



## Exercise During Pregnancy: Benefits and Strategies to Overcome Barriers

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### Context

Only a few decades ago, pregnant women were advised to take it easy and avoid physical activity. Medical experts now recommend regular exercise as part of a healthy pregnancy for women with no medical or obstetrical contraindications.<sup>1</sup> Regular leisure time physical activity (LTPA) during pregnancy has been associated with reduced risks of complications, including gestational diabetes, preeclampsia, preterm birth, limited pregnancy weight gain<sup>2</sup> and better maternal mental health.<sup>3</sup> Foetal benefits include lower fat mass, improved stress tolerance and advanced neurobehavioral maturation.<sup>4</sup>

Despite well-documented health benefits, studies examining exercise patterns have shown that a large proportion of pregnant women do not engage in sufficient amounts of LTPA. It has recently been reported that only 23.3% of Canadian pregnant women meet guidelines for LTPA compared to 33.6% of non-pregnant women.<sup>5</sup> It has also been consistently shown that women tend to decrease their levels of LTPA when they become pregnant, and this decrease continues as the pregnancy progresses<sup>6</sup> and may persist during the postpartum period and beyond.

### Why do exercise and pregnancy seem to be incompatible?

Studies that have examined factors associated with LTPA have mainly focused on sociodemographics and identified lower education and/or income, belonging to a minority ethnic group, being single/divorced and smoking<sup>5,6</sup> to be associated with physical inactivity during pregnancy. Other frequently reported LTPA barriers include lack of time, childcare difficulties, fatigue, experiencing pregnancy-related discomfort, lack of social support and low self-efficacy for overcoming exercise barriers.<sup>5-7</sup> Women may also have misconceptions about the benefits of LTPA as the information they receive is from multiple sources – including health care providers, printed materials, family, friends and the Internet – which may vary in consistency and accuracy.

Pregnancy has been described as a “teachable moment” for promoting a healthy lifestyle, as women are concerned about the health of their unborn baby and are motivated to return to their pre-pregnancy weight. Yet, as many as one in two women report that their doctor did not discuss exercise during their pregnancy. Women view health care providers as credible sources for obtaining prenatal information. As part of comprehensive prenatal care and wellness promotion, health professionals need to routinely provide pregnant women with accurate and sufficient information related to the benefits of LTPA. An individualized approach is preferred by women and has been shown to be more effective in maintaining behaviour change.<sup>8</sup> In current practice, exercise is not routinely discussed during prenatal care and, when it is, it does not often go beyond simple advice. Prenatal health care providers acknowledge the importance of regular LTPA during pregnancy, but many report a lack of knowledge and confidence on how to motivate women to uptake or maintain LTPA during pregnancy, highlighting the need to address this knowledge gap.

Regular leisure time physical activity (LTPA) during pregnancy has been associated with reduced risks of complications



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Pregnant women have reported the Internet as an important and frequently accessed source for pregnancy-related information, including exercise.<sup>8</sup> These findings suggest the need and feasibility of providing evidence-based information to promote healthy behaviours during the perinatal period via the web as part of routine prenatal care. Obtaining endorsement and support from health care providers for such web-based initiatives may enhance the credibility, uptake and usability of Internet-delivered information. Web-based resources can serve as a powerful low-cost educational tool to support and reinforce the health promotion advice received from health care providers.

While knowledge is considered to be an important precursor for behaviour change, it may be insufficient for uptake and maintenance. A number of interventions have been designed and evaluated to increase LTPA during pregnancy, but few have been effective, largely due to methodological limitations and lack of theory-driven strategies to guide intervention development.<sup>9</sup> Behaviour change theory-driven strategies such as individualized goal setting and planning with feedback have been shown to be more effective at enhancing LTPA throughout pregnancy.<sup>9</sup> Training prenatal health care providers in the implementation of these techniques and their incorporation into other modes of physical activity promotion for pregnant women (i.e., websites, pamphlets, prenatal classes) are needed to enhance the health messages women receive during pregnancy.

## Conclusion

Despite numerous maternal and infant health benefits associated with LTPA during pregnancy, few pregnant women are currently meeting exercise guidelines. Prenatal health care services need to provide routine education related to the safety and benefits of exercise during pregnancy and recommend evidence-based tools and resources to assist with uptake and maintenance throughout pregnancy. The design and evaluation of low cost, highly accessible delivery methods, such as a tailored evidence-based health promotion website, may be effective for complementing provider advice and facilitating an individualized approach to promote healthy behaviours during pregnancy.

## Bibliography

1. Wolfe, L. A., & Davies, G. (2003). Canadian guidelines for exercise in pregnancy. *Clinical obstetrics and gynecology*, 46(2): 488-495.
2. Ferraro, Z. M., Gaudet, L., & Adamo, K. B. (2012). The potential impact of physical activity during pregnancy on maternal and neonatal outcomes. *Obstetrical & gynecological survey*, 67(2), 99-110.
3. Davis, K., & Dimidjian, S. (2012). The relationship between physical activity and mood across the perinatal period: A review of naturalistic and clinical research to guide future investigation of physical activity-based interventions for perinatal depression. *Clinical Psychology Science and Practice*, 19(1), 27-48.
4. Melzer, K., Schutz, Y., Boulvain, M., & Kayser, B. (2010). Physical activity and pregnancy: cardiovascular adaptations, recommendations and pregnancy outcomes. *Sports Medecine*, 40(6), 493-507.
5. Gaston, A., & Vamos, C. A. (2013). Leisure-time physical activity patterns and correlates among pregnant women in Ontario, Canada. *Maternal and child health journal*, 17(3), 477-484.
6. Gaston, A., & Cramp, A. (2011). Exercise during pregnancy: A review of patterns and determinants. *Journal of Science and Medicine in Sport*, 14(4), 299-305.
7. Da Costa, D., & Ireland, K. (2013). Perceived benefits and barriers to leisure-time physical activity during pregnancy in previously inactive and active women. *Women & Health*, 53(2), 185-202.
8. Huberty, J., Dinkel, D., Beets, M. W., & Coleman, J. (2013). Describing the use of the internet for health, physical activity, and nutrition information in pregnant women. *Maternal and child health journal*, 17(8), 1363-1372.
9. Currie, S., Sinclair, M., Murphy, M. H., Madden, E., Dunwoody, L., & Liddle, D. (2013). Reducing the decline in physical activity during pregnancy: a systematic review of behaviour change interventions. *PloS one*, 8(6), e66385.