A Wake-up Call: Assess and Treat Sleep Disorders in Early Psychosis

Laura M. Rowland*,1,2 and Emerson M. Wickwire^{2,3}

¹Maryland Psychiatric Research Center, University of Maryland School of Medicine, Baltimore, MD; ²Department of Psychiatry, University of Maryland School of Medicine, Baltimore, MD; ³Sleep Disorders Center, Division of Pulmonary and Critical Care Medicine, Department of Medicine, University of Maryland School of Medicine, Baltimore, MD

*To whom correspondence should be addressed; Maryland Psychiatric Research Center, PO Box 21247, Baltimore, MD 21228; tel: 410-402-6803, fax: 410-402-6077, e-mail: lrowland@som.umaryland.edu

Insufficient and disturbed sleep are common among patients with psychotic disorders such as schizophrenia, who report much higher rates of sleep problems than are found in the general population.¹ Typical self-reported and objectively measured sleep disturbances among patients with psychotic disorders include difficulty initiating and maintaining sleep, reduced total sleep time, and poorer sleep quality. Sleep problems are often reported before the first psychotic episode as well as before the commencement of psychotropic medications, including antipsychotics. Although many questions remain, strong correlative evidence indicates that insufficient and disturbed sleep is associated with more severe psychotic symptoms and cognitive dysfunction in patients with schizophrenia spectrum disorders. Moreover, there are striking similarities between the behavioral, brain, and peripheral effects of sleep deprivation in healthy individuals and features of schizophrenia spectrum disorders.² This substantial body of evidence suggests that sleep problems may be intrinsic to the illness and/or may exacerbate psychosis. Despite these findings, it remains unclear whether sleep problems common among patients with psychotic disorders constitute diagnoses of sleep disorders. Understanding the prevalence of specific sleep disorders and their consequences is of vital importance because sleep disorders could be treatment targets among patients with schizophrenia spectrum disorders.

In the current issue of *Schizophrenia Bulletin*, Reeve et al³ characterized sleep disorders and their relationship with psychiatric symptom severity in 60 outpatients with nonaffective psychosis early in the illness course. Sleep disorders were assessed using the Diagnostic Interview for Sleep Patterns and Disorders (DISP) and supplemented with subjective sleep diaries and objective wrist actigraphy over 7 days. Based on this multi-method assessment, a remarkable 80% of patients reported at least one sleep disorder, with the most common diagnoses being insomnia (50%) and nightmare disorder (about 48%). Further, patients with sleep disorders self-reported sleep as a "severe" issue. Relative to patients without sleep disorders, patients with sleep disorders reported significantly greater severity of paranoia, hallucinations, disorganization, depression, and anxiety, as well as reduced quality of life. Nonetheless, only about half of patients with sleep disorders discussed these concerns with a medical practitioner, and barely 10% received evidence-based sleep treatments. The take-home messages of this study are that (1) sleep disorders occur at a high rate in early nonaffective psychosis, (2) sleep disorders are associated with more severe symptoms, and (3) sleep disorders remain under-recognized and undertreated in this clinical population.

Although numerous studies have examined individual sleep disorders (eg. insomnia or restless legs syndrome) among patients with nonaffective psychosis (for review, see refs.^{4,5}), to our knowledge, the study by Reeve et al^3 is the first to assess the prevalence of multiple sleep disorders and their clinical impact in early psychosis. In addition to this important contribution, several other aspects of the study by Reeve et al³ warrant mention. The sample included patients who were early in their illness, translating to minimal exposure to antipsychotic medications and an average age of about 23 years. These are important aspects to consider since sleep disturbances increase with age, and antipsychotics may impact sleep, although much evidence suggests that sleep disruptions occur irrespective of antipsychotic treatment.^{6,7} The current study used a structured interview supplemented with sleep diaries and actigraphy to diagnose sleep disorders. These methods are practical for use in most mental health clinics whereas polysomnography (PSG) is not.

A paucity of studies has examined a range of sleep disorders in people with a nonaffective psychotic disorder. Nevertheless, previous research on individual sleep disorders aligns with the study by Reeve et al.³ They indicate that insomnia is common and severe in schizophrenia

[©] The Author(s) 2018. Published by Oxford University Press on behalf of the Maryland Psychiatric Research Center. All rights reserved. For permissions, please email: journals.permissions@oup.com

spectrum disorders.^{4,5} Nightmare disorder was also reported in a high proportion of patients by Reeve et al, like previous reports.^{8,9} The high prevalence of nightmares is particularly important given the recent emphasis on treating nightmares in schizophrenia in an effort to reduce psychotic symptoms.⁸

There are limitations of this study that the authors thoughtfully address. First, the study is cross-sectional and thus unable to determine whether sleep disorders cause worsening of psychotic illness or quality of life. Several sleep disorders, such as obstructive sleep apnea, periodic limb movement disorder, sleep walking, and hypersomnia cannot be diagnosed without PSG. Last, larger studies are needed to determine if these results generalize to the wider population of patients with nonaffective psychosis.

The results of the Reeve et al³ study raise many questions that should be addressed with future studies. Longitudinal studies are necessary to elucidate the sleeppsychiatric symptom patterns in terms of emergence, fluctuation, and association. Whether treatment for sleep disorders in this population improves symptom severity and enhances the quality of life requires large-scale treatment studies. Ideally, a multicenter study would be conducted similar to the OASIS study (N = 3755) that reported cognitive behavioral therapy for insomnia (CBT-I) reduced paranoia, hallucinations, and insomnia in college students with insomnia.¹⁰ The field would also benefit from large epidemiological studies of sleep disorders in schizophrenia spectrum disorder populations. Mechanistic studies that address the causal relationship between sleep disruption and symptom severity, including cognitive impairments, need to be conducted. To date, only studies reporting an association between sleep disruption and symptom severity have been reported. Therefore, studies testing whether sleep loss causes worsening of symptoms and cognition in this clinical population are needed.

In summary, the study by Reeve et al³ should increase awareness for the high rate and severe nature of sleep disorders in patients with early nonaffective psychosis. These striking results serve as a wake-up call for mental health practitioners to screen for sleep problems and to refer those with subjectively reported sleep problems to a sleep medicine clinic for a comprehensive sleep disorder assessment and treatment. If the costs of a sleep medicine clinic are prohibitive, mental health practitioners can utilize the screening and diagnostic approach from Reeve et al³ and psychological treatment tools like CBT-I. As noted by the authors, sleep disorders should be assessed and treated irrespective of psychiatric issues as recommended by the DSM-5. Treatment for sleep disorders may improve psychiatric symptoms, quality of life, and suicide risk,^{9,11} and this vulnerable population deserves greater clinical attention for diagnosis and treatment of sleep disorders.

Acknowledgments

The authors have no financial disclosures/conflicts to declare.

References

- 1. Cohrs S. Sleep disturbances in patients with schizophrenia: impact and effect of antipsychotics. *CNS Drugs.* 2008;22:939–962.
- 2. Pocivavsek A, Rowland LM. Basic neuroscience illuminates causal relationship between sleep and memory: translating to schizophrenia. *Schizophr Bull.* 2018;44:7–14.
- Reeve S, Sheaves B, Freeman D. Sleep disorders in early psychosis: incidence, severity, and association with clinical symptoms. *Schizophr Bull.* September 8, 2018; doi:10.1093/schbul/ sby129.
- Kaskie RE, Graziano B, Ferrarelli F. Schizophrenia and sleep disorders: links, risks, and management challenges. *Nat Sci Sleep.* 2017;9:227–239.
- Klingaman EA, Palmer-Bacon J, Bennett ME, Rowland LM. Sleep disorders among people with schizophrenia: emerging research. *Curr Psychiatry Rep.* 2015;17:79.
- Chouinard S, Poulin J, Stip E, Godbout R. Sleep in untreated patients with schizophrenia: a meta-analysis. *Schizophr Bull.* 2004;30:957–967.
- Chan MS, Chung KF, Yung KP, Yeung WF. Sleep in schizophrenia: a systematic review and meta-analysis of polysomnographic findings in case–control studies. *Sleep Med Rev.* 2017;32:69–84.
- Seeman MV. Successful treatment of nightmares may reduce psychotic symptoms in schizophrenia. World J Psychiatry. 2018;8:75–78.
- 9. Li SX, Lam SP, Zhang J, et al. Sleep disturbances and suicide risk in an 8-year longitudinal study of schizophrenia-spectrum disorders. *Sleep.* 2016;39:1275–1282.
- Freeman D, Sheaves B, Goodwin GM, et al. The effects of improving sleep on mental health (OASIS): a randomised controlled trial with mediation analysis. *Lancet Psychiatry*. 2017;4:749–758.
- Miller BJ, Parker CB, Rapaport MH, Buckley PF, McCall WV. Insomnia and suicidal ideation in non-affective psychosis. *Sleep.* 2018. doi:10.1093/sleep/zsy215