Conclusions and Future Directions of Research

Clinical Significance of OCS in Schizophrenia

The wealth of data in this book regarding prevalence rates, clinical importance, insight into phenomenological heterogeneity and multiple etiological mechanisms highlights the significance of co-morbid obsessive-compulsive symptoms (OCS) in patients with schizophrenia and other psychotic disorders.

To summarize former chapters, one can conclude that OCS occur relatively common, affecting almost one third of patients with a psychotic disorder and result in poorer subjective well-being, additional functional impairment and are often associated with more psychotic and depressive symptoms. Hence, the effective treatment of co-morbid OCS will be of significant importance for the overall treatment success.

In clinical practice, the attribution of distressing cognitions, ruminations, repetitive or stereotypic behavior to either OCS or the psychotic syndrome is often a challenge due to the dimensional overlap of symptoms. This book provides evidence-based guidelines and detailed descriptions of clinical aspects, which help to differentiate between OCS and psychotic symptoms and provides comprehensive knowledge on the co-occurrence of OCS and schizotypal personality disorder. The detailed description of clinical symptoms and comorbid constellations must be accompanied by increased insight into relevant genetic risk factors, neuroimaging findings and other biological markers. In perspective, these steps will elucidate the pathogenesis of comorbid OCS in schizophrenia.

In addition, several well described case studies and small therapeutic trials inform treatment guidelines for OCS in schizophrenia. Based on their findings we are able to provide preliminary advice regarding risk prediction, early recognition and pharmacological and psychotherapeutical treatment.

Taken together, the findings underscore the substantial clinical relevance to diagnose OCS in schizophrenia and indicate treatment options.
Unmet Needs: Major Aims of Forthcoming Research

To date, our pathogenic understanding is certainly limited and we do not sufficiently understand which and how genetic and environmental risk factors contribute to the clinical manifestation of OCS in schizophrenia, nor how they interact with each other. Moreover we do not sufficiently understand the distinctive underlying neurobiological processes involved in the development of comorbid OCS.

Preliminary evidence from prospective investigations suggests diverse courses of OCS over time, with remission, fluctuation or aggravation of symptoms. So far little is known about risk and resilience factors which influence this longitudinal outcome. The diverse clinical presentation certainly suggests multi-causal explanations.

The greatest need concerns sound evidence for clinical interventions. Here several questions remain unanswered. It can be assumed that depending on the severity and persistence of comorbid OCS, specific subgroups of patients will profit from different interventions. Patients with mild symptomatology and a fluctuating course might already profit from psychoeducation or brief CBT interventions, whereas those with ongoing OCS should probably be treated with more extensive CBT, and/or antidepressive medication. Moreover, several findings suggest a causal interrelation between antipsychotic medication and the risk to develop OCS in patients with schizophrenia, most likely as a gene-environment interaction. Hence, there is need for evidence based guidelines for first choice antipsychotic treatment and for augmentation and combination strategies.

Methods and Milestones

To date, several theoretic concepts have been suggested to classify patients with co-occurring psychosis and OCS, for example the introduction of a new diagnostic entity within the psychosis spectrum. The ongoing debate on possible classifications should not distract from the clinical point: to identify the various problems of patients and to deliver effective treatment that ameliorates their condition. For this purpose, researchers should try to define more homogeneous subgroups based on the onset and course of OCS over time. Multimodal research focusing on these subgroups will more likely be successful to uncover the distinctive neurobiological and environmental risk factors, as has been shown for the subgroup of patients who report onset of OCS subsequent to the start of antipsychotic medication. Large scale collaborations are needed to provide studies with enough power to disentangle genetic risk factors. With respect to pharmacological as well as psychotherapeutic interventions, controlled multicenter treatment trials are needed.

Ultimately the goal is to provide individualized treatment adapted to the stage and individual profile of patients, where the co-occurrence of OCS is certainly of clinical relevance.

Here, experience sampling can be a valuable approach. This method captures the course of symptoms on a day-to-day basis and helps to identify contextual triggers, thereby providing important information for individualized interventions.
This change in perspective might also help to overcome the abovementioned conceptual discussions that are often the mere consequence of mixing and comparing heterogeneous conditions.

**Concluding Remarks**

We thank all the authors for their contribution to this book and are confident that the input provided by many experts in the field will help to identify, to understand and to relieve OCS in patients with schizophrenia. Furthermore, we hope that this book will stimulate research and progress in the near future.