

Reduction of Maternal Anxiety and improvement of Well-being after a Stress Reduction intervention during pregnancy. The IMPACT BCN trial

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Objective

To investigate the effects of a Mindfulness-Based Stress Reduction (MBSR) intervention during pregnancy on maternal anxiety and well-being.

Methods

In a randomized clinical trial with parallel-group conducted at a University Hospital in Barcelona, Spain (2017-2020), 1221 pregnant women were randomly allocated at 19-23 weeks' gestation into three groups: a Mediterranean diet intervention, a MBSR program or non-intervention. Participants in the MBSR group (n=407) underwent an 8-week MBSR program adapted for pregnancy. All women provided self-reported questionnaires to measure their anxiety (State Trait Anxiety Inventory-STAI, Perceived Stress Scale-PSS), well-being (WHO Well Being Index-WHO5), and mindful state (Five Facet Mindfulness Questionnaire-FFMQ) at enrollment and at the end of the intervention (34weeks); additionally, in a random subgroup the 24h-urinary cortisone/cortisol ratio was evaluated.

Results

Women involved in the trial had no differences in stress levels or well-being at enrollment. However, at the end of the intervention, participants in the MBSR group had significantly lower anxiety scores compared to non-intervention: mean (SD) STAI anxiety 12.6(0.34) vs. 15.6(0.32), $p < 0.001$; STAI personality 13.7(0.3) vs. 15.6(0.29), $p = 0.002$. On the contrary, MBSR participants had higher scores on well-being (WHO-5 67.2(0.71) vs. 64.3(0.68), $p = 0.002$), and in several FFMQ scores: Observation 27.7(0.29) vs. 24.2(0.27), $p < 0.001$; Non-judgmental 31.3(0.25) vs. 29.9(0.23), $p = 0.013$; Non-reactivity 25(0.22) vs. 22.8(0.21), $p < 0.001$. Whereas the baseline cortisone/cortisol ratio was comparable between study groups (MBSR 1.13 vs. 1.04, $p = 0.73$), a significantly increase was observed at the end of the intervention in MBSR (1.83 vs. 1.46, $p = 0.02$), revealing less stress level.

Conclusion

MBSR intervention during pregnancy significantly reduce maternal anxiety and improve well-being, reflected by an increased estimated activity of a cortisol-deactivating enzyme.

