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## An umbrella review of meta-analyses of interventions to improve maternal outcomes for teen mothers



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### ABSTRACT

The purpose of this study was to perform an umbrella review of meta-analyses of intervention studies designed to improve outcomes of pregnant or parenting teenagers. An extensive search retrieved nine reports which provided 21 meta-analyses analyses. Data were extracted by two reviewers. Methodological quality was assessed using the AMSTAR Instrument.

Most effect sizes were small but high quality studies showed significant outcomes for reduced low birth weight (RR = 0.60), repeat pregnancies/births (OR = 0.47–0.62), maternal education (OR = 1.21–1.83), and maternal employment (OR = 1.26). Several parenting outcomes (parent-child teaching interaction post-intervention [SMD = -0.91] and at follow-up [SMD = -1.07], and parent-child relationship post-intervention [SMD = -0.71] and at follow-up [SMD = -0.90]) were significant, but sample sizes were very small. Many reports did not include moderator analyses.

Behavioral interventions offer limited resources and occur too late to mitigate the educational and social disparities that precede teen pregnancy. Future intervention research and policies that redress the social determinants of early childbearing are recommended.

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In 2014, the birth rate for teens 15–19 years fell to a historic low (Hamilton, Martin, Osterman, Curtin, & Mathews, 2015). While this is good news, the U.S. rate exceeds that of all other developed countries and differs substantially by age groups, race/ethnicity, and states with New Mexico having the highest rate (47.5/1000) and New Hampshire the lowest (13.8/1000) (Ventura, Hamilton, & Matthews, 2014). Subsequent births to teen mothers are also of concern, with almost 1 in 6 teen mothers having a second birth before age 20 (Ventura et al., 2014).

Early childbearing is associated with adverse health and social outcomes for mothers and their children. Teen mothers have an increased risk of preterm delivery (Kawakita et al., 2016; Torvie, Callegari, Schiff, & Debiec, 2015) and postpartum hemorrhage (Torvie et al., 2015). Reduced education and employment prospects, increased welfare use, and single parenting are also attributed to young maternal age (Coyne & D'Onofrio, 2012; Ventura et al., 2014). Poor maternal outcomes, however, have been exaggerated by selection bias, inadequate comparison groups, and the failure to examine heterogeneity among teen mothers and to control for background factors that increase the risk of teen pregnancy and poor outcomes (Weed,

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