An evaluation of videotaped vignettes for smoking cessation and relapse prevention during pregnancy: the Very Important Pregnant Smokers (VIPS) program

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As a treatment medium, videos have been largely untested. However, the potential of the video medium to broaden the extensiveness and effectiveness of minimal or self help interventions has been discussed in the Agency for Health Care Policy and Research guideline for smoking cessation.[1] This may be a particularly important time to focus on innovations in self help technology for pregnant smokers. Printed materials are the major media by which current self help interventions are delivered, and in the general population their overall effectiveness has been shown to be similar to no treatment control conditions.[1] Moreover, currently available treatments for pregnant smokers have often emphasised provider delivered counselling but have typically failed to incorporate treatment components that address some of the major contributors to relapse in the general population, such as negative affect, depression, smoking cues, positive mood/celebration, etc.[2] Videos may provide an important opportunity to demonstrate clinically relevant problem solving behaviour in these circumstances, without the costs involved with face to face counselling. Video cassette recorder (VCR) ownership is reported by nearly 88% of all Americans, including 75% of those classified at the poverty level.[3 4] Hence a successfully implemented intervention could be easily disseminated to a large number of smokers. The objective of this study was to compare the pre- and postpartum cessation rates associated with a limited self help (usual care) treatment intervention to a usual care plus video intervention.

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Methods

This was a community based randomised controlled trial of a minimal smoking cessation intervention conducted in a university setting.

Participants in the Very Important Pregnant Smokers (VIPS) study were volunteers, recruited from Houston and the surrounding metropolitan area. Women were recruited using newspaper, radio, and television public service announcements, subscriber newsletters for members of local health maintenance organisations, flyers in community businesses providing services primarily to women, and waiting room posters sent to community primary care physicians.

A total of 146 women were screened for the study. Sixty four women failed to meet the inclusion criteria for the trial (> 18 years of age, smoke > 3 cigarettes per day, less than 30 weeks pregnant, have a working VCR, be willing to set a quit date within two weeks of screening, and not involved in any other formal smoking cessation program). Women who were taking psychotropic medication or who met the criteria of the *Diagnostic and Statistical Manual*, fourth edition (DSM-IV) for current major depressive disorder were also excluded from this study. Depression was assessed using the Prime-MD[5] during a telephone screening interview.

The remaining 82 women were randomly assigned to either usual care (UC) (n = 40) or UC plus video (UCV) (n = 42) groups. All participants continued to receive the usual prenatal care provided by their primary physician, plus study materials as described below.

All intervention materials were provided through the mail, after participants had undergone a telephone screening for inclusion. All follow ups were also conducted by telephone. No explicit counselling was provided during any of the phone follow up visits.

Following screening all women were asked to set a quit date within the next two weeks, and were mailed their treatment materials. Women in the UC group received the VIPS self help quit calendar and cessation tip guide. Women in the UCV group also received the video program. Measures of abstinence were obtained within 2–3 days after the quit date (quit date assessment), 4–5 weeks after the quit date (end of treatment), and one month postpartum.

QUIT CALENDAR AND TIP GUIDE

All groups received a Quit Calendar and Tip Guide. The Quit Calendar showed the smoker's name, quit date, and provided daily smoking cessation tips and health risk information on smoking and pregnancy. The calendar also contained a schedule of all expected contacts from the study staff, and the recommended times for using the tip guide and/or viewing videos in the UCV condition. The cessation Tip Guide contained six, one page sections, titled the same as the corresponding videos and outlined the major points made in each of the tapes. Participants were instructed to read the entire guide upon

receipt, and to refer to it again according to the same schedule recommended for viewing the videos.

VIDEOS

The video program consisted of six integrated, 25–30 minute videotapes, covering topics ranging from initial quitting strategies to relapse prevention. Each of the videos featured dramatically enacted vignettes, depicting women in situations of high smoking risk, that take place in a pregnancy relevant context. Female vignette characters are faced with dilemmas where the temptation to smoke is high—for example, domestic conflict, work/child care issues, dysphoric or depressed mood, postpartum weight concerns, and socialising with alcohol present. The characters resolve the conflict using clinically salient coping skills, which are appropriate to the situation and designed to change the underlying cognitive and emotional disturbance, contributing to the relapse risk.

A professional moderator hosts the series, by conducting guided interviews with cessation experts (the principal investigator (PMC) and associates), and introducing the vignette and support group segments. The expert interviews were used to establish the background for each video segment, and to provide specific cessation recommendations and guidelines for the women to follow. In addition, peer commentary was provided by three women, who participated in a smoking cessation support group. Two of these women had recently quit smoking, and one, who was also pregnant, participated in the cessation program in the same sequence as expected for the home viewers.

The video topics were: video 1, "Preparing to quit"; video 2, "Managing withdrawal"; video 3, "Coping with stress"; video 4, "Managing negative emotions; video 5, "Coping with the unexpected"; and video 6, "Staying a nonsmoker". Participants were provided with a personalised viewing schedule, recommending that they watch videos 1 and 2 before the quit date; video 3, one week after the quit date; video 4, one month after the quit date; video 5, 4–6 weeks before the due date; and video 6, the week of the due date.

Results

The baseline demographic characteristics for the women are provided in table 1. No significant differences were noted between groups.

ABSTINENCE

As shown in table 2, no significant difference in abstinence was observed between the groups, at any of the time points. All abstinence reports were verified by salivary cotinine values (< 30 ng/ml). Participants with missing data for an assessment were treated as smokers. Sixty one per cent of the women completed all follow up assessments. There was no significant difference in attrition between the groups.

Table 1 Selected demographic and baseline smoking characteristics of the sample

Sample characteristics	*UC group (n=40)*	*UCV group (n=42)*
Age	31.2 (5.6)	29.8 (5.5)
Education (years)	13.1(1.1)	12.7 (2.1)
Education (% < High school)	45.0%	56.1%
Non-white	20.3%	19.9%
Hispanic culture	5%	9.5%
Gestation (weeks)	16.2 (6.4)	14.2 (6.6)
In prenatal care	95%	90.5%
Told doctor they smoke	97.4%	87.3%
Has health insurance	70.0%	57.1%
FTND score	3.6 (2.4)	3.6 (2.3)
CES-D score	11.9 (8.6)	13.0 (9.3)
Years smoked	15.7 (6.8)	13.4 (5.1)
Average cigarettes per day in last 7 days	17.3 (13.4)	14.5 (10.5)
Average cigarettes per day before pregnancy	21.9 (7.8)	19.7 (7.8)

FTND, Fagerstrom test for nicotine dependence[8]; CES-D, Center for Epidemiological Studies depression scale[9] used to measure current depression through the study. The Prime-MD (not shown) was also used to assess depression during screening. UC, usual care; UCV, usual care plus video. Values in parentheses are SD.

Table 2 Abstinence over time

Seven day point prevalence abstinence

Group	*Quit date*	*End of treatment*	*1 month postpartum*	*Continuous abstinence 1 month postpartum*
UC	10%	12%	7.5%	7%
UCV	3%	7.5%	5%	5%

RATINGS

Ratings of the Tip Guide and video helpfulness suggest that the majority of participants in both groups reported using the Tip Guide (80–91%), although fewer of the video group participants (45%) perceived the Tip Guide as somewhat to very helpful, compared to participants in the UC (68%) condition.

However, the majority of the UCV smokers rated the video program as helpful (93%), informative (100%), and relevant (93%) by the end of treatment, and over 90% of the UCV participants wanted to see more videos, after watching video 1. However, compliance with the video viewing schedule was poor. Only 53% of the UCV participants completed viewing videos 1–3 by the end of the second follow up (30 days after the target date). Thirty three per cent reported viewing at least five videos, and 26% reported seeing all six videos, by the postpartum follow up.

Discussion

Although the groups did not differ in abstinence rates, the present sample size may be inadequate to draw any firm conclusions regarding the differential effectiveness of the video intervention. Women in this trial appear to be heavier smokers than those described in previous studies of pregnant women.[2] They smoked about a pack a day before pregnancy and averaged only slightly less (13–16 cigarettes per day) when enrolled in the study. In addition, 52% of these women smoked their first cigarette 30 minutes or less after awakening. It appears as if our sample of pregnant smokers is similar to the heavier, more dependent smokers recruited in traditional community clinical trials.[6] Like their

non-pregnant counterparts, these smokers are most in need of intervention, yet they may be among those least likely to succeed with self help treatment methods, such as used here.

Although most participants found the videos helpful and wanted to see more after viewing the first video, videos alone appear ineffective among a population of heavy smoking pregnant women who fail to quit on their own during the first trimester of pregnancy. The absence of personal contact in this study may have be one reason contributing to the poor outcome. Indeed, in a follow up interview conducted at the study's conclusion, 70% of the participants felt that telephone counselling would have significantly improved their compliance. Future studies may investigate whether or not a video program can enhance the effectiveness of individualised counselling versus counselling alone.

Moreover, to take full advantage of this medium, a woman must make a concerted effort to keep a viewing schedule. Ostensibly, it might be more convenient to keep a "video viewing" appointment in one's home rather than an appointment with a cessation counsellor. However, it might also be just as easy to allow the activities of daily living to take precedence over their video appointment. Any lack of commitment would reduce compliance and in this study, even though all women agreed to set a quit date within two weeks of study entry, only 21.4% of the video group and 33% of the controls endorsed "complete" abstinence (never smoke again) as their treatment goal. Commitment to abstinence has been shown to be a key predictor of success in other treatment trials,[7] and the initial lack of commitment in our study population is noteworthy.

1 Fiore MC, Bailey WC, Cohen SJ, *et al. Smoking cessation.* Clinical Practice Guideline No 18. Rockville, Maryland: US Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research, April 1996. (AHCPR Publication No 96–0692.); <http://text.nlm.nih.gov>.
2 Mullen PD. Maternal Smoking during pregnancy and evidenced based intervention to promote cessation. *Prim Care* 1999;**26**:577–89.
3 Rector R. The myth of widespread American poverty. *The American Heritage Foundation Backgrounder* 1998:1–18.
4 US Department of Energy. *Housing characteristics*. Washington, DC: Energy Information Administration, 1997.
5 Spitzer RL, Williams JBW, Kroenke K, *et al*. Utility of a new procedure for diagnosing mental disorders in primary care: the PRIME-MD 1000 study. *JAMA* 1994;**272**:1749–56.
6 Fiore MC, Smith SS, Jorenby DE, Baker TB. The effectiveness of nicotine patch for smoking cessation. JAMA 1994; **271**:1940–7.
7 Hall SM, Havassy BE, Wasserman DA. Commitment to abstinence and acute stress in relapse to alcohol, opiates, and nicotine. *J Consult Clin Psychol* 1990;**58**:175–81.
8 Heatherton TF, Kozlowski LT, Frecker RC, Fagerstrom KO. The Fagerstrom test for nicotine dependence: a revision of the Fagerstrom tolerance questionnaire. *Br J Addiction* 1991;**86**:1119–27.
9 Radloff L. The CES-D scale: a self-report depression scale for research in the general population. *Applied Psychological Measurement* 1977;**1**:385–401.

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