Behavioural weight management interventions for postnatal women
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<table>
<thead>
<tr>
<th>Selection Criteria</th>
<th>Inclusion Criteria</th>
<th>Exclusion Criteria</th>
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</thead>
<tbody>
<tr>
<td>Study type</td>
<td>Systematic reviews that included a summary of evidence from RCTs and/or quasi-RCTs</td>
<td>Systematic reviews comprised of non-RCT studies (other study designs)</td>
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<tr>
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<td>• Not published in English</td>
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<td>• Animal studies</td>
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<td>• Economic studies</td>
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<td>Population</td>
<td>Adult postnatal women</td>
<td>Surgery</td>
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<td></td>
<td>• Including breastfeeding or formula feeding women or both</td>
<td>• Medications</td>
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<td>• Included those with or without comorbidities (i.e. gestational diabetes)</td>
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<td>• No restriction on BMI</td>
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<td>Intervention</td>
<td>Lifestyle (dietary, physical activity, or behavioural) intervention compared to</td>
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<td>usual care or another intervention to help manage weight after childbirth</td>
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<td>• Any setting</td>
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<td>• Group based or individual intervention</td>
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<td>Main outcome</td>
<td>Weight related data at baseline and follow up</td>
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<td></td>
<td>Postnatal weight loss</td>
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<tr>
<td>Review author &amp; search dates</td>
<td>Study design &amp; inclusion criteria</td>
<td>Participant inclusion criteria</td>
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<tr>
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<tr>
<td><strong>Kuhlmann 2008 (31)</strong></td>
<td>RCTs</td>
<td>Pregnant or PN women</td>
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<td>No further details reported</td>
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<tr>
<td><strong>Amorim 2013 (36)</strong></td>
<td>RCTs and quasi-randomised RCTs</td>
<td>Women up to 24 months PN</td>
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<td>With obesity or overweight or excessive weight gain during pregnancy or both</td>
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<td>Aged ≥18 years and delivered a singleton healthy term infant</td>
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<td>No restrictions on BF status</td>
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<tr>
<td><strong>Choi 2013 (33)</strong></td>
<td>RCTs</td>
<td>Pregnant or PN women with obesity or overweight</td>
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</tbody>
</table>
**Study design & inclusion criteria**

- Elliott-Sale 2014 (32)
  - RCTs and quasi-randomised RCTs
  - Women up to 12 months PN
  - No restrictions on parity
  - Included women with normal weights, overweight or obesity

- Nascimento 2014 (35)
  - RCTs and pilot RCTs
  - Women up to 18 months PN
  - No restrictions on BMI, BF status, parity or comorbidities

- Lim 2015 (34)
  - RCTs, single-arm interventions, controlled trials and pre-test-post-test studies
  - Women up to 12 months PN
  - No restrictions on BMI, age or parity

- Guo 2016 (39)
  - RCTs
  - PN women previously diagnosed with GDM

**Intervention/ exposure inclusion criteria**

- Elliott-Sale 2014 (32)
  - PA only weight management interventions introduced during or following pregnancy
  - No restrictions on type, frequency, duration, mode, setting or intensity

- Nascimento 2014 (35)
  - Interventions that provided a supervised PA or PA guidance with a minimum 10-week follow-up
  - No restriction on whether there was a dietary component to the intervention

- Lim 2015 (34)
  - Intervention involving modification of diet, PA or diet & PA

- Guo 2016 (39)
  - Interventions with only behavioural changes and without pharmacological therapy

**Comparator inclusion criteria**

- Elliott-Sale 2014 (32)
  - Usual care or another type of intervention

- Nascimento 2014 (35)
  - No intervention, minimal intervention or usual care

- Lim 2015 (34)
  - None reported

- Guo 2016 (39)
  - None reported

**AMSTAR score**

- Elliott-Sale 2014 (32)
  - Medium

- Nascimento 2014 (35)
  - Medium

- Lim 2015 (34)
  - Medium

- Guo 2016 (39)
  - Medium

**Studies included in review**

- Elliott-Sale 2014 (32)
  - 5 studies (all RCTs and quasi-RCTs)
  - 2 PN studies
  - 3 Pregnancy studies

- Nascimento 2014 (35)
  - 11 studies (all RCTs and PN studies)

- Lim 2015 (34)
  - 46 studies: 33 RCTs
  - 6 Single-arm interventions
  - 7 non-RCTs
  - All PN studies

- Guo 2016 (39)
  - 12 studies (all RCTs and PN studies)

**Meta-analysis of PN weight data**

- Elliott-Sale 2014 (32)
  - Yes
  - 2 RCTs
  - WMD= -1.7kg (95% CI -3.6, 0.1)
  - No subgroup analyses conducted

- Nascimento 2014 (35)
  - Yes
  - 11 RCTs
  - MD= -2.6kg (95% CI -3.7, -1.5)
  - Duration, study quality, supervision, PA goals, type of diet intervention subgroup analyses conducted

- Lim 2015 (34)
  - Yes
  - 17 RCTs
  - MD= -2.6kg (95% CI -3.5, -1.6)
  - Note: A sensitivity analysis led to 4 RCTs with PA or Diet interventions as comparator being excluded

**Conclusions and comments**

- Elliott-Sale 2014 (32)
  - PA does not appear effective for PN weight loss
  - Limited evidence to suggest that PA can be used to limit gestational weight gain

- Nascimento 2014 (35)
  - Lifestyle interventions appear effective for PN weight loss
  - Combined Diet & PA and objective targets are the most effective intervention strategies

- Lim 2015 (34)
  - Diet, PA or Diet & PA interventions appear effective for PN weight loss
  - Self-monitoring significantly more effective than no self-monitoring
  - Diet & PA significantly more effective than PA alone

- Guo 2016 (39)
  - Lifestyle interventions appear effective in the short-term for weight loss in women with a history of GDM
<table>
<thead>
<tr>
<th>Review author &amp; search dates</th>
<th>Study design &amp; inclusion criteria</th>
<th>Participant inclusion criteria</th>
<th>Intervention/ exposure inclusion criteria</th>
<th>Comparator inclusion criteria</th>
<th>AMSTAR score</th>
<th>Studies included in review</th>
<th>Meta-analysis of PN weight data</th>
<th>Conclusions and comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lau 2017 (38)</td>
<td>RCTs</td>
<td>Women with obesity and overweight and in the perinatal period (pregnancy to 12 months PN)</td>
<td>Electronic-based lifestyle intervention comprising of at least one component of diet, PA and weight management</td>
<td>Minimal intervention or usual care</td>
<td>High</td>
<td>14 studies (all RCTs)</td>
<td>Yes</td>
<td>E-based lifestyle interventions appear effective for PN women with obesity or overweight to lose weight at 1-2 months, but not at 6 or 12 months PN</td>
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<td>Inception-2016</td>
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<td>The RCTs could include antenatal or PN interventions</td>
<td>Delivered through at least one of the following: website, internet, apps, text message, email, computer or video player</td>
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<td>5 RCTs</td>
<td>Results only reported by sub-groups:</td>
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<td></td>
<td>5 PN studies</td>
<td>1-2 months PN MD= -3.6kg (95% CI -6.6, -0.6)</td>
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<td>7 Pregnancy studies</td>
<td>6 months PN MD= -0.9kg (95% CI -3.8, -1.3)</td>
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<td>2 from pregnancy to PN studies</td>
<td>12 months PN MD= -3.3kg (95% CI -8.4, 1.8)</td>
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<tr>
<td>Sherifali 2017 (37)</td>
<td>RCTs, non-RCTs (CCTs), pre-post studies, historically controlled and pilot studies</td>
<td>Pregnant or PN women ≥18 years</td>
<td>eHealth weight management interventions targeting either GWG or PN weight loss</td>
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<td>Medium</td>
<td>10 studies:</td>
<td>Yes</td>
<td>Weight management in PN period can be significantly enhanced by use of e-health technologies</td>
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<td>1990-2016</td>
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<td>Must have a behavioural component (PA or diet) in the technology</td>
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<td>7 RCTs</td>
<td>4 RCTs</td>
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<td>Minimum duration of 3 months &amp; no restriction on setting</td>
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<td>1 Pilot RCT</td>
<td>MD= -2.6kg (95% CI -3.8, -1.3)</td>
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<td>In-person interventions, other health technology interventions or no intervention (including UC)</td>
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<td>2 CCTs</td>
<td>Pregnancy/PN, energy intake, glycaemic parameters subgroup analyses conducted</td>
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<td>4 PN studies</td>
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<td>6 Pregnancy studies</td>
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Abbreviations: PA= physical activity, PN= postnatal, BMI= Body Mass Index, UC= usual care, BF= breast feeding, WMD= weighted mean difference, MD= mean difference, GDM= gestational diabetes mellitus, RCT= randomised controlled trial, CCT= clinical controlled trial.