BioMed Research International

Special Issue on

Sex Differences in Sleep and Sleep Medicine

CALL FOR PAPERS

There are clear sex based physiological differences in both normal sleep and the pathogenesis of sleep disorders. The hormonal changes that occur during the life span of a woman impact significantly both normal sleep patterns and risk of sleep disorders. From menarche through pregnancies and onto menopause sleep patterns are distinctly different at each stage of a woman's life. This is primarily because hormonal changes and fluctuations during a woman's lifespan are significantly more numerous and more complex than in men. These hormonal changes can impact the pathogenesis and the clinical presentation of sleep disorders as well as a woman's response to treatment. Sleep disorders also occur with variable prevalence in women and men. In addition symptomatology of common sleep disorders exhibits clear differences between the sexes. The incidence of comorbidities and the therapeutic responses to various pharmacological and nonpharmacological interventions also show gender and sex differences.

A fair amount of these sex differences remain unknown and under recognized. For instance, chronic insomnia and sleep disordered breathing (SDB), two of the most common disorders encountered in sleep clinics, have both sex specific incidences and variable presentations. SDB, for instance, presents with depression and insomnia in women while in men its main symptom is excessive daytime sleepiness. The severity of SDB increases dramatically in women with polycystic ovarian syndrome (PCOS) and its impact on the health of a pregnant woman is dire. With menopause chronic insomnia not only increases in prevalence but fails to respond as well to standard treatments used to treat it in other stages of life. The normal maturational delay in adolescent sleep phase also presents differently and has a different time course in boys and girls.

The treatment options for chronic insomnia can be different in women than men. The most common example is the FDA recommendation that the dose of zolpidem, a sedative hypnotic, in women is half of that in men. The prevalence of depression and its impact both on sleep and on compliance with treatment of SDB (Continuous Positive Airway Pressure or CPAP) also exhibits sex based differences.

Other sleep related issues that impact women specifically include shift work disorder and its relation to increased risk of breast and endometrial cancer, differential symptomatology of REM Sleep Behavior Disorder (RBD), and the interaction of stimulants (for disorders of hypersomnia) with hormonal contraception causing unplanned pregnancies. Helping women with hypersomnia disorders to get through their pregnancies while struggling with daytime sleepiness and balancing their quality of life with the teratogenicity of these meds is another vastly unexplored field of sleep medicine.

Restless legs syndrome (RLS) occurs with higher prevalence in women and particularly during the third trimester of pregnancy. The impact of this on pregnancy health and fetal outcomes remains unexplored as does the pathophysiology behind it. Lastly parasomnias such as nightmare disorder, night terrors, and sleep walking have different incidences in women and men.

Despite these distinctions, the research in specific aspects of sleep as it relates to women's health is still in its infancy. Often in clinical trials the data is not specifically separated by women.

We invite authors to submit original research, clinical study, and review papers that address this disparity of research in women and look into sex based sleep changes in healthy individuals, the specific pathophysiology of sleep disorders in women, epidemiological and health based social disparities, and the differential effect of therapeutic interventions in women.

Potential topics include, but are not limited to:

- Metabolism of specific therapeutic agents in women versus men
- The symptomatology of specific sleep disorders in women versus men
- The impact of life cycle related hormonal changes on women's sleep and presentation of sleep disorders.
- Normal sex differences in the physiology of sleep

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/bmri/neurology/sdss/.

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