

Lifestyle-based and psychological interventions during pregnancy and risk of obesity and obesity-associated metabolic complications in the offspring: A scoping review

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Abstract

In recent years, pediatric obesity has emerged as a major public health challenge. Various maternal health issues have been implicated in the development of obesity and associated conditions in offspring, emphasizing the importance of recognizing successful interventions during pregnancy.

This systematic review aimed to update the current literature on the implementation and effectiveness of interventions focusing particularly on maternal physical activity, dietary aspects and psychological support, and to identify research gaps. Only studies containing data on offspring anthropometrics and/or obesity-associated metabolic comorbidities after the age of ≥ 2 years were included.

Altogether, 22 eligible studies were identified, including 14 that combined physical activity and dietary counseling, six that utilized one of these, and two with other components. Of the 14 studies with a combined intervention, eight reported reductions in gestational weight gain and two a lower risk of gestational diabetes. The studies found no effect on offspring adiposity, but one study reported a lower resting pulse rate. Of the remaining studies with only a dietary or physical activity component or other intervention, four reported reduced gestational weight gain. One study reported lower offspring weight and skinfold thickness, and another lower fasting glucose levels.

A limited number of gestational intervention studies have evaluated offspring outcomes beyond the neonatal period, and cohort sizes have been small. Especially interventions including psychological components are lacking. Most studies found little effect on offspring anthropometrics or metabolic conditions. More intensive interventions involving larger cohorts and innovative approaches such as psychological and digital components are needed.