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**Effect of a Responsiveness-based support intervention on smokeless tobacco cessation:
The UCare-ChewFree randomized clinical trial**

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ABSTRACT

Introduction. Partner behaviors and attitudes can motivate and encourage, or conversely undermine, a tobacco user's cessation efforts. Previous partner support interventions for tobacco cessation have largely focused on positive and negative behaviors. We developed a theoretically based intervention (UCare) for women who wanted their male partner to quit smokeless tobacco, based on perceived partner responsiveness--the finding that support is best received when the supporter conveys respect, understanding, and caring.

Methods. We recruited 1,145 women and randomized them to receive either immediate access to the UCare website and printed booklet (Intervention), or to a Delayed Treatment control. We assessed supportive behaviors and attitudes at baseline and six-week follow-up, and the ST-using partner's abstinence at six weeks and 7.5 months (surrogate report).

Results. For partners of women assigned to Intervention, 7.0% had quit all tobacco at 7.5 months, compared with 6.6% for control (n.s.). For partners of women completing the intervention, 12.4% had quit all tobacco at 7.5 months, compared with 6.6% for Delayed Treatment ($p<.01$). Change in responsiveness-based behaviors and instrumental behaviors at six weeks mediated 7.5-month cessation, and change in responsiveness-based attitudes mediated the change in responsiveness-based behaviors, indirectly increasing cessation.

Conclusions. A responsiveness-based intervention with female partners of male smokeless tobacco users improved supportive attitudes and behaviors, leading to higher cessation rates among tobacco users not actively seeking to quit. The study demonstrates the potential for responsiveness as a basis for effective intervention with supporters, and this approach may reach tobacco users who would not directly seek help.

IMPLICATIONS

This study demonstrates the value of a responsiveness-based intervention (showing respect, understanding, and caring) in training partners to provide support for a loved one to quit smokeless tobacco. In a randomized clinical trial, 1,145 women married to or living with a smokeless tobacco user were randomized to receive the UCare-ChewFree intervention (website + booklet) or a delayed treatment control. Women completing the intervention were more likely to improve their behaviors and attitudes, and change in behaviors and attitudes mediated cessation outcomes for their partners, who had not enrolled in the study and may not have been seeking to quit.

INTRODUCTION

Intimate partners can promote or undermine their loved one's tobacco cessation efforts. In the most recent Cochrane review of partner support in smoking cessation,¹ the authors note that "support from the spouse is highly predictive of successful smoking cessation," citing studies as far back as 1971. Partner support may influence quitting through several mechanisms,² including providing a motivation to initiate quitting (health concerns or the effects of role-modeling on the couple's children); buffering the stress of withdrawal; counteracting environmental cues to use tobacco; and providing instrumental support such as facilitating access to quitting programs and adjunctive aids. Particular supportive behaviors, such as expressing pleasure at the smoker's efforts to quit,^{3,4} have been predictive of cessation. On the other hand, many tobacco users are ambivalent about quitting and react negatively to pressure, which can lead to problematic behaviors becoming even more entrenched.^{5,6} Negative behaviors (e.g., nagging and complaining) have been shown to be predictive of relapse.⁷

In a 2010 review of social support interventions for smoking cessation, Westmaas and colleagues⁸ concluded that there is little or no evidence that interventions to promote partner support have been effective. The study points to a common lack of a conceptual or theoretical framework for support. To that end, our research team identified perceived partner responsiveness,⁹ or Responsiveness Theory,¹⁰ as a potentially useful framework for partner support in the tobacco cessation context. As delineated by Reis, Clark, and Holmes,⁹ "perceived partner responsiveness" is highest when three conditions are met: (1) validation, or believing the partner esteems one's core personal qualities, including **respect** for one's decision-making, (2) **understanding**, or feeling a bond of emotional rapport and believing the partner understands one's concerns, and (3) **caring**, believing the partner will respond supportively to one's needs

and make one feel cared for. In essence, interactions around the issue of tobacco use and cessation should convey respect, understanding, and caring for the tobacco-using partner. Responsiveness Theory thus provides a theoretical framework for asymmetrical supportive relationships and provides an easily communicated model for understanding why specific supportive behaviors can be classified as positive or negative.

Using the Responsiveness framework, we developed a multimedia program (website + booklet) called “UCare” (Understanding-Caring-Respect), an intervention for women who want a male smokeless tobacco (ST) user to quit. Our rationale was three-fold: Intervening with women to help men allowed us to avoid potential gender complications (males and females may have varying support strategies); we have worked with female supporters of male ST users in the past (R21-CA131461); and we have an effective web-based ST cessation program (ChewFree.com) that we could recommend as a quitting resource.¹¹ This paper presents cessation outcomes associated with the UCare randomized clinical trial.

In the United States, there are approximately 8.7 million ST users¹² (Table 2.27A), of which about 95% are males. ST use is associated with oral and other cancers¹³ and increased risk of cardiovascular and cerebrovascular mortality.^{14,15} ST users’ wives are often highly motivated to encourage them to quit, for both health and aesthetic reasons. During recruitment for the Northwest Smokeless Tobacco Study (1998-1999),¹⁶ we observed numerous women attempting to enroll their partner, leading us to conduct a concurrent study (N= 363 couples) of the assessment and value of positive and negative support provided naturally in the course of an ST quit attempt. We found that received positive support and the ratio of positive to negative support predicted abstinence at 6-month follow-up (odds ratio = 1.29 for received positive support, C.I. = 1.03-1.61,¹⁷ and received positive support predicted abstinence at 12-month

follow-up (odds ratio = 1.43, C.I. = 1.11-1.84.¹⁸ Based on these findings, we conducted a feasibility trial in 2009-2011 with 522 women (R21-CA131461). The intervention included an expanded supporter booklet and an adapted version of our empirically validated ChewFree.com ST cessation website¹¹ that included new social support forums for the women. The intervention was well-received and moderately effective, with six-week cessation rates of 10.9% for Intervention vs. 5.1% for Control ($P < .05$, one-tailed). These studies served as a basis for the use of Responsiveness as a framework for a full-scale randomized clinical trial.

Description of the UCare-ChewFree Intervention

Guided by formative interviews to help us operationalize the Responsiveness framework with this population,¹⁰ we developed the UCare website and booklet. The core component of the website, “The Basics,” was an instructional program on how to show respect, understanding, and caring in the contexts of planning to quit, quitting, and staying quit, and how to raise the topic of cessation with her partner while setting goals she could attain on her own. Other website features included information on ST addiction and cessation (including facilitated access to the ChewFree.com website), a “notebook” for the women to collect their own personalized information, and social support forums. The printed UCare booklet reinforced the messages in the website and encouraged website use. The UCare intervention is described in greater detail elsewhere.¹⁹

In a randomized clinical trial to evaluate the effect of the intervention on supporter behaviors and attitudes and their relation to the ST user’s cessation, those randomized to receive the UCare intervention showed greater change in supportive behaviors and attitudes at six-week follow-up than did those randomized to a Delayed Treatment control.²⁰ The effects were even more pronounced when comparing the control group with the subset of women who had completed the full intervention (completed the website “Basics” or reported reading the full

booklet). Here we report on ST cessation outcomes and examine the relationship between change in the women's supportive behaviors and attitudes at six-week follow-up and the ST user's tobacco use at 7.5 months post-enrollment.

METHODS

All activities involving human subjects were approved by the Institutional Review Board at Oregon Research Institute. All conditions, relevant measures, and data exclusions are reported. Sample size determination was based on an estimated prolonged cessation rate of 4% for the control group and a conservative estimate of twice that rate for the intervention group, using a two-tailed test and an alpha of .05 with a power of .80.

Study Procedures

Between July 2015 and December 2016, 1,145 women were recruited and enrolled using demographically targeted Facebook advertising.²¹ The study was approved by the Oregon Research Institute IRB. Inclusion criteria were: being the wife or female domestic partner of a male current ST user; interested in having him quit using tobacco; willing to provide a phone number, mailing address, and e-mail address; providing informed consent; and both the woman and the ST user being U.S. or Canadian residents age 18 or older, able to read English, and able to access a computer. After online screening, those who were eligible to participate were invited to provide informed consent, give personal contact information, and complete a baseline survey. Those who met these criteria were randomized to either the UCare Intervention (N = 552) or Delayed Treatment Control condition (N = 593). Those assigned to the UCare Intervention condition were given immediate access to the UCare website, and were mailed the UCare booklet. At six weeks and 7.5 months post-enrollment, all participants were sent an e-mail link

to complete follow-up assessments. After five automated e-mails prompting them to complete the assessment, efforts were made to contact them by phone and text message, with the option of completing the assessment online or by phone. Incentives were offered for completing the assessments: \$20 for the first, \$20 for the second, and a \$10 bonus for both. Delayed Treatment participants received website access and the mailed booklet after completing the 7.5 month assessment.

Participants

Total enrollment was 1,145 women, of whom 552 were randomized to Intervention and 593 to Delayed Treatment Control. See Figure 1 for a CONSORT flow diagram, displaying the numbers of potential and actual participants at each stage of the study.

Measures

All measures were completed by the participants. The husbands/partners were not asked to complete assessments.

Demographics and tobacco use. At baseline, participants provided data the following: year of birth, highest level of education, race, and Hispanic ethnicity for the participant and her husband/partner; the length of their relationship and whether they were married or in a domestic partnership; her current and past status for smoking and ST use; his current and past smoking status. At both baseline and in the 7.5 month survey she provided an estimate of his motivation to quit (8-point scale from not motivated to very motivated; $r_{t1t3}=.47$, $P < .001$); and her estimate of his readiness to quit.²² At the 7.5 month assessment, the women were also asked for his current tobacco use and types of tobacco he used. If he had not quit, the 7.5 month assessment included whether he had made a serious quit attempt (able to stay abstinent for 24 hours); if the participant didn't know, the response was recoded as "no."

Relationship quality. The participant's overall satisfaction with the relationship was assessed with the four-item version of the Couples Satisfaction Index (CSI-4).²³

Partner support. Twelve brief measures were created to assess positive and negative behaviors and attitudes for the three responsiveness themes: showing respect, showing understanding, and showing caring. These measures were aggregated into two summary scales: responsiveness behaviors (18 items, $\alpha = .81$) and responsiveness attitudes (14 items, $\alpha = .68$). An additional measure assessed "instrumental" supportive behaviors (4 items, $\alpha = .77$): practical activities focusing on facilitating cessation, e.g., "Help your partner think of substitutes for snuff or chew." These measures were administered at baseline and both follow-up assessments. Additional details on partner support scale content, format, and development are available elsewhere.²⁰

Intervention exposure. Standard web tracking procedures (time-stamped logs of all page visits, etc.) were used to collect data on all participant activity within the UCare website. Booklet use was assessed only at the six-week follow-up. For the purpose of setting a threshold for intervention adherence²⁴, we define "Completed Intervention" as either (a) completing the Basics by the relevant assessment point, or (b) reporting that they had read "all of the booklet, once" or "all of the booklet, more than once" at the six-week follow-up (booklet use was not assessed again after that point). A direct comparison of those who only read the booklet with those who only completed the website "Basics" suggested only minimal differences in support outcomes; both were effective at changing supportive behaviors and attitudes.

RESULTS

Participant Characteristics

Table 1 presents summary characteristics for the participants and their ST-using partners. As shown the sample was largely white, non-Hispanic, and college educated. No differences between conditions were observed at baseline in the characteristics of participants, including demographics, tobacco use, relationship quality, and the support measures. The ST users were demographically similar to the women, except for gender (male), education (women had more education, $P < .001$), and tobacco use history (only 26.5% of the women had ever used tobacco, whereas by definition all of the men were current tobacco users).

ST User Characteristics

We compared the ST users' characteristics (as reported by the female participants) from this study to ST users seeking to quit in our previous online cessation study (ChewFree.com).¹¹ The ChewFree ST users' self-reported readiness to quit was 8 on the “contemplation ladder” (for which scores range from 0 to 10); the UCare participants rated their partner's readiness at 5 ($P < .001$). The UCare participants' partners were also older (mean age 45 vs. 37, $P < .001$) and less well educated (68% vs. 81% completing some college, $P < .001$) than the ChewFree participants.

Attrition at 7.5-Month Follow-Up

Participants randomized to Delayed Treatment were more likely to complete the 7.5 month assessment (62.1% vs. 49.4%; $\chi^2 (1, N = 1088) = 17.742, P < .001$) and more likely to complete both assessments (55.9% vs. 43.0%, $\chi^2 (1, N = 1088) = 18.017, P < .001$). Baseline variables associated with higher levels of completing the 7.5month assessment were participant age (those completing were younger, mean age = 42.44 vs. 43.94, $t=2.558, P = .011$), partner age (those completing were partnered with younger men, mean age = 45.75 vs. 43.82, $t=3.355, P = .001$) relationship length (those completing had been in this relationship for a shorter length of time 14.55 years vs. 16.83 years, $t = 3.690, P < .001$), and participant education (those

completing had more education ($M = 4.21$ vs. 3.90 , $t = -3.954$, $P < .001$). Participant age and partner age were highly correlated ($r = .89$, $P < .01$), and both were highly correlated with relationship length ($r = .66$ for the participant and $.68$ for the partner, $P < .01$).

Outcomes

Tobacco cessation. We report cessation rates for two tobacco outcomes (quit ST and quit all tobacco) at two endpoints (6 weeks, 7.5 months) and at both endpoints, e.g., “sustained” quit). We compare outcomes for all participants randomized to intervention vs. control (intent to treat), as well as comparing those who completed the intervention vs. control, and we report outcomes both for responders only (complete case) and for the full sample with imputation. We also report quit rates at 7.5 months for the subsample of those who had reported use at 6 weeks ($N = 499$), because we expected fairly high rates of “delayed cessation” since almost 40% of the 170 women who completed “The Basics” did so after the six-week follow-up.¹⁹

Defining cessation. “Quit All Tobacco” is defined as reporting that the ST user had quit all tobacco at the assessment point (6 weeks or 7.5 months). “Quit Smokeless Tobacco” is defined using two items, “Quit All Tobacco” or indicating that the partner was still using tobacco but specifying that they did not use ST in the past seven-days.

Table 2 presents the primary cessation outcomes. We used the Expectation-Maximization algorithm to impute missing data for the 6 week and 7.5 month measures of cessation within SPSS, version 24. When comparing cessation outcomes for partners of all women randomized to intervention vs. control (e.g., 7.0% vs. 6.6% quitting all tobacco at 7.5 months), the differences were not significant. For the women who completed the intervention, quitting all tobacco products was higher at both six weeks and 7.5 months than for the control group. For the analysis using data from responders-only, 6-week cessation for all tobacco

products was greater for those who completed the intervention than for the control. Cessation rates for ST (but not necessarily all tobacco) were greater for those who completed the intervention at both six weeks and 7.5 months than for the control.

For those who had reported use at six weeks, using the imputed outcomes, 5.7% of ST users had quit at 7.5 months vs. 4.9% for control ($\chi^2(1, N=1053) = .326, p = .332$). Partners of women who completed the intervention ($N = 194$) quit all tobacco at higher rates than the control group ($N = 528$), 9.8% vs. 4.9%, $\chi^2(1, N = 722) = 5.796, P = .016$. Partners of women who completed the intervention ($N = 193$) also quit smokeless tobacco at higher rates than the control group ($N = 521$), 10.9% vs. 5.8%, $\chi^2(1, N = 714) = 5.572, P = .016$.

Mediation analyses. To fulfill the criteria of mediation, short-term change in the three support variables from baseline to 6 weeks was measured prior to the long-term (7.5 month) cessation outcome. To assess cessation, we used 7.5 month abstinence of all tobacco, comparing the subsample who had completed the intervention (completed “The Basics” or read the manual) with the control group, and using the imputed data for non-responders, based on the Expectation-Maximization algorithm. (Cessation rates were 12.4% for intervention vs. 6.6% for control ($P < .01$). We used Mplus, version 7, to test the significance of the indirect effect of the Responsiveness-based intervention on partner’s cessation through changes in support (responsiveness behaviors, responsiveness attitudes, and instrumental behaviors). Mplus estimates missing data using a Maximum likelihood (ML) estimate, assuming that the data were Missing at Random (MAR). The indirect effect was estimated using non-parametric tests, using bootstrap estimates of standard errors.^{25,26}

Receiving the intervention (versus the control) was significantly related to change in responsiveness behaviors. In the first model, completion of the intervention was indirectly and

significantly related to cessation at 7.5 months through both change in responsiveness behaviors ($\beta = 1.063$ s.e. = .025, $P < .05$) and change in instrumental behaviors ($\beta = -.112$, s.e. = .031, $P < .001$), but the indirect effect through change in responsiveness attitudes was not significant ($\beta = .004$, s.e. = .019, $P = .820$). We therefore tested a second model, shown in Figure 2. Because the intervention condition significantly predicted change in attitudes, and because responsiveness attitudes were correlated with responsiveness behaviors, this led us to hypothesize that change in responsiveness attitudes mediated the effect of the intervention on responsiveness behaviors. As shown, our hypothesis was supported and the effect of condition on changes in responsiveness behaviors was mediated by changes in changes in responsiveness attitudes (estimated indirect effect = 0.014, s.e. = 0.006, $p = 0.022$), suggesting that improving responsiveness attitudes leads to improvements in responsiveness behaviors, and ultimately, cessation. Notably, the indirect effect of condition on instrumental behaviors through responsiveness attitudes was not significant.

Baseline predictors of cessation. We examined baseline predictors of cessation and to assess secondary outcomes, imputing missing data using the Expectation-Maximization algorithm. Controlling for receipt of the intervention (completing The Basics or reading the booklet), baseline predictors of cessation were analyzed using multiple regression. Variables included all of the demographics and tobacco use variables, as well as the relationship quality variables. Significant interactions were decomposed using the techniques presented in Aiken and West.²⁷

The supporter's rating of the ST user's motivation to quit predicted cessation across conditions. Further, the supporter's education and her rating of relationship quality (as measured by the CSI-4) both interacted with receiving the intervention to predict cessation. The

interactions were decomposed by centering one standard deviation above and below the mean (centered at 0), per Aiken and West.²⁷ Receiving the intervention (versus randomized to Control) predicted cessation for those with average ($\beta = .096$, $P < .05$), or higher than average education levels ($\beta = .209$, $P < .001$), but not for lower than average education levels ($\beta = .039$, $P = .48$). In addition, receiving the intervention was effective for those with average or lower than average CSI-4 scores ($\beta = .156$, $P < .01$), but not for those with higher than average CSI-4 scores ($\beta = .014$, $P = .78$).

Secondary Outcomes

Quit attempts. For participants who did not report cessation at either 6 weeks or 7.5 months, we examined quit attempts (“able to stay completely off all tobacco products for at least 24 hours”) at either time point, combining reports at 6-week and 7.5 month follow-up into a variable “ever quit attempt” and using chi-square analyses to compare groups. Quit attempts for the Delayed Treatment control were compared with both the full group randomized to intervention and for the subset who completed the intervention, using imputation for missing data. The rates for making a 24-hr quit attempt post-enrollment were 16.7% for the Delayed Treatment control, 16.8% for the Intervention, and 26.8% for the subset of those assigned to the Intervention who completed the intervention (completed the Basics and/or read the booklet). The chi-square comparison between Completed Intervention and Delayed Treatment was significant ($P = .003$).

DISCUSSION

Use of the UCare-ChewFree intervention by wives/partners of smokeless tobacco users appears to be an effective method of encouraging ST cessation among a population who were not

themselves seeking help to quit. The observed quit rates should be considered in that context.

Use of the intervention produced an increase in three categories of support (responsiveness-based behaviors, responsiveness-based attitudes, and instrumental behaviors), which led in turn to higher cessation rates. Further, the responsiveness-based behaviors and attitudes contributed to cessation independently from instrumental behaviors, supporting the framework of Responsiveness Theory. The finding that responsiveness-based attitudes mediated the change in responsiveness-based behaviors is consistent with the tenets of the Theory of Planned Behavior.²⁸ Within this theoretical framework, attitudes precede and predict behavior.

We based our study design on a model of intervention and cessation outcomes used in tobacco cessation studies. However, unlike people signing up for an intervention because they are seeking to quit, the women in this study were less likely to begin or complete the intervention promptly. Almost 40% of those who did complete the intervention did so after the 6-week follow-up. Further, the intervention advised them to wait to talk to their partner about quitting until a good opportunity presented itself. Thus, many of the men who quit did so after the 6-week assessment, and our measure of sustained abstinence (predicated on cessation before the 6-week follow-up) was not relevant to their experience. Future studies with supporters should include more effective encouragement to complete the intervention promptly, or else assessment timing should be linked to actual intervention completion rather than their enrollment date.

The higher rate of quit attempts for men whose supporters completed the intervention is also encouraging. Previous research has shown that making more quit attempts is associated with higher rates of eventual cessation, for smoking.²⁹

The ST-using partners of the women recruited for this study differed in several key ways from the participants in a study recruiting ST users directly – in this study, the ST users were

older and less well educated. Recruiting supporters has allowed us to access a different population than those seeking to quit on their own.

This study supports the use of Responsiveness Theory as a framework for intervention in a specific circumstance: between peers with an asymmetry of information and burden, supporting change in a relatively finite time frame. Responsiveness may also be useful in a broader variety of behavior-change contexts, whenever showing respect, understanding, and caring can facilitate the interactions between a supporter or caregiver and a care recipient, such as coping with chronic illness, managing weight, or making the transition from adolescence to adulthood or from independence to elder care.

Limitations

As with many online studies, many participants failed to use the intervention, and many did not complete the follow-up assessments. We are continuing to explore creative methods for maintaining participants' engagement with the research, beyond the regular schedule of reminder e-mails used in this study. Other strategies could include text messaging for reminders and perhaps sending a regular study newsletter that might help impress upon participants the importance of participating in a research trial.

Another limitation for this study was the necessity of relying on surrogate report of cessation, as well as quit attempts and perception of readiness to quit. The reports of perceived readiness and motivation to quit may be especially unreliable, as surrogate report of others' feelings is likely less accurate than their reports of observed behaviors. Enrolling the men would be necessary to obtain more accurate measures of these variables. This would have been a substantial barrier to meeting our recruitment goals, as many ST users may not be interested in

quitting. The proposed research sought to change the behavior of ST users across the full range of readiness to quit, including those uninterested in seeking cessation assistance.

Conclusions

Perceived partner responsiveness shows promise as a framework for promoting dyadic social support. Women who used the UCare-ChewFree intervention were better able to change their behaviors and attitudes to facilitate their husband/partner's smokeless tobacco cessation. Smokeless tobacco users whose partners completed the UCare program were more likely to quit. While the observed intervention effects are modest, the program is scalable, and the UCare approach may reach ST users who would not directly seek help.

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DECLARATION OF INTERESTS

The authors declare that they have no conflict of interest.

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Table 1. Participant and ST User Characteristics (reported by female participant)

	Female Participant (N = 1145)	Male ST User (N = 1145)
Demographics		
Age	43.2 years (s.d. 9.5)	44.8 years (s.d. 9.6)
Race (% white)	95.3%	96.9%
Ethnicity (% non-Hispanic)	96.3%	96.1%
Education (some college completed)	87.8%	68.2%
Tobacco Use Status		
Current smoker	2.0%	4.3%
Former smoker	23.2%	35.1%
Current ST user	0.4%	100%
Former ST user	0.4%	0%
Ever use tobacco	25.6%	100%
Readiness to quit (0-10 ladder)	---	5.0 (s.d. 2.3)
Relationship Status		
Married (vs. living with partner)	93.4%	
How long in committed relationship	15.6 years (s.d. 10.3)	
Couples Satisfaction Index distress	37.8%	

Table 2. Tobacco Cessation Outcomes (Surrogate Report)

	Responders Only (Complete Case)			All Participants (Imputed)		
	Delayed Tx Control (6wk N=347; 7.5mo N=336; both N=299)	Assigned to Intervention (6wk N=290; 7.5mo N=268; both N=230)	Completed Intervention (6wk N=156; 7.5mo N=171; both N=166)	Delayed Tx Control (N=544)	Assigned to Intervention (N=544)	Completed Intervention (6 wk N=168; 7.5mo/both N=209)
Quit All Tobacco						
6 wk	4.6%	6.6%	9.0%*	2.9%	3.5%	8.3%**
7.5 mo	10.7%	13.1%	13.5%	6.6%	7.0%	12.4%**
Sustained	3.3%	2.2%	2.4%	1.8%	1.5%	3.3%
Quit Smokeless Tobacco						
6 wk	6.6%	6.9%	9.6%	4.2%	3.7%	8.9%*
7.5 mo	12.3%	14.6%	15.8%	7.5%	7.7%	14.4%**
Sustained	3.7%	3.0%	3.6%	2.0%	1.8%	4.3%

* $p < .05$; ** $p < .01$. “Completed Intervention” is defined as either completing “The Basics” in the UCare website by the relevant assessment point, or reporting completion of the booklet at the six-week follow-up.

Figure 1. CONSORT Flow Diagram.

Figure 2. Model showing the effect of receiving the intervention on 7.5 month cessation through change in instrumental behaviors and change in responsiveness (RUC) behaviors. The effect of condition on change in responsiveness behaviors is mediated by change in responsiveness attitudes.

Notes: RUC = Responsiveness-based, showing respect, understanding, and caring; Completed Intervention = completed the website “Basics” or read the whole booklet.

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