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Authors

Fennell, Bethany

Jones, Sarah

Sutton, Steven

et al.

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In-clinic Versus Online Recruitment of Women With a History of Cervical Intraepithelial Neoplasia or Cervical Cancer to a Smoking Cessation Trial: A Post hoc Comparison of Participant Characteristics, Study Retention, and Cessation Outcomes

Bethany Shorey Fennell PhD^{1, id}, Sarah R. Jones BA², Steven K. Sutton PhD^{3,4,5}, Charles E. Hoogland PhD², Cherell Cottrell-Daniels PhD², David W. Wetter PhD⁶, Ya-Chen Tina Shih PhD⁷, Vani N. Simmons PhD^{2,4,5}, Yesenia P. Stephens MS⁸, Damon J. Vidrine DrPH^{2,4}, Jennifer I. Vidrine PhD^{2,4,5}

¹Department of Family and Community Medicine and Markey Cancer Center, University of Kentucky, Lexington, KY, USA

²Department of Health Outcomes and Behavior, Moffitt Cancer Center, Tampa, FL, USA

³Department of Biostatistics and Bioinformatics, Moffitt Cancer Center, Tampa, FL, USA

⁴Department of Oncologic Sciences, Morsani College of Medicine, University of South Florida, Tampa, FL, USA

⁵Department of Psychology, University of South Florida, Tampa, FL, USA

⁶Department of Population Health Sciences and Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, USA

⁷Program in Cancer Health Economics Research, Jonsson Comprehensive Cancer Center, and Department of Radiation Oncology, David Geffen School of Medicine, University of California Los Angeles, Los Angeles, CA, USA

⁸Philadelphia College of Osteopathic Medicine South Georgia, Moultrie, GA, USA

Corresponding Author: Jennifer I. Vidrine, PhD, Department of Health Outcomes and Behavior, Moffitt Cancer Center, 12902 Magnolia Drive, Tampa, FL 33612, USA. Telephone: 813-745-8764; Fax: 813-449-8934; E-mail: jennifer.vidrine@moffitt.org

Abstract

Introduction: Recruiting special populations to smoking cessation trials is challenging and approaches beyond in-clinic recruitment may be beneficial. This secondary analysis of data from a smoking cessation RCT for individuals with a history of cervical cancer or cervical intraepithelial neoplasia (CIN) explored differences associated with in-clinic vs. online recruitment.

Aims and Methods: Participants were recruited from clinics within a university-based NCI-designated cancer center ($n = 87$) and online nationally via Facebook ($n = 115$). Baseline measures included sociodemographics, smoking history, and cancer or CIN history. Study retention and smoking abstinence were assessed 12 months post-baseline. Group differences in baseline characteristics were evaluated. Retention and abstinence were evaluated while controlling for group differences and predictors.

Results: Participants recruited online (vs. in-clinic) had higher educational attainment ($p = .01$) and health literacy ($p = .003$). They were more likely to have CIN versus cancer, to be further from the time of diagnosis, and to have completed active treatment (p values $< .001$). While controlling for these group differences and independent predictors, retention was higher among participants recruited online (log-likelihood $\chi^2(1) = 11.41$, $p < .001$). There were no recruitment differences in self-reported ($p = .90$) or biochemically confirmed smoking abstinence ($p = .18$).

Conclusions: Compared to individuals recruited in-person, individuals recruited online were more educated, had higher health literacy, and presented with a different clinical profile (ie, more likely to have CIN vs. cancer and to have completed active treatment). There were few differences in participant characteristics between recruitment approaches, and no differences on any smoking-related variables. Online recruitment has the potential to improve enrollment of cancer survivors in smoking cessation trials.

Implications: People with a history of CIN or cervical cancer recruited to a smoking cessation RCT online (vs. in-clinic) were more likely to have a diagnosis of CIN versus cancer and were more educated and health literate. Participants recruited online were more likely to be retained in the study and there were no differences in smoking abstinence rates at 12 months. Incorporating online recruitment increased the reach of tobacco treatment efforts to a larger and more diverse sample. This could reduce the burden of tobacco-related disease, improve CIN and cancer treatment outcomes, and reduce secondary malignancies and morbidity among this underserved group.

Introduction

Cigarette smoking is a primary risk factor for cervical cancer and cervical intraepithelial neoplasia (CIN)^{1,2} the direct

precursor to cervical cancer.³ Annually in the United States, CIN affects over 1 million people and there are an estimated 14 100 new cervical cancer cases and 4280 deaths.^{4,5}

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The NCI defines survivorship as beginning at the moment of receiving a cancer diagnosis.⁶ Rates of smoking are elevated among cervical cancer survivors compared to other survivors^{2,7} and among people diagnosed with CIN versus the general population.^{8,9} Continuing to smoke after a cervical cancer or CIN diagnosis is associated with increased risk of cancer occurrence or recurrence, lower quality of life, and worse treatment outcomes,^{4,10–14} yet patients often have a limited understanding of the link between smoking and their diagnosis.¹⁵ It is critically important to reach this vulnerable population with smoking cessation treatments.^{16,17} A major hindrance to this research is the difficulty of recruiting special populations, including cancer survivors, to smoking cessation randomized clinical trials.¹⁸

We present a secondary post hoc analysis using data from a 2-arm smoking cessation RCT which recruited people with a history of cervical cancer or CIN.¹⁹ Initial recruitment was conducted in-clinic within an NCI-designated cancer center and a university-affiliated women's health clinic. Recruitment of participants was slower and more difficult than anticipated. In response to these challenges, and with funding agency and IRB approval, we expanded recruitment to include online national advertising campaigns via Facebook.^{20,21} This two-pronged approach was successful, and more than half of the participants were ultimately recruited online. This secondary analysis compared demographic, clinical, and smoking-related characteristics of participants recruited in-clinic versus online and explored whether study retention and smoking cessation at the end of treatment differed by recruitment approach.

Materials and Methods

Study Procedures

Individuals with a history of CIN or cervical cancer who reported current smoking were recruited in-clinic (January 2017 to January 2020) and online (July 2018 to January 2020) to a two-arm smoking cessation RCT evaluating motivation and problem-solving vs. standard treatment.¹⁹ Details regarding study design and intervention outcomes can be found elsewhere.^{19,22} All RCT interventions and assessments were delivered via telephone. Although the parent study followed participants for 18 months, this investigation focuses on study retention and smoking cessation (7-day self-reported and biochemically confirmed) outcomes at the end of the treatment period (12 months), when the largest smoking abstinence effects were observed.¹⁹ All procedures were approved by the Institutional Review Boards at the University of Texas MD Anderson Cancer Center, the University of Oklahoma Health Sciences Center, and Moffitt Cancer Center (Advarra). The data underlying this article will be shared on reasonable request to the corresponding author.

Recruitment Strategies

Between January 2017 and January 2020, individuals with cervical cancer were recruited in-clinic from a gynecologic oncology clinic or were referred from the Tobacco Treatment Research Program within a university-based NCI-designated cancer center. Recruitment progressed substantially slower than anticipated and the trial was opened to patients with a history of CIN through a university-based women's health clinic (December 2017). In July 2018, recruitment was expanded to states throughout the United States with a high prevalence of smoking and cervical cancer or CIN using

online advertisements delivered via Facebook. [Supplementary Materials](#) include detailed information about in-clinic and online recruitment strategies, the online recruitment advertisements developed for the study ([Figure S1](#)), and a map of participant locations for online recruitment ([Figure S2](#)).

Measures

Baseline assessments included smoking-related characteristics, cancer- or CIN-related variables, and sociodemographic characteristics. [Table 1](#) presents participant characteristics assessed at baseline. Full measurement details can be found elsewhere.^{19,22}

Smoking Cessation Outcomes

Smoking cessation outcomes were self-reported and saliva cotinine biochemically confirmed 7-day point-prevalence abstinence assessed 12 months post-baseline. We used an intent-to-treat approach in which smoking status was classified as smoking for those who did not complete the 12-month assessment.

Analyses and Modeling Approach

Participant ($N = 202$) demographics, smoking history, and cancer- or CIN-related variables are presented in [Table 1](#) with means (standard deviations) and proportions. Comparisons of these characteristics by recruitment approach were evaluated using independent samples *t*-tests for continuous variables and chi-square tests for categorical variables.

Retention, self-reported 7-day point-prevalence abstinence, and biochemically confirmed abstinence at 12 months were evaluated as proportions, excluding eight participants who were deceased during the study period ($N = 194$). Stepwise logistic regressions evaluated associations of recruitment approach with these outcomes using a three-step modeling approach. *First*, univariate analyses identified variables that either significantly predicted the outcome variable ($p < .10$) or differed by recruitment approach ($p < .05$) as model covariates. *Second*, variables that met these criteria and smoking cessation RCT condition (MAPS vs. standard treatment) were entered as a set to estimate a covariates-only model (model 1). Prior to model inclusion, measures whose distributions were not consistent with the assumptions of logistic regression were dichotomized (eg, median split for educational attainment) to preserve the integrity of the modeling and maintain proper interpretation of the results. *Third*, recruitment approach was added to the model (model 2). [Table 2](#) displays modeling outcomes. Model fit differences were evaluated using the log-likelihood ratio chi-square test. A significant difference represents an improvement in model fit, indicating an association between the recruitment approach and the outcome (model 2) beyond the contribution of the covariates-only model (model 1). Analyses were conducted in SPSS 28.0.0 (IBM SPSS) and R 4.2.2 via RStudio 2022.12.0.

Results

Recruitment and Retention Outcomes

In clinic, nearly 8000 medical records were reviewed to identify patients meeting diagnostic criteria. Of these, 436 patients met initial study inclusion criteria and 122/436 (28.0%) were successfully contacted by study staff for eligibility screening; 106/436 (24.3%) were deemed eligible upon completion of the full phone-administered screening

Table 1. Participant Characteristics by Recruitment Approach

Variables	Total (<i>n</i> = 202)	In-Clinic (<i>n</i> = 87)	Online (<i>n</i> = 115)	Chi-square test, <i>p</i> -value or <i>t</i> -test, <i>p</i> -value
Intervention condition				
MAPS	102 (50.5%)	45 (51.7%)	57 (49.6%)	$\chi^2(1, N = 202) = 0.09, p = .76$
Standard treatment	100 (49.5%)	42 (48.3%)	58 (50.4%)	
Age, years; M(SD)	47.60 (10.72)	47.13 (11.27)	47.97 (10.32)	$t(200) = -0.55, p = .58$
Race and Ethnicity, <i>n</i> (%)				
Non-Hispanic White	152 (75.2%)	62 (71.3%)	90 (78.3%)	$\chi^2(4, N = 202) = 2.26, p = .69$
Non-Hispanic Black/ African American	11 (5.4%)	5 (5.8%)	6 (5.2%)	
Non-Hispanic Native American	14 (6.9%)	8 (9.2%)	6 (5.2%)	
Non-Hispanic Mixed Race/ Other	8 (4.0%)	3 (3.5%)	5 (4.4%)	
Hispanic/ Latino	17 (8.4%)	9 (10.3%)	8 (7.0%)	
Annual household income, <i>n</i> (%)				
Under \$20 000	82 (42.9%)	38 (48.1%)	44 (39.3%)	$\chi^2(2, N = 191) = 1.61, p = .45$
\$20 000–\$49 999	72 (37.7%)	28 (35.4%)	44 (39.3%)	
\$50 000 and above	37 (19.4%)	13 (16.5%)	24 (21.4%)	
Financial strain, M(SD)	11.51 (7.51)	10.87 (7.01)	11.97 (7.85)	$t(194) = -1.02, p = .31$
Employment status, <i>n</i> (%)				
Employed	68 (33.7%)	35 (40.2%)	33 (28.7%)	$\chi^2(3, N = 202) = 4.55, p = .21$
Unemployed	46 (22.8%)	16 (18.4%)	30 (26.1%)	
Retired/unable to work/disabled	71 (35.2%)	31 (35.6%)	40 (34.8%)	
Homemaker/student/other	17 (8.4%)	5 (5.8%)	12 (10.4%)	
Educational attainment, <i>n</i> (%)				
Less than high school	20 (9.9%)	14 (16.1%)	6 (5.2%)	$\chi^2(3, N = 202) = 11.23, p = .01$
High school diploma/ GED	56 (27.7%)	29 (33.3%)	27 (23.5%)	
Some college/ Vocational degree	100 (49.5%)	34 (39.1%)	66 (57.4%)	
Four-year degree or more	26 (12.9%)	10 (11.5%)	16 (13.9%)	
Health literacy, <i>n</i> (%)				
Adequate	166 (82.6%)	63 (73.3%)	103 (89.6%)	$\chi^2(1, N = 201) = 9.10, p = .003$
Inadequate	35 (17.4%)	23 (26.7%)	12 (10.4%)	
Marital status, <i>n</i> (%)				
Single	62 (30.7%)	33 (37.9%)	29 (25.2%)	$\chi^2(2, N = 202) = 5.11, p = .08$
Married/living with partner	101 (50.0%)	42 (48.3%)	59 (51.3%)	
Divorced/separated/widowed	39 (19.3%)	12 (13.8%)	27 (23.5%)	
Staging at diagnosis, <i>n</i> (%)				
Cervical intraepithelial neoplasia (CIN)	85 (42.1%)	15 (17.2%)	70 (60.9%)	$\chi^2(1, N = 202) = 38.68, p < .001$
Cervical cancer	117 (57.9%)	72 (82.8%)	45 (39.1%)	
Years since diagnosis, M(SD)	12.56 (12.79)	6.29 (11.04)	17.31 (11.99)	$t(200) = -6.69, p < .001$
Cancer or CIN treatment status, <i>n</i> (%)				
Pending treatment	28 (13.9%)	23 (26.4%)	5 (4.4%)	$\chi^2(2, N = 202) = 65.62, p < .001$
Current treatment	24 (11.9%)	24 (27.6%)	0 (0.0%)	
Completed treatment	150 (74.3%)	40 (46.0%)	110 (95.7%)	
Lifetime quit attempts, <i>n</i> (%)				
No attempts	8 (4.0%)	4 (4.7%)	4 (3.5%)	$\chi^2(2, N = 201) = 2.35, p = .31$
1 to 4 attempts	99 (49.3%)	37 (43.0%)	62 (53.9%)	
5 to 9 + attempts	94 (46.8%)	45 (52.3%)	49 (42.6%)	
Nicotine dependence (HSI), M(SD)	2.99 (1.54)	2.85 (1.46)	3.10 (1.60)	$t(199) = -1.12, p = .26$
Age smoking initiated, M(SD)	17.08 (6.78)	17.86 (7.30)	16.50 (6.34)	$t(199) = 1.41, p = .16$
Motivation to quit (contemplation ladder), M(SD)	6.82 (2.90)	7.23 (2.99)	6.51 (2.80)	$t(199) = 1.75, p = .08$
Smoking self-efficacy (SSE), M(SD)	2.40 (0.94)	2.47 (0.95)	2.35 (0.93)	$t(196) = 0.85, p = .40$

Values are counts (percentages) for categorical variables and means (standard deviations) for continuous variables. Significant test statistics ($p < .05$) are in *italics*. Abbreviations: MAPS = Motivation and Problem Solving, HSI = Heaviness of Smoking Index, SSE = Smoking Self-efficacy scale.

Table 2. Modeling Recruitment as a Predictor of Study Retention and Smoking Cessation Outcomes

Outcome/ Model	Predictor	Adjusted odds ratio	95% CI
Study retention at 12 months			
Model 1: covariates only	Lifetime quit attempts: 5 or more	0.48	(0.20, 1.16)
	Age smoking initiated	0.95	(0.90, 1.00)
	Education beyond high school diploma	0.91	(0.35, 2.34)
	Adequate health literacy	2.93	(1.02, 8.46)
	Cervical cancer diagnosis	0.50	(0.17, 1.45)
	Years since diagnosis	0.99	(0.94, 1.04)
	Pending/current cancer or CIN treatment	0.18	(0.05, 0.61)
	MAPS intervention	0.59	(0.24, 1.47)
Model 2: recruitment approach	Lifetime quit attempts: 5 or more	0.53	(0.22, 1.32)
	Age smoking initiated	0.95	(0.90, 1.01)
	Education beyond high school diploma	0.82	(0.31, 2.15)
	Adequate health literacy	2.61	(0.87, 7.79)
	Cervical cancer diagnosis	0.84	(0.26, 2.72)
	Years since diagnosis	0.97	(0.93, 1.02)
	Pending/current cancer or CIN treatment	0.29	(0.08, 1.01)
	MAPS intervention	0.53	(0.21, 1.35)
	Recruitment approach (online vs. in-clinic)	6.95	(2.02, 23.98)
Self-reported abstinence at 12 months			
Model 1: covariates only	Higher financial strain	0.91	(0.85, 0.97)
	Higher smoking self-efficacy	2.01	(1.27, 3.19)
	Education beyond high school diploma	1.30	(0.49, 3.44)
	Adequate health literacy	0.43	(0.12, 1.49)
	Cervical cancer diagnosis	1.17	(0.48, 2.86)
	Years since diagnosis	1.01	(0.97, 1.05)
	Pending/current cancer or CIN treatment	0.39	(0.10, 1.51)
	MAPS intervention	2.75	(1.12, 6.75)
Model 2: recruitment approach	Higher financial strain	0.91	(0.85, 0.97)
	Higher smoking self-efficacy	2.01	(1.27, 3.18)
	Education beyond high school diploma	1.28	(0.48, 3.45)
	Adequate health literacy	0.43	(0.12, 1.50)
	Cervical cancer diagnosis	1.19	(0.48, 2.97)
	Years since diagnosis	1.01	(0.97, 1.05)
	Pending/current cancer or CIN treatment	0.40	(0.10, 1.66)
	MAPS Intervention	2.76	(1.12, 6.77)
	Recruitment approach (online vs. in-clinic)	1.07	(0.38, 3.01)
Biochemically confirmed abstinence at 12 months			
Model 1: covariates Only	Married/living with a partner	1.52	(0.37, 6.28)
	Higher financial strain	0.84	(0.74, 0.96)
	Higher smoking self-efficacy	1.69	(0.89, 3.21)
	Education beyond high school diploma	0.28	(0.07, 1.13)
	Adequate health literacy	0.28	(0.04, 1.78)
	Cervical cancer diagnosis	0.99	(0.28, 3.46)
	Years since diagnosis	1.04	(0.99, 1.09)
	Pending/current cancer or CIN treatment	0.21	(0.02, 2.42)
Model 2: recruitment approach	MAPS intervention	2.11	(0.58, 7.67)
	Married/living with a partner	1.56	(0.37, 6.57)
	Higher financial strain	0.82	(0.72, 0.94)
	Higher smoking self-efficacy	1.83	(0.94, 3.54)
	Education beyond high school diploma	0.21	(0.05, 0.95)
	Adequate health literacy	0.22	(0.03, 1.49)
	Cervical cancer diagnosis	1.15	(0.32, 4.08)
	Years since diagnosis	1.04	(0.99, 1.09)

Table 2. Continued

Outcome/ Model	Predictor	Adjusted odds ratio	95% CI
	Pending/current cancer or CIN treatment	0.32	(0.03, 4.09)
	MAPS intervention	2.23	(0.60, 8.27)
	Recruitment approach (online vs. in-clinic)	2.80	(0.58, 13.59)

questionnaire. Ultimately, 87/106 (82.1%) eligible patients recruited in-clinic enrolled in the trial during the 36-month in-clinic recruitment period.

On Facebook, 4,088 individuals completed the online prescreening survey. Of these, 1078 (26.4%) met preliminary inclusion criteria and 273/1078 (25.3%) were successfully contacted by study staff to be screened for eligibility; 144/1078 individuals (13.4%) were deemed eligible to participate upon completion of the full phone-administered screening questionnaire. Ultimately, 115/144 (79.8%) eligible individuals recruited via Facebook enrolled during the 18-month period that participants were recruited online. Thus, the majority of participants were recruited online (56.9%; 115/202) rather than in-clinic (43.1%; 87/202). Given that we recruited more participants online over 18 months than we recruited in-clinic over 36 months, our rate of online recruitment was substantially faster than our in-clinic-only approach.

Of the 202 participants randomized, eight clinic-recruited participants and no Facebook-recruited participants were known to be deceased prior to the final assessment. The full sample was retained in analyses examining baseline measures ($N = 202$) and those deceased prior to the final assessment were removed from analyses examining retention and smoking cessation outcomes at 12 months ($n = 194$); 115 (59.3%) recruited online and 79 (40.7%) recruited in-clinic.

Participant Characteristics and Group Differences

Table 1 presents baseline characteristics by recruitment group. Participants recruited online were more educated: 71.3% reported having some college education or equivalent training (vs. 50.6% in-clinic, $p = .01$). Those recruited online were less likely to report inadequate health literacy (10.4%) compared to those recruited in-clinic (26.7%; $p = .003$). Participants did not significantly differ on any other demographic or smoking-related variables.

Participants recruited online were more likely to report a diagnosis of CIN (60.9% vs. 39.1% cervical cancer) while those recruited in-clinic were more likely to have a diagnosis of cervical cancer (82.8% vs. 17.2% CIN; $p < .001$). Online-recruited participants reported a longer time since diagnosis ($M = 18.26$ years, $SD = 12.87$) than clinic-recruited participants ($M = 5.36$ years, $SD = 10.44$; $p < .001$, Cohen's $d = 1.13$). Nearly all participants recruited online had already completed treatment (95.7% vs. 46.0% in-clinic, $p < .001$).

Modeling Recruitment as a Predictor of Study Retention and Smoking Cessation

Variables which differed by recruitment approach were included in each covariates-only model (model 1): *education, health literacy, diagnosis, years since diagnosis, and cancer or CIN treatment status*. Model 1 also included univariate predictors of the outcome of interest (p values $< .10$, see below) and RCT condition assignment.

Study Retention

Overall study retention at 12 months was 83.5% (162/194), with higher retention for those recruited online (95.7%, 110/115) versus in-clinic (65.8%, 52/79). In univariate models, adequate health literacy, five or more lifetime quit attempts, younger age smoking was initiated, a diagnosis of CIN (vs. cancer), longer time since cancer or CIN diagnosis, and having completed cancer or CIN treatment (vs. pending/active) were associated with increased likelihood of retention. These variables, education, and RCT condition were entered as a set in the covariates-only model (model 1). Adding recruitment approach to the model (model 2) significantly improved model fit (likelihood ratio $\chi^2(1) = 10.34$, $p < .001$).

Smoking Cessation Outcomes

Self-Reported Smoking Abstinence

The 7-day self-reported abstinence rate at 12 months was 17.0% (33/194) with rates of 17.4% (20/115) for online and 16.5% (13/79) for in-clinic participants. In univariate models, lower financial strain, and higher self-efficacy were associated with increased likelihood of self-reported smoking abstinence. These variables, education, health literacy, diagnosis, years since diagnosis, cancer/CIN treatment status, and RCT condition were entered as a set in the covariates-only model (model 1). Adding recruitment approach (model 2) did not significantly improve model fit ($\chi^2(1) = .015$, $p = .90$).

Biochemically Confirmed Smoking Abstinence

The biochemically confirmed abstinence rate at 12 months was 7.7% (15/194) with rates of 8.7% (10/115) for online and 6.3% (5/79) for in-clinic participants. In univariate models, lower financial strain, higher baseline self-efficacy, and being married/partnered were associated with an increased likelihood of biochemically confirmed smoking abstinence. These variables, education, health literacy, diagnosis, years since diagnosis, cancer/CIN treatment status, and RCT condition were entered in the covariates-only model (model 1). Adding recruitment approach (model 2), did not significantly improve model fit ($\chi^2(1) = 1.80$, $p = .18$).

Discussion

This is the first smoking cessation RCT to demonstrate that online recruitment via Facebook was a viable strategy for reaching, recruiting, and retaining people with a history of CIN or cervical cancer. Overall, there were few differences in participant characteristics between recruitment approaches, and no differences in any smoking-related variables. Online recruitment did expand the reach of smoking treatment to people with a history of CIN or cervical cancer who were more educated, more likely to have a diagnosis of CIN, more likely to have adequate health literacy, and who were further out from their time of diagnosis. Additionally, online

recruitment was effective in recruiting individuals with a history of CIN, who may have limited access to tobacco treatment resources and limited awareness of the importance of tobacco treatment.^{15,18}

Study retention was excellent overall (>80% at 12 months) and was particularly strong among participants recruited online (>95%) who may have had limited opportunities to connect with other tobacco treatment options. Nonetheless, no differences emerged in smoking abstinence between participants recruited in-clinic and online at the 12-month follow-up, indicating that tobacco treatment outcomes were equivalent among participants recruited in-clinic and online.

Strengths and Limitations

Although a number of studies have used Facebook to recruit participants to smoking cessation trials^{20,21} or to recruit cancer survivors,^{23,24} to the best of our knowledge, this study is the first to compare in-clinic and online recruitment approaches for a smoking cessation RCT targeting individuals with a history of pre-cancer or cancer. Additional strengths include the long follow-up period and the inclusion of biochemical confirmation of smoking abstinence.

There are several limitations to note. First, diagnostic history of participants recruited online could not be objectively confirmed. However, we asked detailed diagnostic history questions prior to study enrollment to confirm participant eligibility. Second, in-clinic recruitment took place in Oklahoma City whereas online recruitment took place nationwide, which may limit the generalizability of our findings. Finally, this was a secondary post hoc analysis and although we examined many variables, there may be other important variables that were not measured which could contribute to the differences observed by recruitment approach.

Conclusion

Utilizing a two-pronged recruitment strategy effectively supported enrollment of a larger and more diverse sample of participants in our trial. Participants with CIN or cervical cancer recruited online (vs. in-clinic) were more likely to remain in the study through 12 months and there were no significant differences in cessation outcomes by recruitment approach. Expanding delivery of evidence-based tobacco treatment to this underserved and difficult-to-reach population could dramatically reduce rates of cancer incidence and recurrence, and continued research in this area is needed.

Supplementary material

Supplementary material is available at *Nicotine and Tobacco Research* online.

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Declaration of Interests

The authors declare no competing interests.

Author Contributions

Bethany Fennell (Conceptualization [Equal], Data curation [Supporting], Formal analysis [Equal], Project administration [Lead], Writing—original draft [Lead], Writing—review & editing [Lead]), Sarah Jones (Conceptualization [Equal], Data curation [Equal], Project administration [Supporting], Writing—original draft [Equal], Writing—review & editing [Equal]), Steven Sutton (Data curation [Equal], Formal analysis [Equal], Methodology [Equal], Writing—review & editing [Equal]), Charles E. Hoogland (Data curation [Supporting], Formal analysis [Equal], Writing—review & editing [Equal]), Cherell Cottrell-Daniels (Writing—review & editing [Equal]), David Wetter (Conceptualization [Supporting], Writing—review & editing [Equal]), Ya-Chen Tina Shih (Conceptualization [Supporting], Writing—review & editing [Equal]), Vani Simmons (Writing—review & editing [Equal]), Yesenia P. Stephens (Investigation [Supporting], Writing—review & editing [Supporting]), Damon Vidrine (Conceptualization [Supporting], Funding acquisition [Supporting], Methodology [Equal], Supervision [Supporting], Writing—review & editing [Equal]), and Jenny Vidrine (Conceptualization [Lead], Funding acquisition [Lead], Investigation [Lead], Methodology [Lead], Project administration [Supporting], Resources [Lead], Supervision [Lead], Writing—original draft [Equal], Writing—review & editing [Lead]).

Data Availability

The data underlying this article will be shared on reasonable request to the corresponding author.

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