

Psychosis and the environment

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Valorisation



In this thesis known environmental risk factors for psychotic disorder are discussed and an attempt is made to unravel how these environmental risk factors may lead to psychotic disorder. Although these studies do not directly lead to different treatments or prevention plans for psychotic disorder they do have societal importance. The costs for mental health care have doubled over ten years' time: from 2.91 billion in 2000 to 6.14 billion in 2010 (1). Psychotic disorders are responsible for a reasonable part of this increase in costs (1). In 2012 the government of the Netherlands started with severe retrenchments in mental health care, this led to, among others, reduction of inpatient beds and reduction of caregivers working in mental health care. These measures force us to reorganize mental health care. We need to improve prevention, earlier intervention and treatment plans enabling patient with a severe mental disorder to live, with good quality of life, in society. Treatment plans should be better tailored to the needs of the individual patient. These goals cannot be reached without better understanding of etiologic and pathologic processes.

Better understanding of etiologic processes can give direction to development of new treatments. Current treatments are mainly focused on the reduction of positive psychotic symptoms, with varying rates of success. New treatment should not only focus on the reduction of hallucinations or delusions, but should also target skills that can be affected in psychotic disorder such as social or communication skills. In this thesis altered stress processing in psychotic disorder was observed, and this was also related to urban environment during childhood. Stress processing could be a focus of treatment which may not alter positive psychotic symptoms but could increase social functioning and independency, enabling patients to find a meaningful daytime activity and participate in society, which will hopefully result in improvement of quality of life and less use of mental health care.

Increasing knowledge of pathologic processes and environmental risk factors may help us to better identify persons with increased risk of developing psychotic disorder and to intervene in earlier stages. In this thesis we found that patients with psychotic disorder, and to a lesser extent their healthy siblings, had a smaller increase in educational level compared with their parents than healthy controls. Although these group differences cannot directly be used to identify groups at high risk, it does provide a general perspective in thinking about intergenerational processes in educational achievement in the context of risk for psychosis. More work is required to better understand the dynamics between early social and cognitive alterations in those at risk in relation to progress through the educational system. Higher levels of childhood urbanicity were also associated with decreased intergenerational difference in educational achievements. As more people are residing in urbanised areas (2), more work is required to understand the interaction between urban environment and educational outcomes including school size, class size, level of individual educational support and class dynamics. If the negative association between urbanicity and educational achievements would be confirmed in future research, this could have implications for

reorganization of educational system in cities. Further, as our results suggest that individuals who later develop psychotic disorder could be more susceptible to exposure to childhood trauma when growing up in an urban environment, there should be more awareness for childhood trauma in areas of higher urbanicity, especially in families that could be considered vulnerable, for example because of genetic liability for psychotic disorder.

Influenza is one of the most common infectious illnesses (3), affecting persons of all ages including women in their fertile period. The results of the meta-analysis included in this thesis are reassuring with respect to the risk of psychotic disorder after exposure to influenza in utero and do not suggest that any extra precautions should be taken because of risk of psychotic disorder. However, influenza during pregnancy is certainly not without risks, for example pregnant hospitalized women with influenza infection have increased rates of preterm birth and fetal/neonatal death are reported (4). Therefore, antiviral treatment or vaccination for pregnant women should be considered.

In chapter 6 and 7 an advanced approach to assessing environmental risks factors was applied: structural neuroimaging data, objective phenotypes of psychotic disorder, were combined with a proxy variable for genetic risk for psychotic disorder (patients: highest genetic risk; siblings: intermediate genetic risk; controls: lowest genetic risk) and epidemiologic data. The findings suggest that structural alterations in psychotic disorder may be the outcome of differential sensitivity to environmental risks, particularly in male patients. This is important for future neuroimaging research in psychotic disorder, because it argues that environmental risk factors and gender cannot be left out of the analyses.

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