

# Review of: "Switching Away From Smoking and Reduction in Cigarette Consumption among US Adult Purchasers of the JUUL System across 24 Months Including Diverse Subpopulations Disproportionately Affected by Cigarette Smoking"

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Potential competing interests: No potential competing interests to declare.

The manuscript here describes a continuation of a previously conducted survey, beyond the 12-month follow-up already reported. This survey recruited 18,000 smokers >21 who purchased JUUL starter kit in 2018 AND completed that one-year follow-up, for a continuation of the longitudinal survey of self-reported switching from smoked cigs. Investigators assessed complete switching (>30 days zero cigs), reduction by >50% of baseline cigs/day, or no switching, all via self-report. ALSO categorized were: 1) dual users, 2) smoking only 3) ENDS only (complete switching), or 4) No smoking/No ENDS. Switching increased across the 24-month follow-up, to 58% complete; among those not switching, 45% reduced >50% by end of follow-up. Essentially few diffs in switching as a function of the individual diffs, other than LESS switching in those WITH health problems.

Results showed impressive reductions in smoking consumption after purchase of this JUUL product, and biases due to missing data at intermittent follow-ups appear unlikely to substantially alter these findings. The paper is also very clear and well-written, and the survey procedures appropriate, thus likely to make a significant contribution to research on possible efficacy of ENDS for aiding switching behavior.

Yet, some additional information would appear to need more explanation. Primarily, greater description of the smokers purchasing the "JUUL starter kit" in 2018 seems important, to understand why the declines in smoking were so substantial. The very low proportion of those reporting having smoked at all in past 30 days by 2-year follow-up, 41%, suggests this group started JUUL explicitly to switch from smoking. This notion is further supported by the observation that nearly half of those still smoking had cut down by >50% by that point, quite substantial declines for both measures of smoking intake. Aside from the limitations in such surveys outlined near the end of the Discussion, such declines raise some concern about reliability of the self-reported smoking behavior, difficult to verify under these survey procedures. Also uncertain is whether compensatory increases in intake per cigarette occurred, lessening the decline in total smoke exposure, although also difficult to verify here. Nevertheless, it would have been informative to determine their reason(s) for initiating JUUL use at the baseline assessment in 2018, as Khouja et al. 2020 (Drug Alc Dep) found signif drop in smoking one year after starting ECig use among those stating at the start they were initiating for help to quit smoking.

Other reasons, including to “cut down” were unrelated to quit, or DECREASED odds of being quit one year later.

Second, but less important, the claim in the Discussion “cigarette reduction is a meaningful step towards complete abstinence from cigarettes” seems controversial, as a few trials (Hughes 2010; Lindson 2016) have demonstrated worse post-quit outcomes among quitters who first gradually cut down compared to those who abruptly quit. Another concern, as noted above, is that most smokers compensate for reductions in daily smoking to obtain greater smoke intake for each of these fewer cigarette “opportunities”, possibly enhancing the reinforcing value of each cigarette. That is in addition to the great difficulty many smokers have in maintaining a substantially reduced daily rate of smoking, as well as uncertain health benefits of reduction vs. complete cessation.