

Introduction

- Obstructive Sleep Apnea (OSA) is defined as recurrent episodes of upper airway obstruction while sleeping due to pharyngeal collapse, resulting in either apnea, a complete cessation of breathing, or hypopnea, a partial blockage of the airway (Louis & Street, 2018).
- The prevalence of OSA in pregnancy ranges from 8% to 20% due to the physiologic changes related to pregnancy (Balsarak et al., 2019).
- Early screening and treatment of OSA in pregnancy can serve as a strategy to prevent unfavorable perinatal outcomes and improve fetal development (Balsarak et al., 2019).

Background and Significance

- One out of four women suffers from OSA, and 90% are underdiagnosed (Westreich et al., 2019).
- OSA occurs in 8.4% to 11.9% of women in the first trimester and 19.7% in the third trimester (Balsarak, 2015).
- OSA is associated with higher risk of gestational hypertension, gestational diabetes, preeclampsia, preterm birth, low birth weight (Bourjeily et al., 2017).
- OSA in pregnancy increases the chance of developing gestational diabetes by 22.93% compared to 9.39% for non-OSA pregnant women (Li et al., 2018).
- Approximately \$6.4 billion is spent in treating preeclampsia (Stevens et al., 2017) and \$1.56 billion for gestational diabetes (Dall e al., 2019).
- Gestational diabetes and preeclampsia increase the risk of preterm birth, and adverse health outcomes for the mother and the infant (Lavery et al., 2017; Shih et al., 2016).
- Despite the consequences of OSA and its impact on society, women, and families on a national and global level, healthcare providers do not consider it an important part of pregnant women's health care.

Methodology

Project Design

- Quality Improvement (QI) study design.
- Federally Qualified Health Center (FQHC) in Newark, New Jersey that offers routine prenatal care, gynecological, and family planning services to women.

Sample

- Convenience sample of two women's health Nurse Practitioners (NPs) who provide prenatal care.
- Recruitment through emails and WebEx invitation.

Intervention

- A 45 minutes educational module via WebEx.
- Implementation of the STOP-BANG questionnaire as a sleep apnea screening tool in pregnancy for three months.

Measures/Data Collection Tools

- The number of STOP-BANG questionnaires completed measured weekly for three months.
- Data collection of the number of pregnant women screened for OSA
- Data collection of the number of women referred for further management of OSA.
- Data collection of the number of Healthcare Common Procedure Coding System (HCPCS) code (e.g., G8839) documented for the patients screened.

Data Analysis

- Data entry and analysis: *IBM's Statistical Package for the Social Science* (IBM SPSS).
- Descriptive statistics.
- McNemar test for prospective data collection.

Evaluation Plan

- Nine item survey made up of three open-ended and six closed-ended questions.

Findings

- 26 patients screened, 53.8% White, 42.3% Black, 3.8% Asian, 61.5% Hispanic, 38.5% Non-Hispanic.
- All charts (n=26) had documentation of screening, 92.3% had HCPCS code documentation.
- A total of 21 patients scored low risk for OSA, 5 scored high risk, and only 2 accepted referral.
- The results demonstrate an increase:
 - In number of women screened for sleep apnea.
 - In the number of referrals generated for further management of OSA for those pregnant women at high risk for OSA.
 - In the documentation of the HCPCS code.

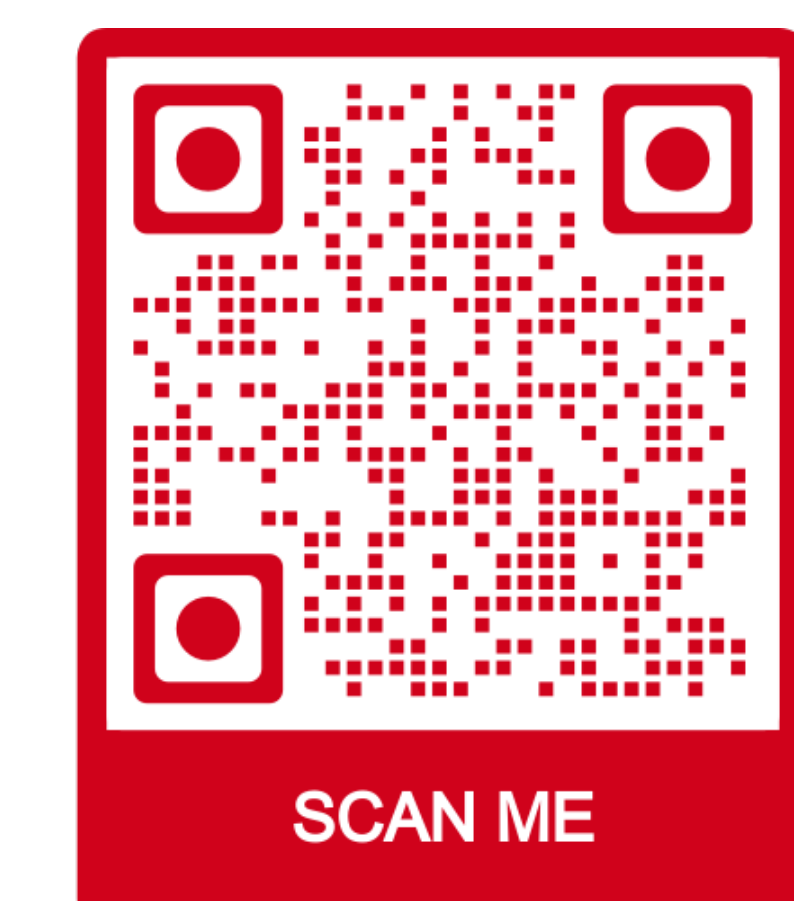
Discussion

- OSA screening and treatment in pregnancy decreases healthcare costs to the US healthcare system (American Academy of Sleep Medicine, 2016).
- Quality and safety of care can be improved by increasing healthcare provider's knowledge about sleep apnea, and early screening and treatment of the disorder (Na-rungsri et al., 2016).
- Routine OSA screening in pregnancy should be incorporated as part of routine prenatal care to ameliorate complications associated with OSA (Dominguez et al., 2016).
- A practice change can be initiated which will assist in developing individualized plans of care (Na-rungsri et al., 2016).
- The sleep apnea educational module can enhance healthcare provider's knowledge about sleep apnea, which is essential to improve quality of care (Lehane et al., 2019).

Limitations

- Low-risk site
- High-risk transfer
- Lack of advertisement strategies

Reference List



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