The Effects of Peer Counseling on Smoking Cessation and Reduction

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Introduction

➢ To determine the effects of smoking during pregnancy

➢ Peer Counseling vs Usual Care

The results of peer counseling are compared with usual care.

Reason for this research:

Maternal smoking affects the health of both the child as well as mother. It can result in:

✓ Spontaneous abortion
✓ Placenta previa
✓ Placental abruption
✓ Premature rupture of membranes
✓ Decrease in weight of the child
Some Useful Data

USA has many awareness programs that detail about the harmful effects of smoking during pregnancy.

In spite of these programs 20% of pregnant women in USA smoke.

Most of these women are poor, unmarried, emotionally stressed, undereducated, heavy smokers.

Data from Hartford Hospital’s Women’s Ambulatory Health Services showed 29% of women who smoke during pregnancy.

This hospital provides health care to low-income groups.

Implement a program that enhances quit rates and benefits the clinic population.
Peer counseling is successful due to the following factors:

- Increases the social support.
- Sharing similar life experiences.

Peer support proved to be successful in treatment of addictive behaviors such as alcohol and drug consumption.

With the success of Peer counseling, the hospital used this method to help pregnant women quit smoking.
Methods

142 pregnant, predominantly Hispanic women were assigned to peer counseling to a cessation program or usual care.

The study was conducted at a large urban clinic between January 1998 to February 2000 where all pregnant women were screened at their parental visit.

This study involved women who were
- 18 years or older.
- Current smokers
- Pregnant with less than 20 weeks gestation
- Speaks English or Spanish

Computer generated number list was used to assign the subjects to usual care or experimental group.
Usual care was provided was physicians, nurse practitioners, residents who were well trained.

This program involved the following steps:

The health care provider delivers a strong “Quit Message”.
- A 3-hour training session
- Role playing was used as a teaching tool

In next visit the health care provider assess the readiness to quit from the subject.
- A 2-hour session.
- Motivational counseling.
- Encourage pregnant women to quit smoking

The subjects received similar smoking cessation per counseling in consequent visits.
Peer counselors were females, non-smoking, hailed from same social-environmental and cultural background as the subjects.

Each peer counselor had 8 client contacts.

The counselor supported and reinforced stop smoking messages.

The date, location, length of visit, the stage of change were documented for every interaction with the subjects.

Previous medical records such as previous quit attempts, smoking history, longest quit attempt were assessed.

SSPS was used too analyze the data where the Chi-Square tests were used.
RESULTS

Out of 142 subjects, 67 were randomly assigned to peer counselors and 75 to usual care.

At the end of 36-weeks 36% of usual care subjects were lost due to attrition.

The retained and non-retained subjects differed slightly in terms of readiness to quit and cigarettes smoked daily.

Smoking was measured using expired carbon monoxide and urine cotinine.

Subjects age ranged from 18 – 41 years, under-educated.

The two groups did not differ on any baseline except the number of cigarettes smoked.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Peer counseling group</th>
<th>Usual care group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (y) (mean ± SD)</td>
<td>25 ± 6</td>
<td>26 ± 6</td>
</tr>
<tr>
<td>Gravida (mean ± SD)</td>
<td>3 ± 2</td>
<td>3 ± 2</td>
</tr>
<tr>
<td>Education (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤8 grade</td>
<td>10.5</td>
<td>12.0</td>
</tr>
<tr>
<td>9–11</td>
<td>46.3</td>
<td>48.0</td>
</tr>
<tr>
<td>12th</td>
<td>21.0</td>
<td>25.0</td>
</tr>
<tr>
<td>&gt;12th grade</td>
<td>12.0</td>
<td>8.0</td>
</tr>
<tr>
<td>GED</td>
<td>10.5</td>
<td>7.0</td>
</tr>
<tr>
<td>Work status (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>37</td>
<td>40</td>
</tr>
<tr>
<td>Unemployed</td>
<td>63</td>
<td>60</td>
</tr>
<tr>
<td>Language (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>64</td>
<td>61</td>
</tr>
<tr>
<td>English/Spanish</td>
<td>33</td>
<td>35</td>
</tr>
<tr>
<td>Spanish</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Marital status (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>1.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Single</td>
<td>98.5</td>
<td>86.7</td>
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<tr>
<td>Separated</td>
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<td>2.7</td>
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<tr>
<td>Ethnic group (%)</td>
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<td></td>
</tr>
<tr>
<td>Black</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Hispanic</td>
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<td>63</td>
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<tr>
<td>White</td>
<td>24</td>
<td>23</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Number of cigarettes per day* (mean ± SD)</td>
<td>13.3 ± 8.2</td>
<td>11.2 ± 8.4</td>
</tr>
<tr>
<td>Baseline CO</td>
<td>5.12 ± 5.01</td>
<td>7.25 ± 7.18</td>
</tr>
<tr>
<td>Number of y smoking (mean ± SD)</td>
<td>7.6 ± 5.5</td>
<td>8.5 ± 5.5</td>
</tr>
<tr>
<td>Number of quit attempts (mean ± SD)</td>
<td>1.6 ± 1.9</td>
<td>1.4 ± 1.7</td>
</tr>
<tr>
<td>Number of smokers in household (mean ± SD)</td>
<td>1.1 ± 1.2</td>
<td>1.3 ± 1.2</td>
</tr>
<tr>
<td>Short-Form Fagerstrom Index</td>
<td>3.8 ± 2.87</td>
<td>4.2 ± 2.44</td>
</tr>
</tbody>
</table>

SD = standard deviation; GED = general equivalency diploma; CO = carbon monoxide.

Results are percentage or mean ± SD.

* Significant difference between groups, P < .05.
Infant birth rate was correlated inversely with:
- Number of cigarettes smoked per day at end of pregnancy
- Expired Carbon Monoxide

The effect is as follows:
The average birth weight of infants was 7.25 lb/3289.5 g

The average birth weight of infants whose mothers smoked 1 – 6 cigarettes per day during pregnancy was 6.77 lb/591.6 g.

For those who smoked more than 6 cigarettes per day, the weight of their infants was 6.26 lb/2841.5 g.

We observe a significant drop in the weights of infants when compared to smoking and non-smoking subjects.

The following graph from the original paper gives us a pictorial representation of the above statistics.
We observe that peer support smoking cessation counseling reduced the number of cigarettes smoked per day by pregnant women compared to those who received usual care.

This can be seen from the following table where the results are depicted.

We observe a drop in the in exhaled carbon monoxide levels.
However, the results that were obtained were not satisfactory as they were expected to be higher quit rates.

If peer counseling is contrasted with “nominal care” then there could be big difference.
ADVANTAGES OF PEER COUNSELING

It creates a non-hierarchical relationship.
Decreasing stress
When used in other areas of health study, it proved to be useful.
Can be extended to help people quit smoking in general.

Another evaluation of peer counseling in East Baltimore community provided an additional 15 minute counseling to low-income groups. But there were no differences in quit rates between groups and this study differs from the one presented in this paper.

The reasons for the differing results are the following:
   The present method involved 6 visits compared to 15 minute counseling.
   The visits were at a location convenient to the subject.
   The counselors were local community people and not experts.
FINDINGS

Peer counseling reduced smoking. It is verified by reduced exhaling of carbon monoxide. The reduction in smoking was highest in those who smoked most at baseline. Reduced smoking during pregnancy increases the weight of infants.

Exhaled carbon monoxide levels were used for prediction than self reported results.

Exposure of carbon monoxide to animals caused a decrease in offspring birth rate.

Exposure to carbon monoxide levels less than 5 PPM caused a low risk of decrease in infant weight.
LIMITATIONS

Could not find the exact components of peer counseling that were useful.

Could not ascertain what exactly occurred during counseling sessions.

Affects poor women who have difficulty in attending a formally structured program.

Only 57% of peer counseling and 64% of usual care group completed the study.

CONCLUSION

Peer counseling reduced the number of cigarettes smoked daily but not abstinence rates.

Increase in birth rates of infants when smoking is reduced.
QUESTIONS?