



## Effective Public Health Practice Project Summary Statement



December 2005

**Reference for Review in APA:** Liu, L., Mirza, M., and Thomas, H. (2005). **The Effectiveness of Interventions to Prevent Excessive Weight Gain in Pregnancy.** Effective Public Health Practice Project.

**Issue:** Through the Mandatory Health Programs and Services Guidelines (Ministry of Health of Ontario Public Health Branch, 1997), a goal of public health for reproductive health is to “support healthy pregnancies”. Health units are required to implement multiple strategies to support healthy pregnancies through healthy eating, healthy weight, and physical activity promotion programs. Gestational weight gain greater than that recommended is associated with increased risk of complications in pregnancy, infant macrosomia, caesarean delivery, late fetal death and birth defects (Johnson, Longmate & Frentzen, 1992; Parker & Abrams, 1992; Rhodes, Schoendorf & Parker, 2003). Therefore, effective interventions need to be identified and implemented to help pregnant women achieve the currently recommended weight gain, with the objective of ensuring the best possible outcome for their infant and themselves.

**Review Content Summary:** To be included, the study had to evaluate an intervention aimed at preventing excessive weight gain during pregnancy, have employed a prospective design, and provide information on quantitative outcomes. The majority of the studies included an intervention strategy that used education materials, and workshops/educational sessions to promote healthy, low-fat eating, modest exercise and appropriate weight gain during pregnancy.

**Comments on this Review’s Methodology:** A systematic review of published studies was completed. Six electronic databases were searched for the period 1980 to 2005. Relevant peer-reviewed journals were hand searched, as were the reference lists for all retrieved articles. This is a methodologically strong review that employed a comprehensive search strategy, multiple raters and a narrative synthesis of the results. Three primary studies were determined to be relevant for the review. One study scored moderate overall, and the remaining two scored weak. One study employed a randomized controlled trial, while the two remainder were cohort studies. Data were extracted from all studies and summarized narratively.

**Evidence points are NOT weighted or ranked.**

<b>What’s the evidence?</b>	<b>Implications for practice and policy:</b>
<p>&gt; The intervention including education and behavioural strategies to promote healthy, low-fat eating, modest exercise and appropriate weight gain during pregnancy could be effective in reducing the frequency of excessive weight gain in low-income women.</p>	<p>&gt; Public health practitioners should explore the possibility of implementing such interventions in low-income communities.</p>

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<p>&gt; Socioeconomic status (SES) and pre-pregnancy BMI appear to be confounders in two studies.</p>	<p>&gt; Further studies should include subgroup analysis to determine the impact of socioeconomic status and the level of pre-pregnancy BMI, because of the possible influence of these factors on program outcome.</p>
<p>&gt; The majority of studies evaluating the effectiveness of interventions to prevent excessive weight gain in pregnancy have methodological flaws.</p>	<p>&gt; Research into the area should include randomized controlled trials. As well, longitudinal research is needed to determine the long-term impacts of interventions. Last, well defined outcome measures should be employed.</p>
<p>&gt; None of the interventions employed a theoretical framework.</p>	<p>&gt; Theoretical frameworks should be used to inform the development of effective intervention strategies.</p>
<p><b>General Implications:</b></p> <ul style="list-style-type: none"> <li>&gt; An evaluation component should be incorporated into the design of intervention programs to allow a good quality evaluation of the intervention.</li> <li>&gt; Public Health units and those organizations involved in the field of obesity prevention should partner with each other to share resources and ideas in the development of programs.</li> </ul>	

#### References Used to Outline Issue:

- Ontario Ministry of Health and Long Term Care. (1997). Mandatory Health Programs and Services Guidelines. Toronto: Queen's Printer for Ontario.
- Johnson, J. W., Longmate, J. A., & Frentzen, B. (1992). Excessive maternal weight and pregnancy outcome. *Am.J.Obstet.Gynecol.*, 167, 353-370.
- Parker, J. D. & Abrams, B. (1992). Prenatal weight gain advice: an examination of the recent prenatal weight gain recommendations of the Institute of Medicine. *Obstet.Gynecol.*, 79, 664-669.
- Rhodes, J. C., Schoendorf, K. C., & Parker, J. D. (2003). Contribution of excess weight gain during pregnancy and macrosomia to the cesarean delivery rate, 1990-2000. *Pediatrics*, 111, 1181-1185.

#### Other References on this Topic:

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