Interventions in the initial prodromal states of psychosis in Germany: concept and recruitment*

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Background The Early Detection and Intervention Programme of the German Research Network on Schizophrenia (GRNS) investigates the initial prodromal phase of psychosis in a multidimensional approach. Two intervention strategies are being studied by two large-scale multicentre projects.

Aims To present the concept of the intervention studies, and to provide an interim report of the recruitment procedure.

Method Comprehensive cognitive–behavioural therapy has been developed for patients in the early initial prodromal state. For patients in the ‘late initial prodromal state’ the atypical neuroleptic amisulpride is explored. Both interventions are evaluated in randomised controlled trials using clinical management as the control condition.

Results Between January 2001 and March 2003, 1212 individuals seeking help for mental health problems were screened for putative prodromal symptoms at four university centres. More than 388 individuals fulfilled criteria for both interventions and 188 (48.5%) gave informed consent to participate in the trials.

Conclusions The screening procedure appears to be feasible and trial participation seems to be acceptable to a relevant proportion of people at increased risk of developing psychosis.

Declaration of interest The study on the late initial prodromal state is co-funded by a research grant from Sanofi – Synthelabo Germany.

The Early Detection and Intervention programme of the German Research Network on Schizophrenia (GRNS) was established in 2000 to promote research on the initial prodromal phase of psychosis. Early Detection and Intervention Centres at the outpatient departments of four university hospitals (Bonn, Dusseldorf, Munich and Cologne) are collaborating in intervention studies with Cologne acting as the coordinating centre.

An awareness programme (Kohn et al, 2002) is ongoing for psychiatric and primary healthcare services, families of patients with schizophrenia, several youth support services and the general population. It provides information about early symptoms of schizophrenia and the need for early intervention. The aims of the programme are to promote help-seeking and engagement with early intervention services for individuals at-risk of psychosis.

A two-step approach has been created in order to identify individuals at-risk for psychosis. A checklist (Hafner et al, 2004) has been used which serves as a low-threshold screening instrument for people who have approached general practitioners or counselling services, etc. because of mental health problems. The checklist includes criteria which indicate that a contact or a referral to one of the early intervention centres should be made. At the centre, a detailed assessment is made using a specially designed instrument, the Early Recognition Inventory (ERIraos; Maurer et al, 2004). The ERIraos indicates whether the individual at-risk of psychosis is in an ‘early initial prodromal state’ or a ‘late initial prodromal state’ (see below), as defined by the GRNS.

When there is evidence of an early initial prodromal state (EIPS), the at-risk individual is invited to participate in a randomised controlled trial (RCT) on psychological early intervention. However, an at-risk person with evidence of a late initial prodromal state (LIPS) is asked if they will take part in an RCT with pharmacological intervention, using amisulpride. In addition to psychopathological and psychosocial assessments, individuals are asked to take part in GRNS neurobiological research projects. These comprise neuro-psychological and neurophysiological assessments, brain imaging and molecular genetics (Maier et al, 2002). Furthermore, the effect of the awareness programme is investigated by pre- and post-assessments and comparison with regions in which the awareness programme does not operate (Kohn et al, 2002) (Fig. 1). Each study was approved by the respective local ethics committees.

INTERVENTIONS IN THE INITIAL PRODROMAL STATES

The EIPS is defined by: (a) the presence of certain self-experienced cognitive thought and perception deficits (‘basic symptoms’ according to Huber & Gross, 1989), which were found to be predictive for transition to psychosis in 70% of the cases within 5 years (Klosterkötter et al, 2001); and/or (b) by the presence of a clinical decline in functioning in combination with well-established risk factors (Yung et al, 1998) (see Appendix for details). Estimating the risk/benefit ratio of intervening in the EIPS, a comprehensive cognitive–behavioural therapy (CBT) programme was developed (Bechdolf et al, 2003, 2005b) which has been influenced by the work of other investigators in this field (e.g. Kingdon & Turkington, 1994; Fowler et al, 1995; Chadwick et al, 1996). CBT can be useful in the early initial prodromal state, in particular because it is readily accepted by patients and little stigma is attached. Also, there is no risk of exposing false-positives to possible pharmacological side-effects. Since the efficacy of CBT in schizophrenia has been established for persistent psychotic symptoms in a number of investigations (see meta-analyses by Rector & Beck, 2001; Gould et al, 2002; Pilling et al, 2002; Cormac et al, 2003), one could hypothesise that such an approach is also effective in the presymptomatic phase. Moreover, CBT is an established treatment for anxiety, depression and several other syndromes, which are often present at this stage.
The LIPS criteria are similar to the 'ultra-high-risk' measures used by current controlled intervention studies (McGorry et al., 2002; Woods et al., 2003; Morrison et al., 2004) (Appendix). Patients fulfilling LIPS criteria are highly symptomatic, functionally compromised (Miller et al., 2003) and have a risk between 36% and 54% of developing psychosis within 12 months (Miller et al., 2002; Yung et al., 2003, 2004; Mason et al., 2004). Taking this into account and also the significantly improved tolerability of the new neuroleptics, it seemed appropriate to investigate the possible benefits of pharmacological interventions for these patients. In the LIPS study, amisulpride was chosen for interventions for these patients. In the first condition, similar clinical management programme, including, where necessary, crisis intervention, family counselling, etc. Its primary aim is providing very focused, supportive care for the patient’s acute needs (psychotherapy is not allowed).

In the second condition, similar clinical management is combined with amisulpride. The dose can range between 50 mg and 800 mg per day, the increase in dose follows an algorithm based on clinical improvement and minimal time periods between changes of dosage. The treatment period is 2 years with weekly visits during the first 4 weeks, then bi-weekly until week 12, and monthly, thereafter.

Main rating instruments are ERiRaos, PANSS, GAF–F and, at yearly intervals, the Adjacent Recognition Scale (MADRS; Montgomery & Asberg, 1979). At yearly intervals, the Montgomery–Asberg Depression Rating Scale (MADRS; Montgomery & Asberg, 1979) is administered. Transition to psychosis is defined by commonly used criteria (e.g. McGorry et al., 2002; Morrison et al., 2004), such as the presence of at least one psychotic symptom from a list for brief limited intermittent psychiatric symptoms (BLIPS, see Appendix) for longer than 6 days. In accordance with our differential intervention approach the presence of inclusion criteria for the LIPS served as additional exit criteria from the EIPS intervention trial.

**CBT intervention**

The experimental intervention is based on a CBT model (Larsen et al., 2003). Individual therapy forms the central part of the early intervention programme. A combination of psychoeducation, symptom, stress and crisis management modules is adapted to the specific needs of each client. Although putative prepsychotic symptoms serve as inclusion criteria for therapy, the interventions are problem-oriented, collaborative, educational and involve the therapist and the client working together on an agreed problem list. This may also include problems other than basic symptoms, such as anxiety, depression, family or occupational problems. Apart from the treatment of the psychopathological symptoms, one major treatment aspect focuses on attributional styles that underpin symptoms. Psychoeducation and cognitive techniques are used to challenge self-stigmatisation and self-stereotypes, helping the person to protect and enhance self-esteem, and to come to terms with understanding the illness and pursuing life goals. A special group intervention, cognitive remediation and a short psychoeducational multi-family intervention are also parts of the programme (Table 1).

**Intervention in the LIPS**

**Design**

The LIPS project is a pharmacological phase III study conforming to good clinical practice and has a controlled, open-label, randomised, parallel group design. In the first condition, patients receive a psychologically advanced clinical management programme, including, where necessary, crisis intervention, family counselling, etc. Its primary aim is providing very focused, supportive care for the patient’s acute needs (psychotherapy is not allowed). In the second condition, similar clinical management is combined with amisulpride. The dose can range between 50 mg and 800 mg per day, the increase in dose follows an algorithm based on clinical improvement and minimal time periods between changes of dosage. The treatment period is 2 years with weekly visits during the first 4 weeks, then bi-weekly until week 12, and monthly, thereafter.

Main rating instruments are ERiRaos, PANSS, GAF–F and, at yearly intervals.

**Table 1 Psychological intervention in the early initial prodromal state**

<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
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<tbody>
<tr>
<td>Individual therapy (30 Sessions)</td>
<td>Assessment and engagement</td>
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<tr>
<td></td>
<td>Psychoeducation</td>
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<td></td>
<td>Stress management</td>
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<td></td>
<td>Crisis management</td>
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<tr>
<td>Group therapy (15 Sessions)</td>
<td>Positive mood and enjoyment</td>
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<td></td>
<td>Social skills</td>
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<tr>
<td>Cognitive remediation (12 Sessions)</td>
<td>Concentration, attention,</td>
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<tr>
<td></td>
<td>vigilance and memory</td>
</tr>
<tr>
<td>Information and counselling of relatives (3 Sessions)</td>
<td>Psychoeducation of multi-family group</td>
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</tbody>
</table>
Baseline assessments within the two studies indicated that help-seeking individuals with prodromal symptoms, who were randomised to receive a clinical intervention, were clinically symptomatic and functionally compromised (Ruhmann et al, 2003; Hafner et al, 2004; Bechdolf et al, 2005a). First interim evaluations of both interventions are promising as the two approaches seem to be successful regarding the first two aims of the interventions: (1) improvement of early or late prodromal symptoms; and (2) improvement of social or occupational functioning (Ruhmann et al, 2003; Hafner et al, 2004; Bechdolf et al, 2005a). A preliminary analysis of the EIPS study indicated advantages of CBT regarding transition to late initial prodromal state and psychosis (Hafner et al, 2004).

In summary, the GRNS Early Detection and Intervention programme, including awareness campaigns and a two-stage screening approach, appears to be feasible and effective in recruiting at-risk individuals with putatively prodromal symptoms for interventions in the initial prodromal phase. The programme will be completed by the end of 2005 and will provide a sound data-set regarding the efficacy of intervening in the initial prodromal state, the prediction of psychosis, putative underlying neurobiological variables and the effects of awareness campaigns.

ACKNOWLEDGEMENTS

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APPENDIX

Inclusion criteria for intervention studies on the early and late initial prodromal state

Early initial prodromal state

One or more of the following basic symptoms appeared in the last 3 months, several times a week:
- Thought interference
- Thought perseveration
- Thought pressure
- Thought blockage
- Disturbances of receptive language, either heard or read
- Decreased ability to discriminate between ideas and perception, fantasy and true memories
- Unstable ideas of reference (subject-centrism)
- Derealisation

Visual perception disturbance
- Acoustic perception disturbance

and/or

Reduction in the DSM–IV Global Assessment of Functioning score of at least 30 points (within the past year) and at least one of the following risk factors:
- First-degree relative with a lifetime diagnosis of schizophrenia or a schizophrenia-spectrum disorder.
- Pre- or perinatal complications.

Late initial prodromal state

Presence of at least one of the following attenuated psychotic symptoms (APS) within the last 3 months, appearing several times per week for a period of at least 1 week:
- Ideas of reference
- Odd beliefs or magical thinking
- Unusual perceptual experiences
- Odd thinking and speech
- Suspiciousness or paranoid ideation

and/or

Brief limited intermittent psychotic symptoms (BLIPS), defined as appearance of one of the following psychotic symptoms for less than 1 week (interval between episodes of at least 1 week), resolving spontaneously:
- Hallucinations
- Delusions
- Formal thought disorder
- Gross disorganised or catatonic behaviour

Exclusion and exit criteria

APS or BLIPS (early initial prodromal state).
Present or past diagnosis of a schizophrenic, schizoaffective, delusional or bipolar disorder according to DSM–IV.
Present or past diagnosis of a brief psychotic disorder according to DSM–IV with a duration equal to or of more than 1 week or within the last 4 weeks regardless of its duration.
Diagnosis of delirium, dementia, amnestic or other cognitive disorder; mental retardation, psychiatric disorders due to a somatic factor or related to psychotropic substances according to DSM–IV.
Alcohol or drug misuse within the last 3 months prior to inclusion according to DSM–IV.
Diseases of the central nervous system (inflammatory, traumatic, epilepsy, etc.).
Aged <18 years and >36 years.

REFERENCES


people at risk of psychosis. European Archives of Psychiatry and Clinical Neuroscience, in press.


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**CLINICAL IMPLICATIONS**

- A programme including awareness campaigns and a two-stage screening approach seems to be feasible and effective in recruiting at-risk individuals with putative prodromal symptoms for interventions in the initial prodromal phase.

- For patients presenting with psychosis-predictive basic symptoms and/or a clinically relevant decline of social functioning in combination with established risk factors (early initial prodromal state) a comprehensive cognitive–behavioural therapy (CBT) was developed, which is evaluated in comparison with clinical management in a randomised controlled trial (RCT).

- In patients presenting with attenuated and transient psychotic symptoms (late initial prodromal state) an RCT is being conducted comparing amisulpride and clinical management and clinical management alone.

**LIMITATIONS**

- Of the population identified with an at-risk mental state, 51.5% did not participate in the related RCTs.

- First results of both treatment approaches have to be cautiously interpreted, as they are based on preliminary data obtained from early interim analysis.

- Because the two large-scale RCTs are ongoing no final results can be presented.

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