Childhood adversities and clinical symptomatology in first-episode psychosis

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A B S T R A C T

In addition to severe traumatic experiences, milder, more common childhood adversities reflecting psychosocial burden may also be common in people with psychotic disorders and have an effect on symptomatology and functioning. We explored eleven negative childhood experiences and their influence on clinical symptoms among young adults with first-episode psychosis (FEP, n = 75) and matched population controls (n = 51). Individuals with FEP reported more adversities than controls. Specifically serious conflicts within the family, bullying at school, maternal mental health problems, and one's own and parents' serious illness during childhood were experienced by the patients more often than by controls. In the FEP group, the severity of adversity was associated with increased anxiety, manic, and obsessive-compulsive symptoms, but not with the severity of positive psychotic symptoms. Adversity produced a more pronounced effect on symptoms in male patients than in female patients. To conclude, in line with earlier studies of more chronic psychosis, a majority of the participants with FEP reported exposure to childhood adversities, with the FEP group reporting more adversities than controls. High levels of mood and anxiety symptoms in patients with FEP may be related to cumulative exposure to childhood adversities. This should be taken into account in the treatment for FEP.

1. Introduction

Negative childhood life events are risk factors for psychosis as well as other severe mental disorders. In WHO surveys, childhood adversities related to maladaptive family functioning were the strongest predictor of non-psychotic disorders (Kessler et al., 2010). A meta-analysis focusing on psychotic disorders found exposure to childhood adversities to be 2.7 times more common in psychosis patients than in healthy control subjects, adversities increasing the risk of psychosis at a 2.8 odds ratio (Varese et al., 2012b). Dose–response effects of childhood adversities on psychosis risk have also been reported (Traulesen et al., 2015). In a recent review it was concluded that some psychotic disorders may be rooted in childhood adversities; however, adversities are neither sufficient nor necessary to cause psychotic disorders (Morgan and Gayer-Anderson, 2016).

The exposure to a death in the family increased the risk of psychosis in later life in a large population-based cohort study (Abel et al., 2014). Parental divorce or other long-term separation from a parent in childhood (Ajnakina et al., 2016; Morgan et al., 2007; Stilo et al., 2017) and childhood socioeconomic disadvantage (Wicks et al., 2010) have also been associated with an increased risk of adult psychosis. Negative family environment was associated with psychosis proneness in community samples from different countries (Wüsten and Lincoln, 2017).

Being a victim of school bullying has been found to be a risk factor for the development of psychotic symptoms in early adolescence (Kelleher et al., 2013; Schreier et al., 2009) and adulthood (Arseneault et al., 2010; Sourander et al., 2016) as well as a diagnosis of probable psychosis (Catone et al., 2015). Individuals with first-episode psychosis (FEP) have reported bullying victimization twice as often as controls, but bullying has been associated with psychotic-like symptoms even in the general population (Trotta et al., 2013).

Cognitive theories suggest that exposure to social adversities may lead an individual towards the development of cognitive schemas that view the world as threatening, and to attributing negative experiences
to external factors (Howes and Murray, 2014). The biological mechanisms linking adversity and psychosis include HPA-axis dysregulation (Misiak et al., 2017). Schiavone et al. (2015) suggest that the reaction of the central nervous system to prolonged stressful events during childhood enhances the risk to psychosis. Specific traumatic events have also been associated with specific psychosis-related symptoms (Bentall et al., 2014; Misiak et al., 2017), emphasizing the need to a more detailed understanding of the relationship between childhood events and symptomology. Gender differences in the relationship between trauma and psychosis have been found, but the results have been mixed (Misiak et al., 2017).

In this study we focused on more common negative childhood experiences rather than severe traumatic events such as neglect or abuse. Previous studies have often concentrated on single severe traumas, and we wanted to see if these kinds of milder, often long-term stressors also play a role in psychosis. We use the term “adversities” in this paper to refer to the following negative childhood experiences: parental divorce, serious conflicts within the family, financial difficulties within the family, parents’ frequent unemployment, parents’ serious disease or disability, parental mental health and alcohol use-related problems, one’s own serious or chronic illness, and bullying (Table 1). The set of experiences assessed in this study have been investigated previously in the Finnish general population surveys Health 2000 and Health 2011, and found to be associated with adult mental disorders, including anxiety, depressive, alcohol use, and comorbid disorders (Markkula et al., 2017; Pirkola et al., 2005), heavy drinking (Kestilä et al., 2008), and daily smoking (Kestilä et al., 2006) in early adulthood. The adversities are also associated with shorter telomere length (Rantanen et al., 2010), which is a biological marker of stress exposure (Mathur et al., 2016). These individual studies have been conducted within a large longitudinal study of the Finnish population and the same questionnaire was now used in a FEP study.

The objectives of this study were to explore self-reported childhood adversities in FEP patients compared with controls and to examine whether some adversities were associated with specific clinical features. We hypothesized that more adversities would be reported by the FEP group compared to control participants, but the analyses between adversities and clinical features in FEP were more exploratory in nature.

2. Methods

2.1. Participants and study procedure

The patients participating in the Helsinki Psychosis Study (Keinänen et al., 2015; Mäntylä et al., 2015; Raij et al., 2015; Rikandi et al., 2017) were aged 18–40, with first psychiatric treatment contact for psychosis in hospitals and outpatient clinics of the City of Helsinki and Helsinki University Hospital between December 2010 and July 2016. As a criterion for inclusion, we defined psychosis as a score of at least 4 in the items assessing unusual thought content (delusions) or hallucinations in the Brief Psychiatric Rating Scale, Expanded version 4.0, BPRS (Ventura et al., 1993), corresponding to mild but definite delusions or hallucinations. Psychotic disorders that unarguably were substance-induced or caused by a general medical condition were excluded. Participants with FEP were interviewed with BPRS as soon as possible after they had commenced treatment and were able to give consent (baseline assessment). They were interviewed again after two and twelve months with BPRS and Structured Clinical Interview for the DSM-IV, Research Version, SCID (First et al., 2002). After the interview, the participants were asked to fill in a questionnaire with additional questions including questionnaire of childhood adversities.

A control sample was recruited from the population register from the same area with age and gender matched. They were assessed at baseline and at twelve months. Psychotic disorders were an exclusion criterion, as were any conditions preventing MRI, and chronic neurological or endocrinological diseases.

Only the baseline information has been used in the current article except from diagnosis information which was based on SCID interviews at 2 months and 12 months with all available information.

The study protocol was carried out in accordance with the Declaration of Helsinki. It was approved by the Ethics Committee of the Hospital District of Helsinki and Uusimaa, and by the institutional review boards of the National Institute for Health and Welfare, Helsinki, and the University of Helsinki. Both patients and controls gave written informed consent to participate in the study.

2.2. Measures

2.2.1. Interview

For the assessment of symptoms, we used the 24-item version of BPRS (Ventura et al., 1993) complemented by 3 domains (alopa, anhedonia-asociativity and avolition-apathy) from the Scale for the Assessment of Negative Symptoms, SANS (Andreasen, 1989). Symptom severity was rated based on the past 7 days (current), but positive and disorganized symptoms were also rated from the worst period lifetime before the interview. BPRS total score was calculated as a sum of items 1–24 (current ratings). The sum for BPRS positive symptoms was calculated as the sum of current hallucinations, unusual thought content, bizarre behavior, and conceptual disorganization item scores. Sum for BPRS

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Adverse childhood events in first-episode psychosis (FEP) and control groups. Frequency (%) or mean (SD), range.</th>
<th>FEP, n = 75</th>
<th>Controls, n = 51</th>
<th>Group difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did your family have long-term financial difficulties?</td>
<td>13/67 (19.4%)</td>
<td>6/45 (13.3%)</td>
<td>0.401</td>
<td></td>
</tr>
<tr>
<td>2. Were your father or mother often unemployed although they wanted to work?</td>
<td>11/73 (15.1%)</td>
<td>3/50 (6.0%)</td>
<td>0.120</td>
<td></td>
</tr>
<tr>
<td>3. Did your father or mother suffer from some serious disease or disability?</td>
<td>18/65 (27.7%)</td>
<td>5/49 (10.2%)</td>
<td>0.021</td>
<td></td>
</tr>
<tr>
<td>4. Did your father have alcohol use-related problems?</td>
<td>16/69 (23.2%)</td>
<td>8/51 (15.7%)</td>
<td>0.310</td>
<td></td>
</tr>
<tr>
<td>5. Did your mother have alcohol use-related problems?</td>
<td>5/73 (6.8%)</td>
<td>3/51 (5.9%)</td>
<td>0.828</td>
<td></td>
</tr>
<tr>
<td>6. Did your father have any mental health problem, e.g., schizophrenia, other psychosis, or depression?</td>
<td>8/60 (13.3%)</td>
<td>3/49 (6.1%)</td>
<td>0.204</td>
<td></td>
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<tr>
<td>7. Did your mother have any mental health problem, e.g., schizophrenia, other psychosis, or depression?</td>
<td>11/66 (16.7%)</td>
<td>2/49 (4.1%)</td>
<td>0.035</td>
<td></td>
</tr>
<tr>
<td>8. Were there any serious conflicts within your family?</td>
<td>23/66 (34.8%)</td>
<td>7/48 (14.6%)</td>
<td>0.015</td>
<td></td>
</tr>
<tr>
<td>9. Did your parents divorce?</td>
<td>19/74 (25.7%)</td>
<td>13/51 (25.5%)</td>
<td>0.981</td>
<td></td>
</tr>
<tr>
<td>10. Were you yourself seriously or chronically ill?</td>
<td>8/66 (12.1%)</td>
<td>0/51</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>11. Were you bullied at school?</td>
<td>31/69 (44.9%)</td>
<td>12/49 (24.5%)</td>
<td>0.023</td>
<td></td>
</tr>
<tr>
<td>Sum of adversities 1–11</td>
<td>2.2 (2.0), 0–9</td>
<td>1.2 (1.6), 0–6</td>
<td>0.47 to 2.04</td>
<td></td>
</tr>
<tr>
<td>Severity of adversity: factor score of adversities 1–10</td>
<td>0.26 (0.65), −0.47 to 2.04</td>
<td>−0.06 (0.53), −0.47 to 1.23</td>
<td>U = 2542.5, p = 0.001</td>
<td></td>
</tr>
</tbody>
</table>

* The frequency of yes-answers. Unsure answers considered as missing data.

* Specific adversities: Pearson Chi-square test or Likelihood ratio test. Continuous variables: Mann-Whitney test.
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