Background & Objectives

The primary objective of this analysis was to explore whether sustained Nicotine Replacement Therapy (NRT) use improves cessation outcomes in a real world clinical setting.

We tested the hypothesis that long-term NRT use (3 months and beyond) would be associated with improved 7-day Point Prevalence Abstinence (PPA) at 3 months and 6 months after commencing treatment.

We also explored the effects of continuing versus discontinuing NRT between 3 and 6 months on 7-day PPA, self-reported smoking status, and cigarettes per day (cpd) at 6 months. We tested the hypothesis that extending NRT use would help 3 month abstainers to remain abstinent at 6 months (relapse prevention), and that smokers who continue to use NRT will reduce the frequency of smoking and the amount of cigarettes smoked, which are important steps towards quitting altogether.

Methods

The STOP with Family Health Teams Program

• Since July 2011, a government-funded program in Ontario, Canada, has made smoking cessation treatment (free NRT plus counseling) available to patients enrolled in multidisciplinary primary care settings called Family Health Teams (FHTs).

• Participants are self-selected treatment seekers who can access up to 26 weeks of NRT (nicotine patch, gum, inhaler, and/or lozenge). Primary health care practitioners provide individualized and/or group-format counselling and ongoing support for the duration of participation.

• Program follow-ups are completed 3, 6, and 12-months after enrollment by email (self-completed) and/or telephone survey (completed by STOP staff).

• At each follow-up participants are asked whether they have used NRT in the past 3 months, and whether they are currently using NRT at time of follow-up.

• The primary outcome is 7-day PPA and self-reported smoking status at 6 months.

• The STOP with Family Health Teams Program recruitment is ongoing and results are subject to change.

Sample

Data from 11,353 patients in 113 FHTs (142 individual primary care health sites) was included for analysis. We selected patients enrolled in the program between July 12, 2011 to Sept 30 2012. Participant recruitment is ongoing and results are subject to change.

Data Analysis

We conducted frequency analysis, t-tests and Chi-square tests on a longitudinal cohort of participants who completed both 3 month and 6 month follow-ups to examine cessation outcomes (7-day PPA and self-reported smoking status) in participants who reported current NRT use at 3 month and/or 6 months.

Results

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>All</th>
<th>Completed 3m follow-up</th>
<th>Completed 6m follow-up</th>
<th>Completed both 3m and 6m follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>11,363</td>
<td>5089</td>
<td>3452</td>
<td>2389</td>
</tr>
<tr>
<td>% Male</td>
<td>45%</td>
<td>54% *</td>
<td>43%</td>
<td>43% *</td>
</tr>
<tr>
<td>Mean age (yrs) ± SD</td>
<td>49 (± 14)</td>
<td>51 (± 13) *</td>
<td>52 (± 13) *</td>
<td>53 (± 13) *</td>
</tr>
<tr>
<td>Mean cpd for daily smokers ± SD</td>
<td>21 (± 11)</td>
<td>21 (± 11)</td>
<td>20 (± 11)</td>
<td>20 (± 12)</td>
</tr>
<tr>
<td>Income (% less than $40K/year)</td>
<td>61%</td>
<td>61%</td>
<td>62%</td>
<td>60%</td>
</tr>
<tr>
<td>Education (% less than post-secondary)</td>
<td>55%</td>
<td>53% *</td>
<td>55%</td>
<td>54% *</td>
</tr>
<tr>
<td>Employment (% not employed)</td>
<td>52%</td>
<td>55% *</td>
<td>57%</td>
<td>59% *</td>
</tr>
</tbody>
</table>

Table 1. Demographic characteristics of follow-up survey respondents.

* Significant difference between follow-up completers versus non-completers at specified time point, p < 0.05.
† Not Employed includes respondents who self-reported their employment status as unemployed, retired, disability, or student.

3m NRT users n = 1224

Abstinent at 3m

NRT users n = 509 42%

3m NRT non-users n = 715 58%

Abstinent at 6m

NRT users n = 124 70%

NRT non-users n = 252 76%

Relapse prevention

NRT users n = 45 16%

NRT non-users n = 48 11%

Conclusions

• Extended NRT use between 3 months and 6 months did not significantly affect relapse prevention in those who are abstinent at 3 months, and was not associated with a significant increase in 6 month 7-day PPA in those who are not abstinent at 3 months.

• NRT use at 3 months and 6 months may help daily smokers become occasional smokers or abstainers at 6 months. A higher proportion of occasional smokers who stopped using NRT between 3m and 6m went back to daily smoking versus quitting. NRT users who still smoked reported significantly fewer cpd at both 3 months and 6 months.

• The benefits of extended NRT use may be related to gradual reduction of cigarette consumption compared to NRT courses of 3 months or less.

• Future analysis should explore whether baseline predictors of extended NRT use exist which may also influence cessation outcomes.

Acknowledgements

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Conclusions and views reflect those of the authors and do not necessarily represent the official view of the Ministry of Health and Long Term Care

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