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

Paul M Cinciripini, Jennifer B McClure, David W Wetter, Jennifer Perry, Janice A Blalock, Lynn G Cinciripini, Karen E Friedman, Karyn Skaar

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. 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. Moreover, currently available treatments for pregnant smokers have often focused on provider delivered counseling 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. 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. 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.

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 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

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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.

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

Table 1

<table>
<thead>
<tr>
<th>Sample characteristics</th>
<th>UC group (n=40)</th>
<th>UCV group (n=42)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>31.2 (5.6)</td>
<td>29.8 (5.5)</td>
</tr>
<tr>
<td>Education (years)</td>
<td>13.1 (1.1)</td>
<td>12.7 (2.1)</td>
</tr>
<tr>
<td>Education (% &lt; High school)</td>
<td>45.0%</td>
<td>56.1%</td>
</tr>
<tr>
<td>Non-white</td>
<td>20.3%</td>
<td>19.9%</td>
</tr>
<tr>
<td>Hispanic culture</td>
<td>9.5%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Gestation (weeks)</td>
<td>16.2 (6.4)</td>
<td>14.2 (6.6)</td>
</tr>
<tr>
<td>In prenatal care</td>
<td>95%</td>
<td>90.5%</td>
</tr>
<tr>
<td>Told doctor they smoke</td>
<td>97.4%</td>
<td>87.3%</td>
</tr>
<tr>
<td>Has health insurance</td>
<td>70.0%</td>
<td>57.1%</td>
</tr>
<tr>
<td>FTND score</td>
<td>3.6 (2.4)</td>
<td>3.6 (2.3)</td>
</tr>
<tr>
<td>CES-D score</td>
<td>11.9 (8.6)</td>
<td>13.0 (9.3)</td>
</tr>
<tr>
<td>Years smoked</td>
<td>15.7 (6.8)</td>
<td>13.4 (3.1)</td>
</tr>
<tr>
<td>Average cigarettes per day in last 7 days</td>
<td>17.3 (13.4)</td>
<td>14.5 (10.5)</td>
</tr>
<tr>
<td>Average cigarettes per day before pregnancy</td>
<td>21.9 (7.8)</td>
<td>19.7 (7.8)</td>
</tr>
</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th>Seven day point prevalence abstinence</th>
<th>End of treatment</th>
<th>1 month postpartum</th>
<th>Continuous abstinence 1 month postpartum</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC</td>
<td>10%</td>
<td>12%</td>
<td>7.5%</td>
</tr>
<tr>
<td>UCV</td>
<td>3%</td>
<td>7.5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

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. 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. Like their

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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 counselor. 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, and the initial lack of commitment in our study population is noteworthy.

2 Mullen PD. Maternal Smoking during pregnancy and evidence based intervention to promote cessation. Prim Care 1999;26:577–89.
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