pii: jc-19-00542 https://dx.doi.org/10.5664/jcsm.8146

JCSM | Journal of Clinical Sleep Medicine

LETTERS TO THE EDITOR

Should health professionals assess sleep quality in pregnant women seeking care for low back pain?

Letícia F. Leonel, BS; Priscila K. Morelhão, PhD; Sergio Tufik, MD, PhD; Monica L. Andersen, PhD

Departamento de Psicobiologia, Universidade Federal de São Paulo (UNIFESP), São Paulo, Brazil

Low back pain (LBP) is a frequent complaint during pregnancy affecting around 70% of all pregnant women, especially in the third trimester.[1,2] Although its etiology is still uncertain, a potential cause includes biomechanical stress due to the enlarging uterus, resulting in a displacement of the center of gravity toward the front and lumbar hyperlordosis, and ligament laxity induced by hormonal changes, which makes the lumbar spine and hip joints less stable and therefore more susceptible to stress and pain.[2] For many women, LBP can become so severe that it interferes with daily activities and disrupts sleep.[1]

Recent studies have shown that pregnant women are generally more dissatisfied with their sleep quality than their nonpregnant controls and that, in comparison with the first trimester, the incidence of poor sleep quality and short sleep duration increases as the pregnancy progresses.[3] They also constitute a population at higher risk of developing sleep disturbances, such as insomnia, restless legs syndrome and obstructive sleep apnea (OSA).[4] Regarding OSA, a prospective cohort including 189 healthy pregnant women who were evaluated through self-reported questionnaires found that, in the third trimester, almost 40% of them experienced frequent snoring and excessive daytime sleepiness[5]; using polysomnography, another study observed an increase in the prevalence of OSA from 10.5% in early pregnancy to 26.7% in the third trimester.[6]

The relationship between LBP and sleep quality is probably bidirectional, with LBP during the day negatively affecting sleep quality, and a poor night of sleep predicting increased pain in the next day.[7] Even though the mechanism of this association remains unclear, it has been demonstrated that sleep deprivation causes neuronal hyperexcitability, which lowers pain thresholds and contributes to hyperalgesia; besides, OSA induces an exacerbated inflammatory response that amplifies pain sensitivity.[8] Therefore, it is possible that better sleep quality, which is associated with regular physical activity and an overall healthier lifestyle, ameliorates LBP. However, as most of these findings come from studies in the general population, they should not be generalized for pregnant women.

In conclusion, further research must investigate the extent to which sleep interventions, used solely or as an adjunct to guideline-endorsed treatments (ie, exercise therapy), are effective in reducing LBP during pregnancy. Nevertheless, sleep quality should be routinely assessed as part of the management of LBP in pregnant women, since it is an important modulator of pain perception and can be easily evaluated through self-reported questionnaires, such as the Pittsburgh Sleep Quality Index, the Insomnia Severity Index and the Epworth Sleepiness Scale; another way to objectively quantify sleep is by polysomnography, which is the gold standard for diagnosing sleep disturbances and OSA severity. We believe that health professionals should be aware that sleep disturbances are a common comorbidity of LBP during pregnancy, as well as that there are a range of tools to evaluate sleep quality in clinical practice, thus providing new options for them to treat their patients.

CITATION

Leonel LF, Morelhão PK, Tufik S, Andersen ML. Should health professionals assess sleep quality in pregnant women seeking care for low back pain? *J Clin Sleep Med*. 2020;16(1):155–156.

REFERENCES

1. Skaggs CD, Prather H, Gross G, Thompson PA, Nelson DM. Back pain and pelvic pain in an underserved United States pregnant population: a preliminary descriptive survey. *J Manipulative Physiol. Ther.* 2007;30(2):130–134.
2. Sabino J, Grauer JN. Pregnancy and low back pain. *Curr Rev Musculoskelet Med*. 2008;1(2):137–141.
3. Sedov ID, Cameron EE, Madigan S, Tomfohr-Madsen LM. Sleep quality during pregnancy: a meta-analysis. *Sleep Med Rev*. 2018;38:168–176.
4. Sut HK, Asci O, Topac N. Sleep quality and health-related quality of life in pregnancy. *J Perinat Neonatal Nurs*. 2016;34(4):302–309.
5. Facco FL, Krames J, Ho KH, Zee PC, Grobman WA. Sleep disturbances in pregnancy. *Obstet Gynecol*. 2010;115(1):77–83.
6. Pien GW, Pack AI, Jackson N, Maislin G, Macones GA, Schwab RJ. Risk factors for sleep-disordered breathing in pregnancy. *Thorax*. 2014;69(4):371–377.
7. Andersen ML, Araujo P, Franje C, Tufik S. Sleep disturbance and pain: a tale of two common problems. *Chest*. 2018;154(5):1249–1259.

8. Nijs J, Mairesse O, Neu D, et al. Sleep disturbances in chronic pain: neurobiology, assessment, and treatment in physical therapist practice. *Phys Ther.* 2018;98(5):325–335.

Address correspondence to: Monica Levy Andersen, PhD, Universidade Federal de São Paulo, Napoleão de Barros, 925 – Vila Clementino-04024-002 – São Paulo/SP-Brazil; Tel: +55 11 2149-0155; Fax: +55 11 55725092; Email: ml.andersen12@gmail.com

SUBMISSION & CORRESPONDENCE INFORMATION

Submitted for publication September 30, 2019
Submitted in final revised form October 11, 2019
Accepted for publication October 11, 2019

DISCLOSURE STATEMENT

All authors have read and approved the final version of this manuscript. Our studies are supported by grants from the Associação Fundo de Incentivo à Pesquisa (AFIP). MLA and ST are CNPq fellowship recipients. The authors report no conflicts of interest.