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ARTICLE

Reply to: Interpreting internet based trials - a case of using Stop Advisor for quitting smoking

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We welcome the interest in our recent evaluation of the internet-based intervention for smoking cessation, StopAdvisor, and thank the authors for their thoughtful critique. We would like to respond to the five issues that they highlighted. The first is that our study relied upon an occupationally-based measure of socio-economic status, which was self-reported via an online questionnaire. The authors argue online assessment is prone to error because people misreport personal information assessed over the internet. However, studies have shown that misreporting does not necessarily occur during online assessment[1,2] and, while socioeconomic status is difficult to assess without an interviewer being present, the measure used in our trial was explicitly derived and validated as a self-report version of the National Statistics Socioeconomic Classification.[3] Moreover, we were encouraged that the assessment in our trial showed internal validity by accurately reflecting characteristics associated with socioeconomic status (described on p.1005 of our paper). Finally, we note that while there is speculation about possible error resulting from our measure of SES, the authors offer no explanation – and we can think of none – as to how error relating to misreporting on SES could have accounted for the pattern of results in the trial.

The second issue is that our measure of time spent on webpages did not distinguish when users may have been performing other activities. The limitations of assessing exposure to content is common in the evaluation of digital interventions.[4] As a proxy of general engagement with the websites, there was convergent validity in that the results from the time measurement were similar to those indicated by log-ins and page views. However, we agree with the authors that the finding that overall usage appeared greater by people with high compared with low socioeconomic status suggests that these relatively crude indices of usage did not mediate the effectiveness of StopAdvisor for smokers of low socioeconomic status. We are keen to investigate more nuanced measures of engagement in future research.

The third issue relates to what is a described as a 'marginal' result and the clinical significance of the effect size. Within classical inferential statistics, the result cannot be marginal – it is either significant or not, and in this case it was significant. With regards to the

effect size, we strongly disagree with the authors about its clinical significance. As described in our discussion, modest – and even small – effect sizes can be of great clinical significance because of the huge health gains associated with stopping smoking: effects as little as 1% on rates of 6-month sustained abstinence would result in at least 3 additional years of life for every 100 40-year-old smokers treated.[5] We also discussed how the effect size for low SES smokers was similar to other modes of delivery for behavioural support.

With regards to the fourth issue of possible duplicate users, an email address could only be used once on our website and was secured to the treatment allocation. In addition, our eligibility criteria included the provision of valid telephone numbers and postal addresses for the follow-up. We screened these to ensure they were unique before including participants in the trial, which resulted in the exclusion of 19 people (see Figure 1 in the paper).

Finally, the authors raised issues with our reporting of the analysis of the salvia samples. In fact, we did report the number of participants who did not provide verified saliva samples as a footnote to Table 2 (it was 5% of all participants (207/4613) for the primary outcome and 9% (392/4613) for the secondary outcome and similar between intervention groups in each SES subsample). While we did not report descriptive statistics on the analysis of saliva samples, we did describe in detail the decision procedure for judging whether a saliva sample provided verification of the reported abstinence. It is not clear to us how our analysis of the saliva samples could have accounted for the pattern of results obtained in the trial.

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