

## Development of a telephone-based intervention for support persons to help smokers quit

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### Abstract

This study represents the first step toward systematic behavioral treatment development and pilot testing of a novel approach to smoking cessation that utilizes adults interested in helping someone to stop smoking (i.e., support persons) as the agent of change. The counselor manual for a telephone-based intervention for support persons was developed based on a previous clinic-based intervention. Social cognitive theory served as the conceptual basis for the intervention. Ten adult non-smoking females completed the treatment protocol, consisting of six 20–30-min sessions and written materials. The support person was the sole recipient of the professional intervention. Feedback was obtained from 8 of the 10 participants and all 4 telephone counselors 1 week post-treatment (week 10). Results indicate that the telephone-based intervention was feasible and acceptable to participants. The intervention was refined based on participant and counselor feedback and will be subsequently tested in a randomized pilot trial.

**Keywords:** *Help-seeking, non-smokers, social support, telephone-based, tobacco cessation, willingness to help*

### Introduction

Interventions that reach the majority of cigarette smokers in the population have the greatest potential to impact public health (Brandon, 2001). Most smokers do not seek treatment for smoking cessation and report low levels of motivation to quit (Abrams, Herzog,

Emmons, & Linnan, 2000). Our approach is novel because it utilizes non-smokers who want to assist a smoker in quitting (i.e., support persons) but does not require the smoker to seek treatment. The goal of this study was to develop and refine a telephone-based intervention for support persons.

The Clinical Practice Guideline on treating tobacco use and dependence (Fiore, Bailey, & Cohen, 2000) provides evidence for the role of extra-treatment support in smoking cessation. Despite these findings, reviews of the literature (Lichtenstein, Glasgow, & Abrams, 1986; Palmer, Baucom, & McBride, 2000; Park, Tudiver, Schultz, & Campbell, 2004) indicate that the effect of including an intervention component for support persons on the smoking abstinence outcome is inconsistent. However, efforts to boost natural support in the context of community-based or self-help smoking cessation interventions have been more successful (Carlson, Goodey, Bennett, Taenzer, & Koopmans, 2002; Pirie, Rooney, Pechacek, Lando, & Schmid, 1997). These overall findings are consistent with the literature on social relationships and health suggesting the effectiveness of natural support networks versus social support groups (see Cohen, 2004, for review) especially for maintenance of changes beyond the active intervention (Gottlieb, 2000). Thus, the potential role of supporters in tobacco cessation merits further inquiry.

Our approach was based in part on investigations in the alcoholism treatment field (see Fernandez, Begley, & Marlatt, 2006, for review). This research shows that behavioral programs for support persons (i.e., unilateral therapy) are most effective in prompting or motivating substance users to enter treatment when they both teach behavioral change skills and address the well-being of the support person.

In a preliminary study (Patten et al., 2004), we developed a consecutive, five-session, weekly, 90-min, group-based, skills training intervention for support persons. The pilot study reached many unmotivated smokers as assessed by the stages of change algorithm; 47% of the smokers whom the support persons were assisting were in the precontemplation or contemplation stages. At 6-month follow-up, although not statistically significant, compared to the control condition, the skills training support persons reported a higher proportion of their smokers abstinent (7% vs. 10%), quit attempts (53% vs. 37%) and improvement in readiness to quit (13% vs. 27%). The intervention was also associated with greater skills acquisition as indicated by a statistically significant improvement in Support Provided Measure (SPM) scores from baseline to weeks 6 and 12. However, a refinement in our approach was needed to enhance the potential reach and dissemination of the intervention. Telephone counseling provided a viable alternative due to its accessibility and convenience.

Social cognitive (learning) theory (Bandura, 1998, 2004) was the conceptual basis for the development of the intervention for support persons. This perspective emphasizes the reciprocal interplay between personal (e.g., self-efficacy) and social–environmental (e.g., modeling, social persuasion) determinants of health behavior (Bandura, 1997). Self-efficacy is considered a key aspect of this conceptual framework—the belief or confidence that one can enact a particular behavior or behavioral change. Moreover, research based on social cognitive theory emphasizes the role of positive outcome expectancies, motivation level, and the perceived importance of behavior change.

The importance of early development (stage I) of innovative behavioral therapies has received increasing attention (National Institutes of Health, 2006). In this pilot, we developed and then examined the initial feasibility and acceptability of a telephone-based intervention for support persons. A second aim was to examine the feasibility of obtaining informed consent from smokers for the support person's involvement in the study. Third, based on social cognitive theory, we examined processes of change (e.g., self-efficacy) pre–post intervention.

## Methods

### *Telephone session content*

The telephone-based intervention was projected to be a total of 150 min over six 20–30-min sessions, occurring at weeks 1, 2, 3, 5, 7, and 9. The first three sessions were projected to last 30 min. These were divided into 20 min of discussion and reinforcement of progress with meeting goals, reinforcement of self-rewards, and presentation of specific topics from the booklet followed by 10 min of problem solving. The last three sessions were intended to be 20 min each, with the first half focused on a review of progress and presentation of didactic material and the second half on problem solving. The topics of these six sessions in order were: (a) rationale for the treatment (e.g., personal benefits of the treatment, focus on support person vs. smoker), setting goals and use of self-rewards, education on nicotine dependence, available medications for smoking cessation and referral information, (b) motivation level to quit smoking, support person's comfort level in approaching smoker, use of reinforcers, positive support behaviors (e.g., praise, encouragement) versus negative behaviors (nagging, policing); (c) verbal and non-verbal behaviors that reinforce, reduce, or eliminate smoking behaviors; (d) planning for and shaping tobacco-free shared activities shared between the smoker and support person to model and reinforce non-smoking behavior; (e) shaping alternatives to smoking; and (f) managing relapse and other set-backs.

The counseling intervention components were guided by the social cognitive based model of health behavioral change (Bandura, 2004). Operationally, changes in the support person's behavior were gradually shaped through reinforcement from the counselor and encouragement of self-rewards. The ultimate goals of these efforts were to bolster the support persons' motivation to change their own behavior and self-efficacy to use the skills learned to help their smoker. Furthermore, to enhance the effectiveness of the support person's attempts to encourage or discourage the smoker's behavior, counselors described the concept of a positive reinforcer and how to reinforce efforts or progress made by their smoker toward quitting (i.e., shaping; Smith & Meyers, 2004). The counselor utilized modeling by providing appropriate verbal examples of both positive reinforcement and non-supportive statements, while prompting the support person to likewise model these behaviors for their smoker. For example, the support person could be encouraged to model healthy eating and exercise behaviors, and/or cope with a stressful situation by taking a walk and inviting their smoker to join them. The support person was also taught to assess the smoker's readiness to consider smoking cessation and to use appropriate strategies based on motivational interviewing principles. Moreover, use of a non-confrontational approach and reinforcement for any efforts toward cessation to build self-efficacy was encouraged with all smokers, irrespective of their level of motivation to quit.

Integrated throughout the six counseling sessions were five key messages for the support person to learn and then convey either by verbal and/or non-verbal communications with their smoker. These were: (a) "You can't control your smoker, only yourself. It is important to focus on what you can do as a support person," (b) "Supporting your smoker is a process, not a one shot deal. Never give up on your smoker," (c) "Remind yourself that the process of quitting smoking is difficult for you and your smoker," (d) "Remember that smokers differ in their level of readiness to quit smoking," and (e) "There are resources available to help smokers quit and there are places for your smoker to get help." These components were emphasized to enhance self-efficacy, motivation, and importance of helping the smoker, in addition to enhancing positive expectations for treatment (Bandura, 1997). Specifically, the treatment could be effective not only in supporting the smoker toward change but in enhanced well-being (e.g., acceptance, reduced distress) of the support person.

### *Written materials*

The written materials provided as part of the intervention was condensed from the larger 139-page manual used in our previous study to a briefer 20-page booklet format. The booklet was entitled, *Because You Care . . . Information for family members, friends, or co-workers who are concerned about a cigarette smoker and want to be supportive*. The written materials from the manual were streamlined to retain the topics that participants in our pilot study found to be most helpful and to emphasize the five key messages as described above.

### *Participants*

*Support persons.* Recruitment occurred over a 1-month period in the spring of 2005. We projected a target sample of 10 support persons. Participants were recruited through flyers in the local community and advertisements posted in the Mayo Clinic employee newsletter. The advertisements stated, "Are you concerned about a smoker? Call this number for information to find out how you can help." The content of the advertisements did not include information on the monetary incentive for participation.

Potential participants were screened by telephone and were eligible if they: (a) were at least 18 years of age, (b) provided informed consent, (c) were a never or former smoker (i.e., no smoking during the past 6 months), (d) wanted to help a smoker age 18 years or older who had smoked an average of  $\geq 10$  cigarettes per day in the past 7 days, (e) were able and willing to engage in all portions of the study, (f) had current and expected contact (i.e., in person, telephone, or email) with their smoker  $\geq 4$  days/week for the duration of the study, and (g) the smoker provided informed consent for the support person's involvement in the study. Exclusion criteria were: (a) another support person from the same household was already participating in the study, (b) another support person had already enrolled in the study to help the same smoker, or (c) the smoker had engaged in treatment for smoking cessation (e.g., behavioral or pharmacological treatments) during the past 30 days.

A total of 21 participants were screened. Reasons for exclusion included: schedule conflicts ( $n = 1$ ), no longer interested ( $n = 4$ ), the smoker whom the support person wanted to help refused to provide informed consent ( $n = 1$ ), the support person was not willing or not able to ask the smoker to provide consent ( $n = 2$ ), or the support person was not eligible for other reasons ( $n = 3$ ). See Table I for baseline characteristics of the 10 enrolled support persons.

*Counselors.* Four Mayo Clinic Tobacco Quitline counselors delivered the telephone-based intervention. Each had a Master's or Bachelor's degree in a behavioral health or social sciences-related field. The counselors were provided with 16 h of training on the intervention protocol, which included time for assigned readings, verbal instruction, role-play, and simulated treatment sessions. The trainers included three clinical psychologists with expertise in smoking cessation and behavioral interventions. Counselors received training on the importance of maintaining treatment fidelity, the theoretical basis for the intervention and specific guidelines for administering the treatment protocol to support persons over the telephone. They were oriented to the counselor manual, which contained specific guidelines regarding topics to be presented each week and the structure of each session. To maintain the fidelity of the delivery of the intervention, counselors attended a refresher training session halfway through the study period as well as monthly meetings with the research team. During these meetings, feedback to the counselors and continued training on the intervention was provided as needed.

Table I. Baseline characteristics of support persons ( $N=10$ ).

Characteristic	<i>n</i> or mean (range)
<i>Female</i>	10
<i>Employed</i>	10
<i>Race</i>	
Caucasian	9
African American	1
<i>Age</i>	37.1 (19–54)
<i>Smoking history</i>	
Never smoked	5
Experimented	2
Former regular smoker	3
<i>Home is smoke-free</i>	7
<i>Lives with smoker</i>	3
<i>Gender of smoker, male</i>	8
<i>Age of smoker</i>	29.5 (21–47)
<i>Type of relationship—smoker is a:</i>	
Spouse	3
Child	3
Sibling	1
Friend	1
Boyfriend/girlfriend	2
<i>Number of previous times tried to help smoker</i>	
None	6
Two or more times	4

### *Procedures*

After obtaining written informed consent from both the support person and from the smoker, the support person completed baseline assessments in person or by mail. All participants received the booklet and were scheduled for telephone counseling sessions to occur at weeks 1, 2, 3, 5, 7, and 9. One week post-treatment (week 10), support persons were asked to complete questionnaires in-person or by mail and were reimbursed \$25 for completion of the assessments. Only 8 of the 10 support persons completed the post-treatment assessment.

### *Measures and statistics*

*Treatment fidelity.* To ensure the counselors did not drift from the procedures on which they were trained, all counseling sessions were audiotaped with consent of the participant. A sample of 12 audiotapes was randomly selected from early, middle, and late treatment sessions. These were reviewed and rated by the first author and on a weekly basis, the counselors were provided with feedback on their delivery of the intervention. Additionally, counselors completed a checklist subsequent to each counseling session, indicating topics covered during the session. Based on the counselor manual, for each support person, a checklist was used to compare the number of intervention components counselors delivered to the number intended for each of the 12 sessions (audiotapes), summarized as a percentage. Each session was timed and recorded by the counselor to assess treatment duration. The mean and range of each session was summarized.

*Treatment compliance.* Counselors recorded whether each telephone session was complete by support persons, and the mean and range of the six telephone sessions attended was summarized. To assess compliance with reading assignments, support persons reported at the post-treatment assessment if they had read “none,” “some,” or “a lot” of the written materials, these data are summarized using percentages.

*Process measures.* At baseline and week 10, support persons were asked to complete several process measures, mostly single items, that were consistent with our social cognitive theoretical framework. Table II presents the measures and mean  $\pm$  standard deviation (*SD*) scores.

Self-efficacy to help (question 1), outcome expectancies (question 2), importance of helping (question 3) and motivation to help (question 4) were measured using single items. These questions were based on prior research examining self-efficacy among natural helpers in communities (Clarke, 2001). Questions 1–3 were rated on a 10-point scale ranging from 1—“not at all confident” to 10—“completely confident”, while question 4 was rated on a 10-point scale ranging from 1—“not motivated at all” to 10—“extremely motivated”. In addition, we used the 22-item SPM to assess provision of support to their smoker (Thomas, Patten, Offord, & Decker, 2004; Thomas et al., 2005). Supportive behaviors were rated over the previous 2-week period using a two-level response set in which respondents indicated whether or not the behavior occurred (i.e., “Yes” or “No”). SPM items pertain to support provided to a smoker irrespective of their level of readiness to quit smoking. The SPM was shown to have high internal consistency ( $\alpha = 0.83$ ) and has two scales: (a) behaviors performed for the smoker (14 items, e.g., “provided information to your smoker”) and (b) behaviors performed for oneself (five items, e.g., “coped with your stress by relaxing. . .”) (Thomas et al., 2005). Possible scores range from 0 to 22, with higher scores indicating more support provided.

*Treatment acceptability.* At week 10, support persons were asked to rate the perceived helpfulness of the program in a mailed questionnaire. The items (Table III) addressed the perceived helpfulness of the booklet (questions 1–2), the overall program (questions 3–4) and the telephone counseling (questions 5–6). Responses to these items were answered on a

Table II. Treatment process measures in a pilot study of support persons.<sup>a</sup>

Process measure	Baseline, week 0 ( <i>N</i> = 10)	One week post-treatment, week 10 ( <i>N</i> = 8)
(a) Self-efficacy (How confident are you that you can help your smoker quit or stay quit regardless of the situation?)	4.9 $\pm$ 2.3	6.3 $\pm$ 2.2
(b) Outcome expectancy (How confident are you that you that your efforts will help your smoker quit or stay quit?)	5.0 $\pm$ 2.4	6.1 $\pm$ 1.8
(c) Motivation (How motivated are you to help this person to quit smoking or stay quit?)	9.0 $\pm$ 1.8	9.5 $\pm$ 0.5
(d) Importance (How important is it to help your smoker quit or stay quit?)	8.7 $\pm$ 1.9	9.6 $\pm$ 0.5
(e) Support Provided Measure total score	9.8 $\pm$ 5.0	9.8 $\pm$ 4.0

<sup>a</sup>All values are reported as mean  $\pm$  *SD*.

Table III. Post-treatment acceptability ratings in a pilot study of support persons ( $n = 8$ ).

Item	<i>n</i>
(a) <i>How helpful was the booklet in assisting you to help your smoker?</i>	
Not at all helpful	0
A little helpful	0
Somewhat helpful	4
Very helpful	4
(b) <i>How helpful was the booklet in helping you deal with your own feelings, attitudes, and thoughts about interacting with smoker?</i>	
Not at all helpful	1
A little helpful	0
Somewhat helpful	3
Very helpful	4
(c) <i>How helpful has the overall program been in helping you deal with your own feelings, attitudes, and thoughts about interacting with your smoker?</i>	
Not at all helpful	1
A little helpful	0
Somewhat helpful	2
Very helpful	5
(d) <i>How helpful has the overall program been in assisting you to help your smoker stop smoking or move along the process of becoming smoke-free?</i>	
Not at all helpful	0
A little helpful	1
Somewhat helpful	5
Very helpful	2
(e) <i>How helpful was the telephone counseling sessions in assisting you to help your smoker?</i>	
Not at all helpful	0
A little helpful	2
Somewhat helpful	4
Very helpful	2
(f) <i>How helpful have the telephone counseling sessions been in helping you deal with your own feelings, attitudes, and thoughts about interacting with your smoker?</i>	
Not at all helpful	1
A little helpful	1
Somewhat helpful	3
Very helpful	3
(g) <i>Would you recommend this program to another person interested in helping their smoker stop smoking?</i>	
Definitely would	3
Probably would	5
Unsure	0
Probably would not	0
Definitely would not	0

4-point scale, ranging from “not helpful at all” to “very helpful.” Question 7 assessed whether they would recommend the program to other people interested in helping someone quit smoking with answers ranging from “definitely would” to “definitely would not.” Support persons were also given the opportunity to provide open-ended, qualitative feedback on the program. The number of participants endorsing each response for each item was summarized.

*Counselor feedback.* The telephone counselors were surveyed by mail to obtain their feedback on the training they had received and intervention delivery. Seven items were included (Table IV) on the helpfulness of the counselor training and the counselor manual (questions

Table IV. Counselor ratings of intervention ( $n=4$ ) in a pilot study of support persons.

Item	Mean $\pm$ SD or $n$
(a) How helpful were the training sessions in teaching you how to accurately implement the telephone treatment protocol?	8.8 $\pm$ 1.0
(b) How helpful was the counselor manual in guiding you through the telephone sessions?	8.5 $\pm$ 1.0
(c) How prepared did you feel to handle most questions and comments posed by support persons during the telephone sessions?	9.3 $\pm$ 1.5
(d) How confident were you in your ability to accurately deliver the session material according to the counselor manual?	8.8 $\pm$ 1.0
(e) In the future, how confident do you feel in delivering this type of Intervention for support persons through the <i>Quitline</i> ?	9.3 $\pm$ 1.5
(f) Based on your experience, compared with an in-person intervention, how effective do you think this counseling intervention for support persons over the telephone is?	
Probably less effective than in person	1
About the same	3
More effective than in-person	0
(g) Generally, how interactive were the subjects during your sessions (e.g., asked questions, shared issues they were dealing with)	
Very interactive	1
Somewhat interactive	3
Not at all interactive	0

Items a–e versus 1–5 were rated on 10-point scale, with 1 indicating not helpful, confident, or prepared and 10 indicating very helpful, confident, or prepared. Possible scores range from 1 to 10.

1–2), preparation to handle participant questions (question 3), their confidence in accurately delivering the protocol (questions 4–5), and perceptions of the usefulness of the intervention (question 6) and of how interactive the support persons were during the sessions (question 7). The first five questions were answered on 10-point scale, with 1 indicating not helpful, confident, or prepared and 10 indicating very helpful, confident, or prepared. Possible scores range from 1 to 10 and for these, the mean  $\pm$  SD were reported. For questions 6–7, the number of counselors endorsing each response was summarized. Open-ended feedback was summarized using content analysis according to the major themes that emerged across counselors.

## Results

### *Treatment fidelity*

Based on the checklists and audiotapes, overall counselor adherence to the manual guidelines was 100%; thus the intervention was delivered according to protocol. The mean (range) duration in minutes of each of the six sessions was 30.2 (24–36), 30.7 (25–40), 28.3 (25–31), 19.1 (15–25), 19.2 (15–23), and 17.5 (15–20), respectively. The targeted durations were 30 min for the first three sessions and 20 min for the last three. Thus, actual and intended durations were quite similar.

### *Treatment compliance*

Participants attended an average of five of six sessions (range 2–6). Six support persons completed all six telephone sessions, two completed sessions 1–4; and two completed



sessions 1 and 2. Of those support persons who did not complete all treatment sessions, time constraints were the most cited reason for non-completion. When asked at post-treatment how much of the booklet they had read, all eight reporting support persons indicated they had read the entire booklet.

#### *Process measures*

Table II shows mean SPM scores and ratings on self-efficacy, motivation, and outcome expectancy items at baseline and post-treatment. Eight of the 10 support persons completed the post-treatment assessment. The small sample limits our ability to conduct valid statistical pre–post comparisons.

#### *Treatment acceptability*

Table III shows the support person treatment acceptability ratings. Overall, the intervention was rated as helpful. The most positive aspects was feedback on the booklet (questions 1 and 2) and the overall program in helping the support person deal with their own feelings, attitudes, and thoughts about interacting with the smoker (question 3). There was moderate enthusiasm for aspects related to how helpful the overall program and telephone counseling sessions were in helping their smoker to quit (questions 4–7).

When asked if they would change the number or length of the telephone counseling sessions, half indicated they would reduce the number of sessions, while half indicated they would shorten the length of each session. Those who did not indicate they would reduce the number of or shorten the sessions responded they would not make changes to session number or length (i.e., none suggested increasing the number of or lengthening sessions).

#### *Counselor feedback*

Overall counselor feedback was positive (Table IV), reporting the helpfulness of the training sessions and their confidence in their ability to accurately deliver session material. Open-ended counselor feedback indicated they thought session 5, which focused on shaping alternatives to smoking, included unnecessary duplication of material covered in other sessions. Counselors also suggested that a portion of the material covered in session 6 (managing set-backs and relapse) should be revised to be more applicable to support persons whose smoker had not quit or had lower levels of readiness to quit. Furthermore, they expressed concern regarding the use of 2-week periods between sessions 4, 5, and 6. They did not believe that support persons were utilizing the 2 weeks to practice skills more than what they would with a 1-week period, and had concerns about participant attrition with the longer period between sessions. Finally, they advocated revising the counselor manual to include asking participants to set a goal at the final session (as they were after each preceding session).

## **Discussion**

This study represents the first step toward systematic behavioral treatment development and pilot testing of a new approach to smoking cessation that utilizes support persons as the agent of change. The intervention and measures were based on a solid conceptual framework of social cognitive theory. While the basic intervention was evaluated previously

(Patten et al., 2004), the contribution of this revised intervention is that it shifts counselor delivery from a face-to-face to a telephone-based format. This approach may have the potential to reach more support persons and their smokers due to the accessibility and convenience of telephone counseling. Although the cessation outcomes for the intervention were less than that achieved by most clinic-based interventions, when applied on a population level (i.e., wider reach) there is potential for greater impact from a public health standpoint. While the treatment is still quite intensive, the duration and number of sessions is consistent with that provided to smokers by state quitlines (Lichtenstein, 2002; Lichtenstein, Glasgow, Lando, Ossip-Klein, & Boles, 1996; Zhu & Anderson, 2000) and should therefore be generalizable.

Support persons were recruited in a timely manner, with 10 enrolled within a 1-month period. This is identical to the rate of recruitment in our previous clinic-based study (Patten et al., 2004), with both studies using minimal recruitment efforts. Nonetheless, there may be more effective and expedient methods used to recruit participants for future studies such as statewide or population-based approaches (e.g., television and other media, Internet). Related to this, our participants may or may not represent a select sample of all potential support persons in that they consisted of females who were educated and employed and nearly all were Caucasian. Greater reach of our program using different recruitment methods may result in a more representative sample. In our previous study (Patten et al., 2004), no contact was made with the smoker to obtain informed consent or assessment data. While addressing potential human subjects concerns, formative work was needed to examine if requiring informed consent from the smoker for the support person's involvement in a study would pose a barrier to recruitment. Encouragingly, the necessity for informed consent from the smoker in the current study was not a barrier to recruitment. Only 3 of 21 (21%) potential support persons who were screened did not enroll because of an issue related to obtaining informed consent from the smoker.

We found that counselor adherence to the telephone counseling protocol was excellent. The counselors were confident of their training and ability to implement the protocol. Moreover, support person compliance with the telephone counseling sessions and with readings from the booklet was high. However, a limitation is that we relied on self-reported compliance with the readings from the booklet, which may have been biased due to recall and/or social desirability. Support persons generally rated the intervention as acceptable and reported they would recommend the treatment to someone else. Components rated most favorably were the booklet and overall program in helping the support person deal with their own feelings and attitudes. However, it appears that support persons may need more guidance on helping their smoker to quit. One approach may be to encourage support persons to prompt their smoker to call a state quitline or make some other type of referral, where the counseling process would be turned over to a professional. Indeed, the primary goal of interventions with spouses and other individuals supporting a substance user is to motivate the substance user to enter treatment (Fernandez et al., 2006).

A limitation is that our methods were primarily quantitative, where qualitative approaches may have been more informative (e.g., individual interviews or focus groups). Other major drawbacks of this study are the small sample size, use of a single group design, and use of single items with unknown reliability and validity for most process and outcome measures. Attention to these methodological issues in future research would allow for valid examination of significant pre-post intervention increases on theoretically based process measures.

The small sample size also precluded examination of potentially important supporter characteristics, which merits future inquiry. From social cognitive theory, we speculate that

increased contact with the smoker, the type of relationship to the smoker, and the smoking history of the support person may affect the level of support provided and subsequent smoking outcomes. For example, the effect of living with a smoker may be important as there may be more opportunities for modeling and providing reinforcement to the smoker compared with those not residing with their smoker. In addition, 7 of 10 of our support persons enrolled to help a relative (spouse, child, sibling). It is not known whether individuals supporting family members are more effective than those who are co-workers or friends of support persons. Further, research has shown that current smokers are less effective at delivering support than non-smokers (Murray, Johnston, Dolce, Lee, & O'Hara, 1995), but among non-smokers, it is not known whether a former history of smoking enables one to be more effective compared with those who have never smoked.

The results from this initial pilot study indicate the feasibility of directing a telephone-based intervention at increasing support person's skills to help a smoker quit. This pilot allowed for systematic refinement of the behavioral treatment manual using participant and counselor feedback. Our goal was to refine the support person intervention in preparation for a randomized clinical trial. In addition, the subsequent trial will examine feasibility of obtaining baseline and outcome assessments from the smoker. For example, one question to be asked is whether this approach will bias our recruitment toward support persons whose smokers are in the higher stages of readiness to quit smoking.

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