful metacognitive beliefs.

However, not all studies have supported a direct relationship between metacognitive beliefs and psychosis. Goldstone et al. (2013) found that while metacognitive beliefs were predictive of proneness to both hallucinations and delusions in a non-clinical sample, this relationship was not significant in patients with psychosis once they controlled for proneness to the other psychotic symptom. Similarly, Brett et al. (2009) found that differences in metacognitive beliefs between patients with psychosis, individuals with psychotic-like experiences but no need for care, and healthy controls became non-significant when controlling for anxiety and depression. Thus it seems that while there is a clear relationship between metacognitive beliefs, symptoms of psychosis, anxiety and depression; the nature of the relationship remains unclear.

There are more limitations to the current knowledge. Despite knowledge that levels of affective symptoms influence metacognitive beliefs, severity of symptoms (positive, negative or affective) has not been investigated. Further, other demographic or clinical factors that might contribute to unhelpful metacognitive beliefs in psychosis are unknown. Finally, as unhelpful metacognitive beliefs may be linked to a worse outcome, the prevalence and correlates of such beliefs should be investigated in a representative population of patients close to first treatment. Previous studies have included patients with unknown or mixed durations of illness, focused on specific patient subgroups or had relatively small samples.

In the present study we thus aimed to investigate the prevalence of unhelpful metacognitive beliefs in patients in the early treated phase of a psychotic disorder, compared to healthy controls. We also wanted to investigate the potential impact of demographic and clinical characteristics previously shown to influence the severity of psychotic disorders and/or the severity of unhelpful metacognitive beliefs. More specifically we aimed to answer the following research questions:

1) Do patients with early psychosis report higher levels of unhelpful metacognitive beliefs than healthy controls?
2) To what extent are selected clinical and demographic variables (symptom levels, duration of untreated psychosis, premorbid adjustment, age and gender) associated with levels of metacognitive beliefs?

2. Method

2.1. Participants

Participants were recruited through the on-going multi-centre Thematically Organized Psychosis (TOP) Study at NORMENT KG Jebsen Centre for Psychosis Research at Oslo University Hospital and the University of Oslo. All participants were age 18–65, and gave written informed consent. The TOP study is approved by the Regional Ethics Committee and the Norwegian Data Inspectorate, and completed in accordance with the Helsinki Declaration. Patient participants had a primary diagnosis of psychosis spectrum disorder according to the Diagnostic and Structural Manual of Mental Disorders, fourth edition (DSM-IV) and a maximum two illness episodes or two years of adequate psychosis treatment. Healthy control participants were selected randomly from the same catchment area through statistical records, invited to participate by letter and screened with an interview to capture symptoms of severe mental illness (Spitzer et al., 1994). Common exclusion criteria were a history of severe head injury, neurological or developmental disorders. Healthy control subjects were further excluded if they had current mental illness in need of treatment, a history of severe mental disorder, or a first-degree relative with a diagnosed severe mental disorder.

2.2. Measurements

Diagnosis was assessed with the structured clinical interview for the DSM-IV, axis I disorders (APA, 1994).

Duration of untreated psychosis (DUP) was defined as weeks with symptoms qualifying for a score of 4 or more on PANSS items P1 Delusions, P3 Hallucinatory behaviour, P5 Grandiosity, P6 Suspiciousness, or G9 Unusual thought content before adequate treatment for psychosis.

Global functioning was measured by the Global Assessment of Functioning (GAF) scale (Endicott et al., 1976), split version (Pedersen et al., 2007), where symptoms and function are assessed separately.

Metacognitive beliefs were self-rated on the Metacognitions Questionnaire-30 (MCQ-30) (Wells and Cartwright-Hatton, 2004), using a 4-point scale ranging from 1 (Do not agree) to 4 (Agree very much). It produces five factors representing distinct metacognitive beliefs: Positive beliefs about worry (PW) (e.g. "Worrying helps me cope"); negative beliefs about the uncontrollability and danger of worry thoughts (UD) (e.g. "My worrying could make me go mad"); cognitive confidence (CC) (e.g. "I do not trust my memory"); beliefs about the need to control thoughts (NCT) (e.g. "I should be in control of my thoughts all of the time"); and cognitive self-consciousness (CSC) (e.g. "I constantly examine my thoughts"). Each factor is based on 6 items, producing subscale scores ranging from 6 to 24. A higher score indicates more unhelpful beliefs. Internal consistency reported by the authors was strong for each of the five beliefs, with Cronbach's alpha in the range of .72–.93. In the present study, the MCQ subscales were moderately inter-correlated (mean $r_s = 0.42$). The lowest inter-correlation was between the CC-subscale and the CSC subscale ($r_s = 0.20$) while the strongest was between UD subscale and NCT subscale ($r_s = 0.68$).

Premorbid adjustment was measured with the Premorbid Assessment Scale (PAS) (Cannon-Spoor et al., 1982), which assesses clinician-rated social and academic impairment on a 6-point scale ranging from 0 (no impairment) to 6 (severe impairment). The premorbid phase is defined as time from birth until 6 months before onset of mental disorder, and assessed for childhood (age 0–11), early adolescence (age 12–15), adolescence (16–18) and adulthood (age 19+). To avoid overlap with the prodromal period often seen in psychotic disorders, this study only used the childhood subscales.

Symptom levels were measured by the Positive and Negative Syndrome Scale Score (PANSS) (Kay et al., 1987). Items are clinician-rated from 1 (not present) to 7 (severe impairment), assessing the past seven days. The present study used the five-factor consensus structure suggested by Wallwork et al. (2012), which was found to have the most optimal fit in a psychosis sample (Langeveld et al., 2013). It produces subscales for positive (items P1, P3, P5, G9), negative (items N1, N2, N3, N4, N6, G7), disorganised/concrete (items P2, N5, G11), excited (items P4, P7, G8, G14) and anxiety/depression (items G2, G3, G6) symptoms. This study reports the mean item score for each subscale (range 1–7).

2.3. Procedures

Patients were interviewed by clinical psychologists and psychiatrists who had completed general training and a reliability programme for the