

STRATEGIES USED FOR SMOKING CESSATION, PERCEIVED HELPFULNESS AND RELATION TO QUITTING

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ABSTRACT

Problem/Objective: Guidelines support the efficacy of counseling for tobacco dependence and encourage research on mechanisms through which counseling exerts its effects. Several strategies are routinely suggested in behavioral counseling, but there are little data about which ones are used and how helpful they are.

Methods: Evaluation questionnaires were mailed to 244 participants in a randomized smoking cessation trial at the San Francisco Veterans Affairs Medical Center. Preparation-stage smokers received a 7-week course of bupropion or placebo, two months of nicotine patches and 3 months of counseling. Each participant was helped to develop a written quit plan that included 11 quitting strategies. The evaluation asked which strategies were used and, if used, how helpful the strategy was in quit attempts during the year of study. Use and helpfulness ratings were examined by chi-square analysis for relation to self-reported quitting.

Results: Seventy-three percent (177) of participants returned questionnaires. Most often used strategies were reminding yourself of your reasons for quitting (88%), preparation for quitting (81%) and noticing your feelings and responding to them without smoking (70%). Respondents used a mean of 7 strategies. Exercise and reminding yourself of your reasons for quitting were both highly rated by users and positively related to quitting at the end of treatment (P<.05). Exercise and noticing your feelings were positively related to quitting at six months (P<.05), but only noticing your feelings was positively related to quitting at one year (P=.02). Additionally, noticing your feelings was positively related to quitting validated by proxy or saliva cotinine at one year (P=.04).

Conclusion: These results suggest that training smokers in developmental skills such as nurturing, or noticing feelings and responding to them without using substances, might be a quitting strategy that supports long-term quitting.

STRATEGIES SUGGESTED IN BEHAVIORAL COUNSELING:

- Reminding** yourself of your reasons for quitting smoking
- Subjects were given index cards on which to note reasons for quitting and to put in their pockets or purses.
- Preparation** for quitting, including getting rid of smoking paraphernalia, cleaning smoking areas, and telling significant others that you are quitting.
- Noticing your **feelings** and responding to them other than by smoking.
- Subjects were told to ask themselves: 1) How do I feel? 2) What do I need? and, 3) Do I need some help?
- Changing** your routine or environment to avoid smoking, such as having one's morning coffee in a non-smoking area.
- Setting **limits** on exposure to smoking
- Subjects were told to ask themselves:
1) What can I realistically expect? 2) What is the essential pain of the situation? and 3) What will be my earned reward?
- Exercise**
- If they were able, inactive subjects were encouraged to begin walking for 20 minutes at least three times per week for exercise. Active subjects were encouraged to increase and/or vary their exercise programs.

- Relaxation**
- Deep-breathing was demonstrated, and subjects were encouraged to use deep breathing and guided imagery to relax.
- Oral** substitutes for cigarettes
- Subjects were encouraged to find something to put in their mouths such as gum, candies, cinnamon sticks, and dental devices.
- Handheld** substitutes for cigarettes
- Subjects were asked to find something to hold onto, such as pens, stress balls, and grip strengtheners.
- Planned** response to tough situations - High risk situations were identified from Prochaska and DiClemente's Temptation and Confidence Questionnaires and subjects were helped to develop responses they would use when encountering those situations.
- Audiotape**, "Freedom From Smoking" from American Lung Association to listen to.

Table 1
Comparison of Responders and Non-responders

Characteristic	Responders (n = 177)	Non-Responders (n = 67)	P value*
Men (%)	86	84	0.57
Age (years)	51 ± 11	47 ± 12	0.01
White (%)	72	61	0.09
Married (%)	24	29	0.48
Veteran (%)	82	73	0.13
Beck Depression Inventory Score	9 ± 6	9 ± 8	0.42
Level of Education	14 ± 2	14 ± 3	0.29
Current tobacco use (cigarettes/day)	22 ± 11	22 ± 10	0.78
Smoking (pack-years)	41 ± 25	33 ± 24	0.02
Fagerstrom Score (range 1-10)	3.9 ± 1.7	3.6 ± 1.6	0.16

Plus-minus values are means ± SD.
*Two-sample t-tests were used to compare continuous variables, and chi square tests were used to compare categorical variables.

RESULTS

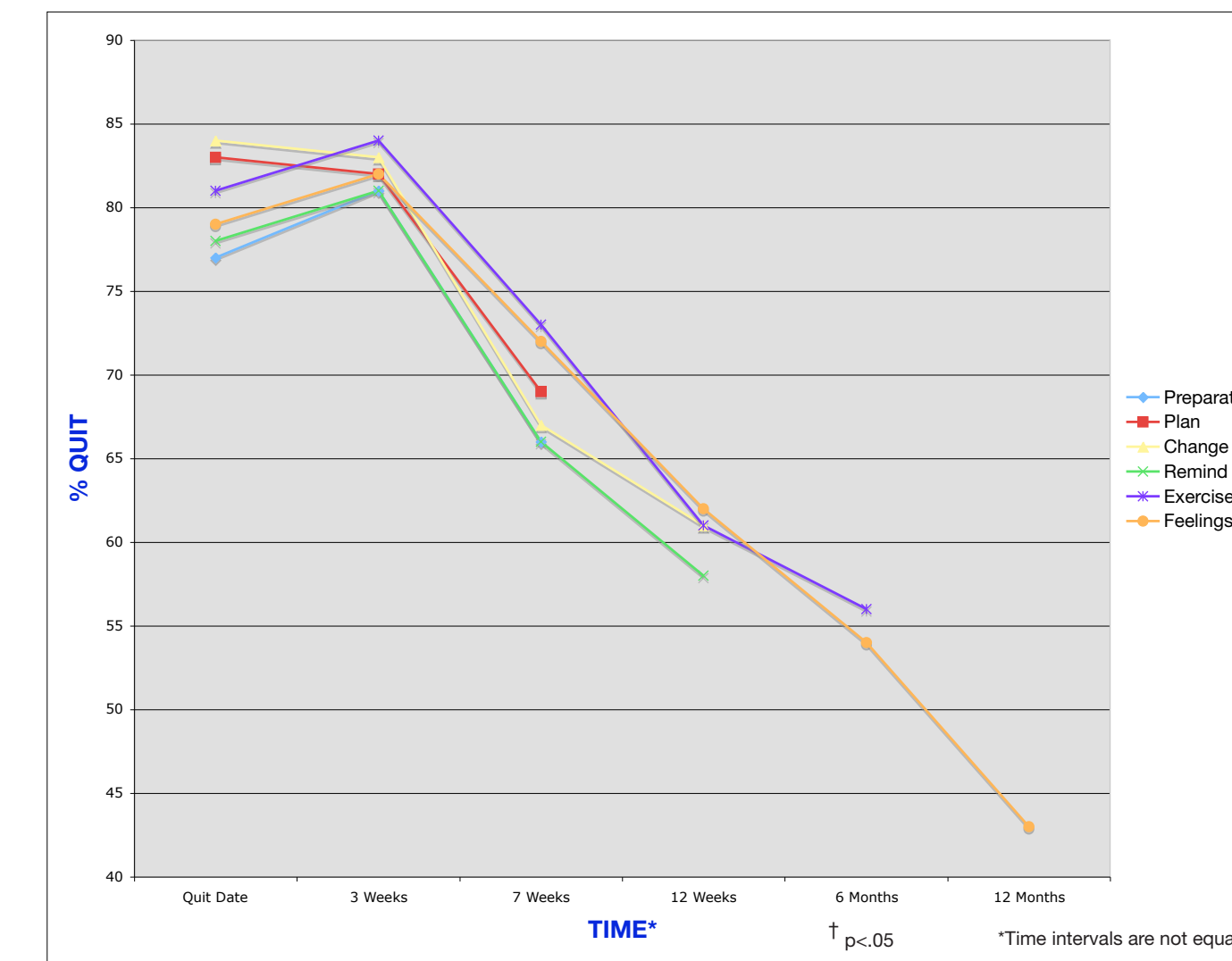
Table 2
Strategies by Use and Mean Helpfulness Ratings:

Strategy	% Used	Mean Helpfulness Rating (Scale of 0-2)
1. Reminding	88	1.47
2. Preparation	81	1.26
3. Feelings	70	1.32
4. Change	62	1.39
5. Limits	62	1.23
6. Exercise	61	1.54
7. Relaxation	59	1.39
8. Oral substitutes	53	1.26
9. Planned Response	53	1.20
10. Audiotape	37	1.02
11. Handheld	19	1.09

Differences in Strategy Use by Characteristics (P<.05):

Females were more likely to use changing routine or environment (83 % vs. 59 %) than males, and tended to use noticing feelings more (88% vs. 67%).
Whites were less likely than non-whites (48% vs. 65%) to use planned response to tough situations.
Those with **higher education** were more likely to use exercise than those who were not educated beyond high school (66% vs. 48%).
Veterans were less likely than non-veterans (58% vs. 81%) to use changing routine or environment.
Those who were **addicted** by a Fagerstrom score > 5 were less likely to exercise (47% vs. 71%) and less likely to use planned response to tough situations (43% vs. 60%) than those who were not addicted to nicotine.

Table 3
Strategy Use Significantly Related to Quitting Over Time



Number and Percent Using the Strategy Who Reported Off Cigarettes (n=177)

Strategy Used	Quit Date	3 weeks	7 Weeks	12 Weeks	6 Months	12 Months
Preparation	110 (77%)	116 (81%)	95 (66%)			
Plan	78 (83%)	77 (82%)	65 (69%)			
Change	92 (84%)	91 (83%)	74 (67%)	67 (61%)		
Remind	121 (78%)	125 (81%)	102 (66%)	90 (58%)		
Exercise	87 (81%)	91 (84%)	79 (73%)	66 (61%)	60 (56%)	
Feelings	98 (79%)	102 (82%)	89 (72%)	77 (62%)	67 (54%)	53 (43%)

RESULTS/DISCUSSION

- The study population was predominantly male veterans, so the results might not be generalizable to other populations.
- Participants who returned the evaluation were older and had smoked longer than those who did not. However, 53 (30%) of those who returned the questionnaire had quit by proxy or saliva cotinine versus 6 (10%) of those who did not return the questionnaire.
- Respondents used a mean of 7 strategies, and those who used more than 7 were significantly (P<.05) more likely to report quitting at 3 (89% vs. 68%), 7 (74% vs. 54%) and 12 weeks (67% vs. 46%) than those who used 7 or fewer.
- Only noticing one's feelings and responding to them other than by smoking was positively significantly related to quitting at each time point, including one-year quitting validated by proxy or saliva cotinine (35% who used it quit vs. 19% who did not, P= .04).

CONCLUSIONS/RECOMMENDATIONS:

- Utilization and helpfulness of strategies suggested in smoking cessation counseling is worth measuring because it can elucidate differences in effectiveness and in smoker preferences.
- These results suggest that developmental skills training, specifically in nurturing, could be helpful to quitting smokers.
- These results suggest that the timing of strategy use and the make-up of strategy combinations should be examined to improve smoking cessation counseling.