European Psychiatry 53 (2018) 23–30

Contents lists available at ScienceDirect

European Psychiatry

journal homepage: http://www.europsy-journal.com

Original article

Clinical characteristics and outcomes of psychotic depression in the Northern Finland Birth Cohort 1966

Miika Nietola[a,*], Anni Heiskala[b], Tanja Nordström[b,c], Jouko Miettunen[b,c], Jyrki Korkeila[e], Erika Jääskeläinen[b,c,d]

[a] Psychiatric Department, University of Turku and the Hospital District of Southwest Finland, Finland
[b] Center for Life Course Health Research, University of Oulu, Oulu, Finland
[c] Medical Research Center Oulu, Oulu University Hospital and University of Oulu, Oulu, Finland
[d] Department of Psychiatry, Oulu University Hospital, Oulu, Finland
[e] Psychiatric Department, University of Turku and Satakunta Hospital District, Finland

ARTICLE INFO

Article history:
Received 15 February 2018
Received in revised form 4 May 2018
Accepted 8 May 2018
Available online xxx

Keywords:
Psychotic depression
Follow-up
Outcome
Psychosis

ABSTRACT

Background: Psychotic depression (PD) is heavily understudied despite high mortality and the severe course of illness. A majority of the studies conducted so far are also largely based on selected clinical samples. The aim of this study was to examine the clinical characteristics of PD in a representative prospective birth cohort sample.
Methods: The Northern Finland Birth Cohort 1966 is a well-known prospective population-based cohort including 12 058 people followed since mid-pregnancy. We identified 55 individuals with PD, analysed their characteristics and compared them with schizophrenia (SZ), non-psychotic depression (NPD), psychotic bipolar disorder (PBD) and other psychoses (PNOS).
Results: The life-time prevalence of stable (no conversion to schizophrenia, bipolar disorder or schizoaffective disorder) PD was 0.5%. PD subjects were older than SZ and PNOS subjects during the first psychotic episode and compared to SZ, more often female. PD required hospitalization and transition to disability pension more often than NPD, but less often than SZ. Comorbid alcohol abuse disorder (44%) and personality disorder (40%) were highly common in PD. PNOS had a similar occupational outcome than PD but hospitalization rate was lower in the PNOS group. PBD and PD had mostly comparable outcomes.
Conclusions: Our findings in a naturalistic cohort support the notion that the course of illness in PD is mostly similar to that of PBD, it is less severe than in schizophrenia, but worse than in non-psychotic depression. PD seems to have high psychiatric comorbidity.

1. Introduction

Psychotic depression (PD) is currently classified as a severe form of Major Depression in ICD-10 [1], whereas in DSM-5, psychotic features are considered separate from severity of illness [2]. Meanwhile, there is a considerable number of factors supporting its role as a separate diagnostic entity with high mortality [3] and severe profile [4]. Considering the severity and impact of PD, there has been insufficient research regarding it.

There have been some methodological differences between studies on the prevalence of PD, but it is likely to be relatively common with a lifetime prevalence of 0.35–1.0% and the prevalence seems to increase in older age [5,6]. The gender distribution is comparable to that of NPD, with a higher proportion of females affected. Mean age of onset in early adulthood (<45 years) in PD seems to be lower than in NPD, but higher than in NPD in later adulthood (>55 years), which might be explained by PD being the first episode of bipolar disorder in younger samples. SZ is thought to have an earlier age of onset than PD altogether [7].

In light of previous studies, the overall outcome of PD seems to be worse than in NPD, but better than in SZ [7]. General medical comorbidity and psychiatric comorbidity have also been noted to be common in PD in some previous studies [8,9].

Many previous studies have some methodological issues to take into account. Concerning the outcome of PD, there are only a few first-episode samples with a long-term follow-up and they have mostly used inpatient samples from university clinics [10,11]. ÆSOP-10 in the UK followed PD patients in a well-designed first-episode psychosis cohort for ten years. However, it lacked some

* Corresponding author at: Kunnallissairaalantie 20, Building 9, 20700, Turku, Finland.
E-mail address: mtniet@utu.fi (M. Nietola).

http://dx.doi.org/10.1016/j.eurpsy.2018.05.003
0924-9338/

representativeness due to loss to follow-up [12]. None of the first-episode studies used non-psychotic depression as a comparison group. Other studies that have contributed to our knowledge of the outcome of PD have had either only inpatients, mixed samples with both first-episode and recurrent psychosis or only university clinic admissions [13–19].

Diagnostic instability of PD is considered high at least in young patient samples, reducing its nosological validity [20]. Psychotic symptoms are likely to be a risk factor for conversion from unipolar depression to bipolar disorder [21,22] and there is also a diagnostic shift to other diagnoses such as schizophrenia [23]. On the other hand, unipolar depression in later adulthood can be a prodromal phase for dementia or share a common etiology with it [24]. Heslin et al. [12] took diagnostic change into account in their study by analysing baseline and lifetime diagnoses separately but otherwise it has often been disregarded.

Little is known about the presentation of PD in natural settings, as many studies have included only inpatients. Especially studies on the risk factors and long-term outcome of PD in general are rare and desperately needed. Nationwide representative register databases, common in Scandinavia, provide a possibility to study PD. In Denmark, risk factors for illness [25], suicide [26], rehospitalizations [27] and diagnostic conversion [28] have been analysed using register data, but not other outcomes.

In this study, we aim to describe the clinical picture of PD in The Northern Finland Birth Cohort 1966 by the age of 48–49. We examine the clinical characteristics and outcomes of PD in comparison to NPD, SZ, PBD and PNOS in a representative prospective birth cohort sample during an up to 21-year follow-up. To our knowledge, this is the first prospective long-term birth-cohort study observing PD, the first to widely use representative register data studying the long-term outcome of PD, and the first study using non-psychotic depression, in addition to psychotic disorders, as a comparison group in a long-term follow-up of a first-episode PD sample.

2. Material and methods

2.1. Case ascertainment

The Northern Finland Birth Cohort 1966 study (NFBC 1966) is a prospective general population-based birth cohort study implemented in the provinces of Oulu and Lapland. There were 12 058 live-born children followed since mid-pregnancy with expected birth in 1966 in this area of northern Finland that formed the birth cohort. We used nationwide registers for case identification and outcomes. Out of all NFBC 1966 members, we identified a total of 94 subjects who had been diagnosed with psychotic depression at some point in their life. We used the following diagnoses in different ICD-versions to identify PD: ICD-8: 2960, 2980; ICD-9: 2961E; ICD-10: F32.3, F33.3 (see Table 1 for diagnoses in comparison groups). All inpatient treatment diagnoses were gathered from the Care Register for Health Care (CRHC) [29] including all general and psychiatric hospitalizations from the beginning of the cohort study until 2013. We got outpatient treatment diagnoses from Finnish outpatient registers: the specialized outpatient care register was available from 1998 to 2013 and primary care from 2011 to 2013. The diagnoses information was supplemented with information from registers about the right for reimbursable medication for psychosis (1974–2005) and prescriptions for antipsychotics in 1997, and diagnosis leading to the right for a disability pension and sick leaves. Also, diagnoses based on validation of psychiatric diagnoses in 1997 [30] and a study performed for a subgroup of NFBC 1966 members at the age 43 years [31], were used as supplemental information.

We wanted to study the group that had a stable PD diagnosis and therefore moved those who had also been diagnosed with another specific psychotic disorder such as schizophrenia, bipolar disorder or schizoaffective disorder during the course of their psychiatric illness, to the respective diagnostic group. We used a hierarchical system, in which the life-time diagnosis for each subject was the one that had the highest position in the hierarchy. Starting from the top, the hierarchical order of diagnoses that defined the study group for each subject was: SZ, PBD, PD, PNOS, NPD. For example, subjects with a SZ diagnosis may have been diagnosed with something else, but their life-time diagnosis is interpreted to be SZ. NPD group subjects did not also have a diagnosis of any other study group because such a diagnosis would move them to the respective diagnostic group. We also checked that NPD group subjects did not have a lifetime occurrence of non-psychotic bipolar disorder diagnosis. PD group subjects may have had short or undefined psychosis diagnoses (F23, F24, F28, F29) during their life-time and still stay in the PD group. An exception to the hierarchy was that we excluded 4 subjects who had both PD and delusional disorder (F22) diagnosis during their life-time. This is because our hierarchical diagnostic system situated these subjects in the PD group, while we did not interpret them to have stable PD since delusional disorder is a separate long-term psychotic illness. In the PD group, all psychiatric diagnoses of each subject were manually checked to make sure there were no diagnoses of SZ, PBD, non-psychotic bipolar disorder or delusional disorder. After this, there were 55 persons who formed the PD sample.

2.2. Information on clinical characteristics and outcomes

To evaluate the age of illness onset we identified the first psychosis and depression diagnosis by using the Care Register for Health Care, the Social Insurance Institution registers of reimbursable medicines and Finnish outpatient registers. Data on psychiatric comorbidity and hospitalization was obtained from the Care Register for Health Care and from outpatient registers from the beginning of the cohort in 1966 until the end of 2015. We analysed the proportion of workdays for the two-year period 2014–2015 based on data from the Finnish Center for Pensions (divided into: working under 25%, 25–50%, 50–75% and over 75% of working days). The information on disability pensions was gathered from the Finnish Center for Pensions (data until the end of 2015). The educational status data was from Statistics Finland registers until the end of 2015. Mortality rates were studied with the data from the Population Register Center until the end of 2015.

Table 1
Diagnostic categories based on ICD 8–10 used in the current study.

	ICD-8	ICD-9	ICD-10
Psychotic depression (PD)	2960, 2980	2961E	F32.3, F33.3
Non-psychotic Depression (NPD)	3004, 7902	3004	F32.0-F32.2, F32.8-F33.2, F33.4-F33.9, F34.1, F38.10
Schizophrenia (SZ)	295, 2954, 2957	295, 2954, 2957	F20, F25
Psychotic Bipolar Disorder (PBD)	2961–2969	2962E, 2963E, 2964E, 2967	F30.2, F31.2, F31.5
Other Psychoses (PNOS)	297, 298 (except 2980), 299	297, 2988, 2989	F22, F23, F24, F28, F29