Table D.1.a. Excessive weight gain and physical activity, pregnant and postpartum women

Black font is from original GRADE Evidence Profile from the systematic review (Ruchat 2018 *(8)*) to support the 2019 Canadian Guideline for Physical Activity Throughout Pregnancy. Red font denotes additions based on WHO update using review of existing systematic reviews. Two systematic reviews were identified that addressed the relationship between physical activity and excessive weight gain *(14, 16)*.

Quality assessment							№ of participants		Effect		Certainty	Importance
№ of studies* **Review (AMSTAR 2 rating)**	**Study design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**prenatal exercise**	**no exercise**	**Relative (95% CI)**	**Absolute (95% CI)**		
Association between exercise-only interventions and **excessive gestational weight gain**												
15 [a]	randomized trials	serious [b]	not serious	not serious	not serious	none	601/1798 (33.4%)	694/1721 (40.3%)	**OR 0.68** (0.57 to 0.80)	**88 fewer per 1 000** (from 52 fewer to 125 fewer)	⊕⊕⊕◯ MODERATE	CRITICAL
							Narrative Synthesis: **Additional data from studies (n=3) included in the pooled estimate** **2/3 studies** reported lower odds of EGWG in the exercise-only intervention group compared to the control group (Barakat, 2016; Ruiz, 2013). **1/3 study** reported no difference in the odds of EGWG between the exercise-only intervention group and control group (Renault, 2015). [d]					
Beetham 2019 *(14)* Moderate 4 randomized trials 3 cohort studies		serious[e]	serious[f]	not serious	serious[g]	none	No significant difference in **maternal weight gain** was apparent for women who engaged in vigorous intensity exercise (MD = − 0.46 kg [95% CI −2.05 to 1.12], n = 1834, k = 7, I^2 = 68.94). Findings were consistent across study design and comparison condition. Two RCTs targeting overweight and obese pregnant women did show a significant reduction in maternal weight gain compared to a control group.				⊕⊕◯◯ LOW	CRITICAL
Du 2018 *(16)* Low 12 randomized trials		not serious	not serious	not serious	not serious	none	Physical activity interventions were associated with reduced **gestational weight gain** in pregnant women who were overweight or obese (MD = -1.14 kg [95% CI -1.67 to -0.62], 12 RCTS, n=1,172, I^2=10%).				⊕⊕⊕⊕ HIGH	CRITICAL
Association between prenatal exercise-only interventions and **postpartum weight retention**												

Quality assessment							№ of participants		Effect		Certainty	Importance
№ of studies* Review (AMSTAR 2 rating)	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	prenatal exercise	no exercise	Relative (95% CI)	Absolute (95% CI)		
3 [d]	randomized trials	serious [b]	not serious	not serious	not serious	none	213	207	-	MD **0.92 lower** (1.84 lower to 0)	⊕⊕⊕◯ MODERATE	CRITICAL
							Narrative summary: **Additional data from studies (n=1) included in the pooled estimate** The study by Seneviratne (2015) reported that in the intervention group, compliance with the exercise protocol (i.e the percentage of prescribed exercised session completed) was associated with maternal postnatal BMI.					

* Unless otherwise stated, all studies are included in the pooled estimate.

Abbreviations: BMI = body mass index; CI = confidence interval; EGWG = excessive gestational weight gain; MD = mean difference; OR: Odds ratio; RCT = randomized clinical trial

[a] Two studies reported data on different subgroups of women. These studies were counted only once.
[b] Serious risk of bias. High risk of performance bias.
[c] Renault 2015 and Renault 2014 reported data from the same RCT and were counted as one study. Data from Renault 2014 were included in the meta-analysis; data from Renault 2015 were reported narratively.
[d] One study reported data on different subgroups of women (postpartum weight retention at 16 weeks and at 12 month). This study was counted only once.
[e] Serious risk of bias. High risk of attrition bias; exposure and control groups pulled from different cohorts; all studies did not control for confounding factors.
[f] Serious inconsistency. Direction and magnitude of effects was highly variable across studies; I^2>50%. However, not downgraded for inconsistency because results were consistent across study designs and comparisons.
[g] Serious imprecision. The 95% CI crossed the line of no effect, and was wide, such that interpretation of the data would be different if the true effect were at one end of the CI or the other.