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Troubled Sleep, Troubled Minds, and *DSM-5*

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THE ARTICLE BY EDINGER et al¹ provides an extensive and meticulous examination of the performance characteristics of sleep-wake disorder diagnoses, comparing 2 different systems and finding converging results. The article serves as a reminder of the roles of sleep disturbance in the pathogenesis, assessment, treatment, and prevention of mental disorders. It also furnishes empirical support for *DSM-5* recommendations on sleep-wake disorder classification and assessment.²

RELEVANCE OF SLEEP DISTURBANCE TO PSYCHIATRIC RESEARCH AND PRACTICE

Persistent sleep disturbances (insomnia and excessive daytime sleepiness) are established risk factors for the subsequent development of mental illnesses, including mood, anxiety, and substance use disorders.³ As such, the recognition and treatment of insomnia disorder may provide an opportunity for either selective or indicated prevention, or both, of common mental disorders.^{4,5}

Sleep disturbance seems likely to emerge as a mediator in the pathogenesis of depression. Not only is sleep abnormal in those at risk for depression, but disturbed sleep figures prominently in those with genetic liability to depression who become depressed after psychosocial or biological challenges (eg, interferon alfa treatment of hepatitis C).⁶ Clinically, sleep disturbance may also be a prodromal expression of an episode of mental illness, allowing the possibility of early intervention to preempt or to attenuate a full-blown episode.^{2,4,5}

There are bidirectional and mutually exacerbating relationships between sleep disturbance and mental illnesses. Sleep disturbance worsens the distress and impairment caused by mental illnesses. Unless adequately treated in its own right, persistent sleep disturbance in the wake of an episode of mental illness or substance use disorder may indicate a fragile response to treatment and a risk for relapse and recurrence.^{7,8}

Sleep disturbance furnishes a clinically useful indicator of medical and neurologic disorders that coexist with depression and other common mental disorders. Prominent among these comorbidities are breathing-related sleep disorders, disorders of the heart and lungs (eg, congestive heart failure and chronic obstructive pulmonary disease), neurodegenerative disorders (especially Alzheimer disease), and disorders of the musculoskeletal system (eg, osteoarthritis). These disorders not only may disturb sleep but may themselves be worsened during sleep (eg, prolonged apneas or electrocardiographic arrhythmias during rapid eye

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movement sleep, confusional arousal during sleep in patients with Alzheimer disease, or seizures in persons with complex partial seizures).

PRINCIPAL FINDINGS OF EDINGER ET AL

The classification results reported by Edinger et al¹ support the interrater reliability as well as the convergent, discriminant, and face validity of insomnia diagnoses related to a mental disorder or a general medical condition, breathing-related sleep disorder, alcohol-related sleep disorder (but not other substance-induced sleep disorder), restless legs syndrome, and circadian rhythm sleep disorders. However, the results do not support other diagnoses, including subtypes of insomnia specified in the *DSM-IV*⁹ or in the *International Classification of Sleep Disorders*, second edition¹⁰ (*ICSD-2*) (primary or psychophysiological, paradoxical, inadequate sleep hygiene, environmental sleep disorder, periodic limb movement disorder, or dyssomnia not otherwise specified).

The pattern of results speaks to a longstanding but hitherto unresolved issue in the diagnosis of sleep disorders: lumping vs splitting. The *DSM-IV* represented an effort to simplify sleep disorders classification (and thus aggregated diagnoses under broader, less differentiated labels). At the other pole, the *ICSD-2* elaborated numerous diagnostic subtypes. The *DSM-IV* was prepared for use by mental health and general medical clinicians, ie, nonexperts in sleep disorders medicine. The *ICSD-2* reflected the science and opinions of the sleep specialist community and was prepared for use by sleep disorder specialists.

The weight of the evidence reported by Edinger et al¹ supports the superior performance characteristics of a simpler, less differentiated approach to diagnosis of sleep-wake disorders. The subtypes contained within the *DSM-IV* or *ICSD-2* (notably primary, psychophysiological, and paradoxical) could not be reliably diagnosed by sleep disorder clinicians using any of several different state-of-the-clinical-art methods. At the same time, the authors acknowledge the need for dimensional assessments of sleep-wake disorders, to capture severity, as well as behaviors that may contribute to the genesis and persistence of insomnia disorder (such as conditioning or sleep-wake hygiene abuse). These are treatment-relevant expressions of insomnia, even if they cannot be shown to be freestanding or independent disorders per se.

IMPLICATIONS FOR DSM-5 SLEEP-WAKE DISORDERS CLASSIFICATION AND DIMENSIONAL ASSESSMENT

Consistent with the findings by Edinger et al,¹ the *DSM-5* will probably continue the journey of the *DSM-IV* to a simpler and (hopefully) more clinically useful approach to diagnosis. The Sleep-Wake Disorders Work Group and its advisers will recommend dropping the use of the term *primary* in favor of simply listing *insomnia disorder* if diagnostic criteria are met. Coexisting mental and physical disorders are also to be listed, but without the use of terms such as *related to* or *due to*. Such terms imply a causal relationship, which often cannot be established. Moreover, by not making etiologic assumptions (*primary*, *associated with*, *due to*), the classification system seeks to remind clinicians that “insomnia disorder” usually requires independent clinical attention in addition to management of coexisting mental and physical disorders. The proposed diagnostic criteria for insomnia disorder will also reflect a developmental perspective, encompassing age-dependent variations in clinical presentation.²

The simplified classification embraced by the *DSM-IV* and *DSM-5*, while clinically appealing, runs the risk of obscuring pathogenetic and phenotypic variability among patients diagnosed as having insomnia disorder. For this reason, the Sleep-Wake Disorders Work

Group will also recommend the use of dimensional measures to capture severity and other contributing or perpetuating factors. We are considering PROMIS (National Institutes of Health Patient Reported Outcomes Measurement Information Systems, <http://www.nihpromis.org>) self-report inventories and other dimensional measures with well-known performance characteristics to generate clinically relevant profiles. Moreover, dimensional measures are likely to get us closer than broad, heterogeneous categories to underlying neurobiological and genetic substrates of sleep-wake disorders (eg, genetic liability, hyperarousal, circadian dysrhythmia). Indeed, the field of sleep disorders medicine has made considerable progress in this direction since publication of the *DSM-IV*. The use of biological validators will be clearly reflected in *DSM-5* recommendations, particularly for disorders of excessive sleepiness such as narcolepsy with hypocretin deficiency. In this way, dimensional measurement in the *DSM-5* should facilitate research that converges with the Research Domain Criteria approach (specifying systems, circuits, and molecules as domains of analysis; <http://www.nimh.nih.gov/research-funding/nimh-research-domain-criteria-rdoc.shtml>) favored by the National Institute of Mental Health.

“Sleep ... knits up the ravelled sleeve of care,” wrote Shakespeare in *The Tragedy of Macbeth*.¹¹ Mental health clinicians intuitively understand this to be true. With advances in classification, measurement-based treatment, and prevention, we move a step closer to realizing Shakespeare’s vision in the practice of medicine.

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