

Looking deeper into POWeR+

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We welcomed Brindal's comment [1] on our paper [2]. We should have mentioned that we are undertaking a process analyses of POWeR+, exploring relationships between psychological factors, website usage, nurse support and weight-loss.

Brindal questioned whether participants received a sufficient 'dose' (website usage) of POWeR+. POWeR+ was designed to create habitual behaviour so that long-term use would be unnecessary, therefore, determining the optimal dose is difficult. The mean of 10 weekly goal reviews (with lockouts between weeks) represents at least 11 weeks' engagement. The weight-loss achieved with this dose was similar to top-performing interventions in primary care, including commercial face-to-face products [3]. More nurse support might increase usage, leading potentially to larger outcomes, although of course this would likely make the intervention less cost-effective and less feasible for primary care nurses to support.

Another point regarded whether the effects were maintained once nurse support ended at 6 months. Brindal cites our completers only data, but the imputed data is more robust: there is a small drop in those meeting 5% weight-loss between 6 and 12 months within the POWeR+ face-to-face support (36.8% to 29.2%), whilst the remote support group barely changed (33.7% to 32.4%). This represents good weight maintenance, however, understanding weight maintenance over a longer period would be beneficial. Brindal compares POWeR+'s weight maintenance with that of Appel et al's intervention [4], but human support continued throughout their whole study.

Our active control group lost almost 3kg, but felt less enabled in managing their weight. They also incurred higher NHS costs, hence POWeR+ was very cost-effective using an NHS perspective. Since the control group also accessed other weight-loss resources (e.g. slimming groups), if societal costs are included POWeR+ is almost certainly cost-effective.

Hopefully, this letter clarifies our findings. We are now working to disseminate POWeR+.

References

- [1] Brindal E. The POWeR of looking into the black box. *The Lancet Diabetes & Endocrinology*. 2016 Jul 26.
- [2] Little P, Stuart B, Hobbs FR, Kelly J, Smith ER, Bradbury KJ, Hughes S, Smith PW, Moore MV, Lean ME, Margetts BM. An internet-based intervention with brief nurse support to manage obesity in primary care (POWeR+): a pragmatic, parallel-group, randomised controlled trial. *The Lancet Diabetes & Endocrinology*. 2016 Jul 26.
- [3] Hartmann-Boyce J, Johns DJ, Jebb SA, Summerbell C, Aveyard P. Behavioural weight management programmes for adults assessed by trials conducted in everyday contexts: systematic review and meta-analysis. *obesity reviews*. 2014 Nov 1;15(11):920-32.
- [4] Appel LJ, Clark JM, Yeh HC, Wang NY, Coughlin JW, Daumit G, Miller III ER, Dalcin A, Jerome GJ, Geller S, Noronha G. Comparative effectiveness of weight-loss interventions in clinical practice. *New England Journal of Medicine*. 2011 Nov 24;365(21):1959-68.