

Effects of Mediterranean diet intervention on maternal stress, well-being and sleep quality throughout gestation. The IMPACT-BCN trial

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Objective

To determine the effects of a Mediterranean diet (MedDiet) intervention during pregnancy on maternal stress, well-being, and sleep quality assessment throughout gestation.

Methods

In a randomized clinical trial with parallel-group conducted at a University Hospital in Barcelona, Spain (2017-2020), 1221 pregnant women at high-risk were randomly allocated at 19-23 weeks' gestation into three groups: a MedDiet intervention, a Mindfulness-Based Stress Reduction program or non-intervention. Participants in the MedDiet group (n=407) received monthly individual and group educational sessions, and free provision of extra-virgin olive oil and walnuts. All women provided self-reported lifestyle questionnaires to measure their anxiety (State Trait Anxiety Inventory-STAI, Perceived Stress Scale-PSS), well-being (WHO Five Well Being Index-WHO-5), and sleep quality (Pittsburgh sleep quality index-PSQI) at enrollment and at the end of the intervention (34-36 weeks).

Results

At enrollment, maternal life-style assessment was similar between study groups in all questionnaires. At the end of the intervention, participants in the MedDiet group had significantly lower stress and anxiety scores compared to non-intervention group: PSS mean [SD] 15.87 [7.5] vs. 17.02 [7.7], $p=0.048$; STAI (anxiety) 13.60 [7.9] vs. 15.81 [8.7], $p<0.001$; STAI (personality) 14.01 [8.2] vs. 15.97 [8.5], $p=0.003$. In the same line, MedDiet women had a better well-being (WHO-5 67.6 [15.3] vs. 62.7 [17.4], $p=0.005$) and sleep quality (PSQI 7.79 [2.7] vs. 6.98 [2.5], $p<0.001$), compared to non-intervention.

Conclusion

A Mediterranean diet intervention during pregnancy significantly reduce maternal anxiety and stress and improve well-being and sleep quality throughout gestation.