HHS Public Access

Author manuscript

Evid Based Nurs. Author manuscript; available in PMC 2019 March 12.

Published in final edited form as:

Evid Based Nurs. 2018 April ; 21(2): 42. doi:10.1136/eb-2017-102804.

Internet-based programmes on weight loss appear to be effective for low-income postpartum women

Linda Anne Gilmore and **Leanne M Redman**

Division of Clinical Sciences, Pennington Biomedical Research Center, Baton Rouge, Louisiana, USA

Context

Postpartum weight retention (PPWR) is prevalent: 20% of women retain at least 11 pounds, 6–18 months postpartum.[1] Retaining weight after pregnancy leads to health risks and complications for future pregnancies. The Women, Infants and Children (WIC) programme provides service for approximately 15% of all pregnancies in USA annually.[2] WIC is therefore well-positioned to reach women at risk for PPWR. Intensive in-person lifestyle interventions are burdensome on staff and clients. eHealth/mHealth platforms that allow for remote delivery of intensive lifestyle interventions with near real-time collection of patient metrics and data-driven feedback could be advantageous for difficult to reach low socioeconomic populations.

Methods

This 12-month, cluster randomised, assessor-blind, clinical trial enrolled 371 adult postpartum women across 12 WIC clinics.[3] The clinics were randomised to provide standard care or standard care plus a primarily internet-based weight loss programme including weekly lessons, web diary, instructional videos, computerised feedback, text messages and monthly face-to-face meetings. The primary outcome was weight change over 12 months. Secondary outcomes included the proportion of participants returning to preconception weight and changes in physical activity and diet. Follow-up assessments were measured at 6 and 12 months.

Findings

Women were approximately 5 months postpartum at enrolment with an average PPWR of 7.8 kg. Participants accessed the website six times per month and attended 37% of the in-

Correspondence to: Dr Leanne M Redman, Division of Clinical Sciences, Pennington Biomedical Research Center, Baton Rouge, LA 70808, USA; leanne.redman@pbrc.edu.

Competing interests LMR is an inventor of mathematical models that estimate energy intake and weight change in response to interventions that alter energy balance. LMR has previously collaborated with Dr Suzanne Phelan who is the primary author of the paper being reviewed.

Provenance and peer review Commissioned; internally peer reviewed.

Commentary on: Phelan S, Hagobian T, Brannen A, *et al*. Effect of an internet-based program on weight loss for low-income postpartum women: a randomized clinical trial. *JAMA* 2017;317:2381–91.

person meetings. Greater weight loss was observed in the intervention group at 6 months (−4.9% vs −2%; p<0.003) which was maintained at 12 months (−5% vs −1.9%; p<0.002). A greater proportion in the intervention returned to their pre-pregnancy weight (32.8% vs 18.6%; p<0.001). Web access and session attendance were positively correlated with 12-month weight loss. Calorie intake declined over time and was only significant between groups at 6 months (−123 vs −299 kcal/day; p=0.03). There was no difference in the change in physical activity between the groups.

Commentary

This work instils optimism for eHealth/mHealth interventions. Due to the packaged nature of the intervention, we are unable to determine the effectiveness of individual components. Energy intake and energy expenditure are the primary drivers of weight balance. We hypothesise that changes in these constructs explain the impact of the intervention. Energy intake is the primary driver of weight loss.[4] Physical activity aids in weight maintenance, but on its own does not lead to weight loss.[5] Using a mathematical model for estimating energy intake during weight loss,[6] the energy intake deficit required to achieve the observed postpartum weight loss was approximately −145 kcal/day in the intervention group compared with an estimated increase of 45 kcal/day in the standard care group. To return to pre-pregnancy weight by 12 months postpartum, a daily caloric deficit of approximately 465 calories for a year would be required in the intervention group and 435 calories per day for a year in the standard of care group. Returning to pre-pregnancy weight may not be a realistic goal for all mothers, especially within this time period. When recommending weight loss postpartum, clinicians should consider the body mass index of the patient in relation to a healthy weight, the weight gained during pregnancy, and the estimated time before the next pregnancy. Increased access to calculators that estimate required caloric deficits for achieving practical weight loss goals will enhance personalisation of postpartum weight management for women.

References

1. Phillips J, King R, Skouteris H. A conceptual model of psychological predictors of postpartum weight retention. J Reprod Infant Psychol 2012;30:278–88.
2. Thorn B, Tadler C, Huret N, et al. WIC participant and program characteristics 2014. VA, Alexandria: U.S. Department of Agriculture, Food and Nutrition Service, 2015 AG-3198-C-11–0010.
3. Phelan S, Hagobian T, Brannen A, et al. Effect of an internet-based program on weight loss for low-income postpartum women: a randomized clinical trial. JAMA 2017;317:2381–91. [PubMed: 28632867]
4. Thomas DM, Martin CK, Redman LM, et al. Effect of dietary adherence on the body weight plateau: a mathematical model incorporating intermittent compliance with energy intake prescription. Am J Clin Nutr 2014;100:787–95. [PubMed: 25080458]
5. Thomas DM, Bouchard C, Church T, et al. Why do individuals not lose more weight from an exercise intervention at a defined dose? An energy balance analysis. Obes Rev 2012;13:835–47. [PubMed: 22681398]
6. Thomas DM, Schoeller DA, Redman LA, et al. A computational model to determine energy intake during weight loss. Am J Clin Nutr 2010;92:1326–31. [PubMed: 20962159]

Implications for practice and research

- Clinicians should focus on recommendations to reduce energy intake with improved diet quality when weight loss is the goal. Advocating physical activity alone for weight loss is unsuccessful and often results in discouragement.
- There is a valuable role for e-health interventions in populations difficult to reach.
- Similar studies should be carried out in other low-income groups with different race and ethnicity distributions.