Comparing the effectiveness of virtual and in-person group cessation courses

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Virtual group cessation interventions are as effective at supporting tobacco users in quitting as in-person group interventions for those who choose a virtual format. These participants are **also just as satisfied** with their experiences.

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Introduction

- The Bureau of Tobacco Free Florida within the Florida Department of Health administers statewide tobacco cessation in-person group courses through the Area Health Education Centers (AHECs). These courses are available to all Florida residents and provide free group behavioral counseling and nicotine replacement therapy. In response to the COVID-19 pandemic, the AHECs adapted their existing in-person group cessation course to a virtual group format in early 2020.
- Several key studies[1] showed a gap in the literature assessing the effectiveness of virtual group cessation counseling.
- We used propensity score matching to assess the effectiveness of virtual group cessation interventions (2020) compared to in-person group interventions (2019).

[1]Gentry et al. 2019; Lin et al., 2019; Byaruhanga et al., 2020; Tzelepis et al., 2019; Kim et al., 2016; Richter et al., 2015; Kim et al., 2018; Carlson et al., 2012

Methods

Participants

This study included 796 adults who participated in a statewide tobacco cessation program. The sample included individuals who attended a tobacco cessation course and completed a 7-month follow-up survey.

	Virtual	In-person
Dates	Jun 1 – Sep 15, 2020	Jun 1 – Sep 15, 2019
Number of participants	431	365
Outcome survey response rates	54%	39%
Number of participants in outcome analysis	401	178

Program description

Courses were provided by trained facilitators, primarily Tobacco Treatment Specialists (TTS), through AHECs that covered all counties in the state. AHECs primarily conducted virtual courses using the video conferencing software Zoom, but other platforms were also used.

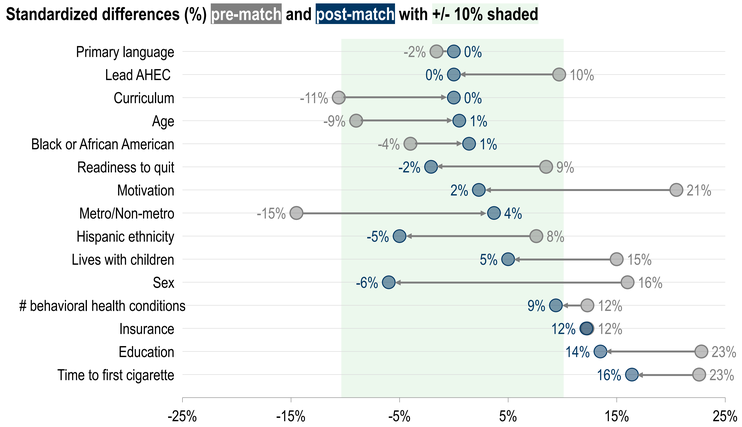
Procedure

A registration form captured the demographic and tobacco use characteristics. Quit outcomes and satisfaction variables were captured from follow-up surveys. Propensity score matching was used to control for differences in the two cohorts before comparing outcomes. A multivariable logistic regression model including demographic and tobacco use characteristics estimated a propensity score for being in the virtual group vs. in-person group. Then, we matched each virtual participant to an in-person participant using the estimated propensity score. There were more virtual than in-person participants, so matching with replacement was used. Matching was done using PSMATCH in SAS. Differences in 30-day point prevalence and program satisfaction were assessed using chi-square tests. All analyses were conducted in SAS V9.4.

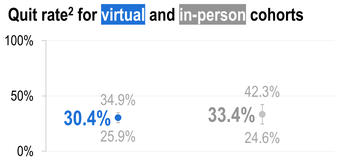
Results

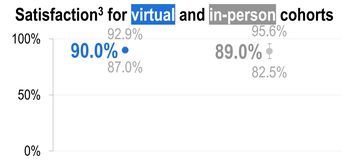
The propensity score model excluded 18 due to missing data (9 from each cohort). The matching process excluded another 21 from the virtual cohort where the propensity score was out of range, or a suitable match could not be found. The in-person cases are from N=178 unique in-person individuals, with some in-person participants matching more than once.

The propensity score analysis reduced differences between the cohorts



No significant differences found in 30-day point prevalence abstinence rates or very/mostly satisfied participants between cohorts





[2]Using propensity score matching, the 30-day point prevalence abstinence rate for the virtual cohort was 30.4% with a 95% confidence interval [CI]: 25.9%, 34.9% and the in-person cohort was 33.4% with a CI: 24.6%, 42.3% (X^2(df=1, N=802)=.36, p=0.55).
[3]Using propensity score matching, The proportion of participants who felt "very" or "mostly" satisfied with the program was 90.0% with a CI: 87.0%, 92.9% for the virtual cohort and 89.0% with a CI: 82.5%, 95.6%; for the in-person cohort (X2(df=1, N=802)=.07, p=0.79).

Conclusions

- Given the evidence that suggests virtual group cessation courses are equally effective and well received by tobacco users who chose the format, we recommend that organizations consider including virtual cessation groups as part of their array of cessation services.
- However, we also recommend that virtual courses are offered in conjunction with other cessation services because they may not be accessible for some groups due to discomfort with technology or lack of technology or internet access.
- Future research could explore sociodemographic differences in individuals who, when presented with both options, choose virtual over in-person cessation services to determine any impact on health equity. Research could also explore the barriers and facilitators to virtual cessation service utilization to improve virtual cessation service accessibility.