

Anxiety, stress, well-being and sleep quality throughout gestation in a cohort of pregnant women in Barcelona city

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Objective

To assess maternal anxiety, stress, well-being and sleep quality throughout gestation in a cohort of pregnant women in Barcelona, Spain.

Methods

A total of 626 singleton pregnant women in the metropolitan area of Barcelona were included. All women provided self-reported lifestyle questionnaires to measure their anxiety (State Trait Anxiety Inventory-STAI), stress (Perceived Stress Scale-PSS), well-being (WHO Five Well Being Index-WHO-5), and sleep quality (Pittsburgh sleep quality index-PSQI) in the second (20 weeks), and in the third trimester (34-36 weeks). Women were classified as having a low or high anxiety according to STAI-anxiety score (low: STAI-anxiety ≤ 21 , high: STAI-anxiety > 21) and they were classified as having a low or high sleep quality according to PSQI-index score (low: PSQI > 9 , high: PSQI ≤ 9). Multivariate analysis was assessed to evaluate potential risk factors that could contribute to a high anxiety level and low sleep quality.

Results

At 20 weeks of gestation, the mean (SD) STAI-personality score was 14.21 (8.6), STAI- anxiety score 15.95 (8.7), PSS score 17.1 (7.9), and WHO-5 score 63.9 (17.3), with no significant changes at 34-36 weeks, whereas PSQI was 6.9 (2.3) at 20 weeks and 8.1 (2.6) at 3 trimester ($p < 0.001$). Among included women, 153 (24.4%) resulted to have a high anxiety (STAI-anxiety > 21) at mid gestation, that persisted at the end of pregnancy, and 91 (14.5%) resulted to have a low sleep quality (PSQI > 9) at mid of pregnancy, but the proportion increased throughout gestation ($n = 180$, 28.8%; $p = 0.001$). At multivariate analysis, significant contribution to a high maternal anxiety score were provided by the presence of a psychiatric disorder (OR 5.3; 95% CI 1.7-16.3; $p = 0.002$), and major maternal diseases (chronic hypertension, diabetes mellitus, renal or autoimmune disorders) (OR 1.9; 95% CI 1.2-3.3; $p = 0.025$). Significant contribution to a low maternal sleep quality at the end of pregnancy were provided by the presence of a psychiatric disorder (OR 4.6; 95% CI 2.5-18.5; $p = 0.013$), and non-white ethnicity (OR 3.6; 95% CI 1.6-7.8; $p < 0.001$).

Conclusion

Even though sleep quality worsens throughout gestation, maternal stress, anxiety and well-being remain similar. The presence of a psychiatric disorder and major maternal pathologies are associated with higher anxiety, and the presence of a psychiatric disorder and ethnicity are associated with a low sleep quality. Future studies are required to evaluate intervention/educational tools to reduce anxiety and to improve sleep quality among pregnant women.