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Why do those who request smoking treatment fail to attend the first appointment?

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Abstract

As part of a larger trial of pharmacological and counseling interventions for light smokers, we performed a telephone-screening interview followed by a scheduled time for an in-person eligibility appointment. 202 of the 407 who screened positive and expressed interest in participation failed to attend the first scheduled appointment. This paper examines person, study and study site characteristics that differentiated those who did follow through from those who did not. The study also examined the self-reported quit rates of both groups 12 weeks later, the time of the study termination.

Analyses suggested that non-attendees were more likely to be younger, unemployed, and African American. The most frequently cited reasons for missing the eligibility appointment were work/family obligations, inconvenient appointment times, and personal schedule problems. Those who kept the initial appointment were more likely to report smoking abstinence at 12 weeks.

The study has implications for increasing the utilization of potentially effective treatments for smokers.

Keywords

Show rate; Lighter Smokers; Scheduled appointments; Clinical trial barriers; Access to treatment; African American smokers

1. Introduction

It is generally agreed that most smokers do not seek structured smoking cessation assistance when they decide to quit smoking. Self-initiated attempts without a smoking cessation product and/or counseling are the norm (Zhu et al., 2000; Pierce & Gilpin, 2002; Meyer et al., 2003; Hammond et al., 2004) along with poor self-help quit rates (Clinical Practice Guideline Panel;

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Fiore et al., 2000). Among the minority of smokers who seek assistance, very little is known about lighter smokers who are treatment seekers. While the literature indicates that lighter smokers (defined as 15 or fewer cigarettes per day) have an easier time achieving abstinence (Surgeon General, 1989; McWorter, Boyd, & Mattson, 1990; Fargas, 1999), factors associated with treatment seekers appearing for formal assistance or for achieving short-term or long term abstinence are unknown among this subgroup. Understanding factors related to not following through with formal treatment have important implications for reducing impediments to treatment.

Consistent with the reported low rates of smokers seeking cessation assistance, only 17.2% of quit attempters in the large 1999 California Tobacco survey used a pharmaceutical aid(s) (i.e., nicotine replacement product (NRT) and/or bupropion) during their latest quit attempt (Pierce & Gilpin, 2002). In the California Tobacco surveys of 1996 and 1999, only 20% of pharmaceutical product users added adjuvant group or individual counseling (Pierce & Gilpin, 2002). Further, no pharmaceutical aid advantage for achieving short or long term smoking abstinence was reported for the nearly 60% of California smokers who were classified as light smokers (<15 cigarettes per day) (Pierce & Gilpin, 2002).

Smokers who perceive assistance as effective are more likely to make a quit attempt and follow through with utilizing the outlined methods of assistance (Hammond et al., 2004). One form of structured assistance is clinical trials. Clinical trials frequently combine two forms of assistance: a pharmaceutical product(s) and counseling. Those not participating in clinical trials tend to be younger, less educated, and smoke fewer cigarettes (Fortman & Killen, 1994; Ahluwalia et al., 2002a).

Other potential barriers to seeking smoking assistance through a clinical trial as identified in smoking literature (Pohl, Martinelli, & Antonakos, 1998; Ahluwalia et al., 2002a; Harris et al., 2003), our prior work (Gariti et al., 1995), and medically underserved literature (i.e., racial and ethnic minorities and/or low income) (McCabe, Varricchio, & Padberg, 1994; Brawley & Tejeda, 1995; Morse et al., 1995) include: 1. site variables such as the number of days before being seen, appointment times, location of facility, ease of transportation and associated costs (e.g. parking, directions, etc.); 2. study requirements such as time commitment, bio-psychosocial information gathering and testing (e.g. blood draw, urine drug screen, smoking history), medications studied, and compensation package; and 3. personal reasons such as work schedule or family obligations (e.g. child care, unexpected event), stress, changing one's mind, quitting on own or through another program, distrust of research, etc).

In an ongoing study of self-referred lighter smokers in an urban university setting, we were interested in: 1. identifying factors related to not keeping a scheduled eligibility evaluation following a telephone screening; and 2. preliminarily testing the short-term effectiveness of a smoking cessation trial (nicotine patch vs. bupropion, crossed with two levels of 4 or 10 sessions of counseling) (Gariti, Alterman, Kampman, & Lynch, unpublished study) among individuals who participated in the program and those who declined treatment.

2. Material and methods

2.1. Sample Population, Setting, and Clinical Trial

The sample for the first objective was drawn from the first 407 scheduled candidates seeking admission into the above described clinical trial in 2004. The sample only includes candidates who passed an initial telephone eligibility-screening questionnaire and requested a confirmatory in-person eligibility appointment after having details of the clinical trial presented.

Prospective participants for the clinical trail were recruited primarily by television and newspaper announcements and ads to a university campus treatment center located in the heart of a large urban setting.

Inclusion criteria for the clinical trial included being between 18 and 70, currently smoking 6-15 cigarettes per day (cpd), willing to stop smoking, willingness to attend 4-10 individual counseling sessions and three follow-up interviews (Weeks 12, 26, and 52). Exclusion criteria included current use of other tobacco products, pregnant or planning to become pregnant during treatment phase, medical problems associated with the use of the nicotine patch or bupropion, substance abuse diagnosis within the in past 6 months or current use of cocaine, current use of antidepressants, history of psychosis, currently receiving counseling for smoking cessation or taking a smoking cessation product.

The University of Pennsylvania Institutional Review Board approved both the attendance study and clinical trial study protocols.

2.2. Attendance Study Design

To identify possible variables related to non-attendance, socio-demographic, smoking, and referral source screening data obtained from eligible attendees and non-attendees were compared for similarities and differences. A supplemental telephone survey was conducted to explore possible reasons for non-attendance and to obtain smoking status that corresponded to a non-attendee's projected end of treatment. Projected end of treatment comparisons were made between surveyed non-attendees and randomized participants (study objective 2).

At a minimum three months post-projected treatment completion but no longer than 1 year, trained research technicians contacted the first 216 scheduled study candidates who never attended the initial in-person eligibility evaluation to complete a telephone survey. Fourteen non-attendees were excluded from analysis because they did not recall having had a scheduled appointment.

The scripted survey consisted of 18 possible reason(s) for not attending (i.e., site factors, study factors, and person factors identified in the review of the literature) along with smoking status three months post-projected from the “start of treatment”. The survey was conducted at a minimum three months post-projected treatment completion to allow for an end of treatment (Week 12) smoking status comparison to randomized clinical trial participants.

Attendance analyses were conducted after the completion of the survey to identify variables related to non-attendance. Socio-demographic, referral, and smoking characteristics of non-attendees (n= 202) taken from the initial telephone screening were compared to those of attendees (n= 205).

To explore the reported relationship between a reluctance to seek a medication based approach and smoking fewer cigarettes, the number of cigarettes smoked was examined both as a continuous variable (t-test) and as a binary variable (chi-square test) with the number of cigarettes divided into a high (10-15 cpd) versus low (6-9 cpd) split to correspond with 10 cpd being the usual cut-off employed in more recent clinical trials of daily smokers (e.g., West et al., 2001; Ahluwalia et al., 2002b; Gonazales et al., 2006).

Survey responses for 91 non-attendees completing the telephone survey (45%) were tabulated and compared with those who did participate. Further analyses included smoking status three months post projected treatment completion (Week 12) among a subset of all 121 attendees who were randomized (i.e., passed all in-person eligibility requirements and showed for a

randomization appointment) compared to the 91 non-attendees who only completed the telephone survey.

2.3. Procedures and Instruments

2.3.1 Initial Telephone Eligibility Screening Interview for Clinical Trial—A trained telephone screener explained the procedures for the study after determining the number of cigarettes smoked daily. A scripted text was used to explain the study elements (medications, screening tests-including urine drug screen and blood draw, time commitment, and compensation package) before conducting a formal telephone screening. If agreeable, screening and demographic information were obtained. Flexible weekday initial appointment times for eligibility determination were offered to accommodate those who were working or had other obligations (8:00 am- 5:30 pm). Directions were given and a reminder phone call was made the day before the appointment. Free parking and tokens were available. Participant compensation (maximum $205) was designed with greatest payments occurring during follow-up, to encourage attendance at all three post-treatment follow-up visits.

2.3.2. Non-Attendee Telephone Survey including Post-projected Treatment Completion Smoking Status—A maximum of 5 phones calls, at varying times, were attempted per non-attendee during the post-projected treatment completion period. A brief non specific message (to protect confidentiality) was left if there was an answering machine. If a phone number was not a working number or there was no answer or response, a letter was sent to the person's address obtained at screening inviting participation. If a letter was returned with no forwarding address, an attempt to reach the person was made through a name and address finding service.

Using a scripted text, the technician conducted a brief telephone survey asked the 18 described reasons that might have led to the decision to not participate. An open-ended question asked for anything else the person wanted to add. Additionally, the person was asked about his/her smoking status three months after the initial scheduled appointment. Finally, the person was asked to quantify on a 0-5 scale the degree of confidence (5 = highest) in the answers given.

2.4. Data analysis

Group comparisons used t-tests for continuous variables and chi-square tests for categorical variables. Multiple logistic regression models were used to predict attendance/non-attendance at the intake visit.

3. Results

3.1. Univariate Comparisons

Background Characteristics—As can be seen in Table 1, prospective participants who attended the initial in-person eligibility appointment were significantly older, less likely to be African American, and more likely to be employed. There were no significant group differences based on cigarette use, nor for the amount of wait time or the referral source.

3.2 Logistic Regression Model

Logistic regression was implemented using the variables previously described as possible predictors of whether a potential participant kept an intake visit. Marital status, employment status, race, referral source, sex and current cpd [hi (10-15) vs. low (6-9)] were included as categorical variables. Wait time for the appointment and age were included as continuous variables. Note that only Whites and African-Americans were included in the logistic regression as there were too few representatives of other races to include (n =15). Among these

variables tested jointly, four were significant at the $p < 0.10$ level (Table 2). Age was significant at $p < 0.05$ with older subjects slightly more likely to attend than their younger counterparts. The odds-ratio indicates that each additional year of age was associated with the candidate being *1.032* times more likely to attend an intake visit. Race was significant $(p < .05)$ with African-American applicants predicted to attend at only 41.1% the rate of their White counterparts. Employment status was significant $(p < .05)$ with the employed being 2.09 times more likely to attend than those non-employed. Additionally, wait time before the scheduled appointment was also jointly significant $(p = 0.09)$ with age, race, and employment status. According to our model each additional waiting day was associated with subjects attending at only 92% the rate they otherwise would have attended their intake visit.

Wait time measurement presents some problems since the potential participants requested most of the long wait-times and thus casts doubt on the validity of this one covariate's significance. When a binary version of wait time (4 days or less vs. 5 or more days) was substituted for the continuous variable it was no longer statistically significant.

3.3 Response to Follow-up Telephone Survey

Contact by phone or letter was achieved with 89.4% of the non-attendees. A comparison of socio-demographic and smoking data revealed no differences among the non-attendees participating in the survey versus those who did not participate.

Survey responses were divided by site factors, study factors, and person factors. Forty (40) individuals (44.0%) cited multiple categories (study, site, or personal) for not keeping their appointment. Fifty-one (51) individuals (56.0%) cited two or more reasons for not keeping their appointment. The average certainty of perceived accuracy for answers given was 4.8 out of five $(SD = 0.55)$.

The most frequently cited reasons for not keeping the initial eligibility appointment were work or family obligations, change in schedule, and appointment time. Other noted reasons included location of the facility and transportation costs. Most of the more frequently stated reasons appear time related and/or burden related. Study related factors or change of heart did not appear to be major factors.

To gain a better understanding of who was most affected by the stated reasons for not keeping the initial appointment, we evaluated the relationship between socio–demographic characteristics (i.e., age, sex, race, marital status, and employment status) and stated reason(s) for not attending. As might be expected, those who were employed were more likely to cite appointment time as a reason for not keeping their appointment $(\chi^2_{[1]} = 7.409; p = 0.006)$ whereas the non-employed were more likely to cite transportation costs $(\chi^2_{[1]} = 11.492; p = 0.001)$. No other socio-demographic comparisons were associated with non-participation.

3.4 Comparison of Smoking Status for Attendees Versus Non- Attendees at Follow-up

Similar to the intra group comparison of socio-demographic and smoking data among the non-attendees, there were no differences between randomized attendees (n=121) and attendees who were not randomized (n=84).

At week 12, the 7-day, self reported abstinence rate of study participants was 47.9%. The corresponding rate for non-attendees was 9%. The difference was statistically significant $(\chi^2_{[1]} = 25.47; p < 0.0001)$. Among survey participants currently smoking at the time of the survey, the number of cigarettes smoked per day was comparable to their initial telephone-screening interview (10.79 cpd vs. 10.66 cpd) and there were no between group differences.

4. Discussion

To our knowledge, this is the first study to examine factors related to not attending treatment among proclaimed treatment seeking smokers.

Social-demographic, smoking and referral characteristics of non-attendees suggest that younger smokers, non-employed smokers, and African American smokers were less likely to keep their in-person eligibility appointment, following their expressed interest in a smoking cessation study and passing an initial telephone screening. The findings are similar to studies reporting greater non-participation rates among younger smokers (Fortman & Killen, 1994; Ahluwalia et al., 2002a) and those of minority descent (Harris et al., 2003). The findings are different from studies reporting greater non-participation rates among males (Ahluwalia et al., 2002a) and lighter smokers (Fortman & Killen, 1994; Ahluwalia et al., 2002a) and no differences for employment status (Ahluwalia et al., 2002a).

Beyond background characteristics, our findings suggest that appointment time and transportation costs for the employed and non-employed respectively were major contributors to non-attendance. Employed surveyed participants indicated that the times offered for an initial appointment weren't conducive to their work or personal schedule/obligations whereas the non-employed surveyed participants reported that transportation costs were too burdensome. It was surprising to us that we found very limited mention of objection to the study medications, study or counseling requirements, location of the study site, dislike of research, or being less ready to quit.

Candidates who were willing and able to participate and to be randomized were more likely to stop smoking than those who did not keep the initial scheduled appointment. While this finding has many interpretations, one worth considering is that the interventions were responsible for the higher quit rates and that efforts to engage more individuals into the interventions could improve total quit rates. While speculative, data from the surveys suggest simple remedies for some of the commonly reported reasons for non-attendance including increasing available clinic hours and days of operation (i.e., Saturdays) and assuring that transportation costs are fully compensated, perhaps a pre-paid transportation pass sent to potential participants.

Study Limitations

The main study limitation was a relatively low survey participation rate and lack of detailed information available about the non-attendees (e.g. reasons for being unemployed, education level, other drug use, etc.). Further, the relatively low survey response rate among non-participants might have resulted in the responses presented being non-representative of the subgroup.

Conclusions

The study has implications for improving participation in smoking cessation programs.

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