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# Gender differences in quit rates following smoking cessation with combination nicotine therapy: influence of baseline smoking behavior

Abraham Bohadana, Fredrik Nilsson, Thomas Rasmussen, Yves Martinet

Women are less successful than men at quitting smoking. We examined whether the male vs. female cessation outcome was influenced by baseline smoking behavior in participants who attempted to quit by using nicotine inhaler (NI) plus nicotine patch (NP) combination therapy. This double-blind, randomized, placebo-controlled trial enrolled 196 men and 204 women. Group 1 (99 men, 101 women) received NI plus NP (15 mg nicotine/16 h) for 6 weeks, then NI plus placebo patch (PP) for 6 weeks, then NI alone for 14 weeks. Group 2 (97 men, 103 women) received NI plus PP for 12 weeks, then NI alone for 14 weeks. Outcome measures were continuous self-reported abstinence and expired carbon monoxide concentration  $< 10$  ppm. Baseline nicotine dependence was assessed by the Fagerström Test for Nicotine Dependence (FTND), and behavioral dependence by the 18-question Glover–Nilsson Smoking Behavioral Questionnaire (GN-SBQ). Male vs. female complete abstinence rates, regardless of treatment group, were 61.7% vs. 46.6% at 6 weeks ( $p = 0.0022$ ), 42.3% vs. 30.9% at 12 weeks ( $p = 0.017$ ), 30.1% vs. 17.6% at 6 months ( $p = 0.003$ ), and 23.0% vs. 10.8% at 12 months, respectively ( $p = 0.001$ ). Men had significantly higher baseline FTND ( $p = 0.0180$ ) and lower total GN-SBQ ( $p < 0.0001$ ) scores than women. In conclusion, women appear to have higher behavioral, and lower nicotine, dependence than men according to the GN-SBQ and the FTND; thus both nicotine and behavioral treatment should be tailored to women to increase their chances of abstinence.

## Introduction

Evidence suggests that women tend to be less successful than men at quitting smoking (Perkins, 2001). Lower quit rates among women frequently have been reported in clinical trials of smokers quitting with formal counseling but without medication, of self-quitters, and of cessation trials with nicotine replacement therapy (NRT; Fortmann & Killen, 1994; Bjornson *et al.*, 1995; Nides *et al.*, 1995; Swan, Jack, & Ward, 1997; Wetter, Kenfold, Smith, Fiore, Jorenby, & Baker, 1999). Possible explanations include women's greater concern about weight gain, greater difficulty with negative mood associated with quitting, and greater need for social support to quit smoking (Jensvold, Hamilton, & Halbreich, 1996). In

addition, it has been hypothesized that women might be reinforced less by nicotine intake and more by non-nicotine factors, such as those of a behavioral nature (e.g., smoking cues) (Perkins 1996; Perkins, Donny, & Caggiula, 1999).

All nicotine replacement products address the pharmacological aspect of tobacco dependence, and some products also address certain behavioral components. Effective nicotine substitution levels can be achieved safely by the use of nicotine gum, patch, nasal spray, sublingual tablet, or inhaler. However, in terms of behavioral compensation, the inhaler has the greatest potential to replace some of the oral, handling, and sensory reinforcements of smoking behavior. Through its unique characteristics, the inhaler can replace some of the "hand-to-mouth" reinforcement of smoking behavior. One recent study that randomized smokers to receive either gum, patch, nasal spray, or inhaler found lower abstinence rates for women than men in the gum, patch, and nasal spray treatment groups; however, in the inhaler group, the abstinence rate was higher in women than in men (West, Hajek, Nilsson, Foulds, May, & Meadows, 2001).

Abraham Bohadana, INSERM Unité 420, Epidémiologie Santé Travail, Nancy, France; Yves Martinet, Service de Pneumologie, CHU de Nancy, Nancy, France; Fredrik Nilsson and Thomas Rasmussen, Pharmacia Consumer Healthcare, Clinical Research, Helsingborg, Sweden.

Correspondence: Abraham B Bohadana, MD, INSERM Unité 420, Faculté de Médecine, B.P. 189-9, Av de la Forêt de Haye, 54505 Vandoeuvre-lès-Nancy Cedex, France. Tel: +33(0)383 59 25 97; fax: +33(0)383 59 25 96; email: abraham.bohadana@nancy.inserm.fr

A recent review of smoking cessation in women commented on the difficulty of drawing firm conclusions in the relative efficacy of NRT, because of the lack of data comparing outcome results in men vs. women (Perkins, 2001). On the other hand, it is now recognized that tobacco use is a problem that crosses gender (and racial/ethnic) boundaries, so more information is needed on gender differences that might affect the efficiency of formal tobacco-dependence treatment (Piper, Fox, Welsch, Fiore, & Baker, 2001).

We recently conducted a cessation trial in 400 subjects and found the combination of nicotine patch plus nicotine inhaler to be more effective than nicotine inhaler alone (Bohadana, Nilsson, Rasmussen, & Martinet, 2000). The present study examined the gender-related differences in cessation outcome measures and focused on how the male vs. female differences, if any, were influenced by objectively assessed baseline smoking behavior.

## Methods

Methods have been described in detail previously (Bohadana *et al.*, 2000). Between March 1996 and February 1998, the Centre Hospitalier Universitaire de Nancy-Brabois recruited 400 eligible subjects (196 males, 204 females) from Nancy and surrounding towns, using local newspaper advertisements. All subjects consented to the study, and the local ethics committee of Lorraine approved the study protocol.

Two hundred subjects were randomly assigned to Group 1, to receive a combination of the nicotine inhaler (NI; 4 mg nicotine available) plus nicotine patch (NP; 15 mg/16 h), and 200 assigned to Group 2 to receive the nicotine inhaler (NI; 15 mg/16 h) plus placebo patch (PP). The study was double-blind up to week 6, single-blind from weeks 6 to 12, and open thereafter.

The total treatment period included seven visits, with dose tapering for 6 months and follow-up to 1 year (Table 1). The total treatment period (including

dose tapering) was 26 weeks. From quit day to week 6, participants in Group 1 received NI+NP, whereas those in Group 2 received NI+PP. From weeks 7 to 12, subjects in Group 1 received the PP instead of the NP, while Group 2 treatment remained unchanged. Both groups received identical patch treatment (placebo) during this period. During the first 3 months, subjects were instructed to use 6–12 inhaler cartridges per day *ad libitum*. At the end of month 3, the placebo patch was withdrawn in both groups. If needed, the inhalers were tapered as follows: up to eight cartridges a day during month 4, up to six cartridges a day during month 5, and up to three cartridges a day during month 6. No treatment was administered after the end of month 6. Subjects were then followed up for an additional 6 months.

## Assessments

At baseline, the day before quit day, patient characteristics and vital signs were assessed. Participants were weighed, and questionnaires were used to assess the reasons for stopping smoking (Bohadana *et al.*, 2000) and the degree of nicotine dependence (Fagerström Test for Nicotine Dependence, FTND; Heatherton, Kozlowski, Frecker, & Fagerström, 1991). Baseline smoking behavior was assessed using the Glover–Nilsson Smoking Behavioral Questionnaire (GN-SBQ). This questionnaire is currently under ongoing testing and has been used in several studies of NRT; it was developed by E. D. Glover at the University of West Virginia, USA, and by one of the current authors (Nilsson; Glover, Nilsson, & Westin, 2001). The questionnaire used in this study consisted of 18 behavioral dependence-related items, with ratings of *not at all*, *somewhat*, *moderately so*, *very much so*, and *extremely so*.

## Measures of outcome

The 3-month sustained abstinence rate, defined as self-reported non-smoking between week 2 and 3 months

**Table 1.** Male and female participants in each treatment group at each time point up to 1 year

Time point	Males, no. of participants			Females, no. of participants		
	NI + NP	NI + PP	Total	NI + NP	NI + NP	Total
Baseline <sup>a</sup>	99	97	196	101	103	204
Week 1 <sup>a</sup>	95	90	185	95	96	191
Week 2 <sup>a</sup>	92	85	177	90	85	175
Week 6 <sup>a</sup>	78	74	152	77	68	145
Week 12 <sup>b</sup>	68	50	118	53	50	103
Month 6 <sup>b</sup>	41	34	75	26	32	58
Month 12 <sup>c</sup>	32	26	58	20	19	39

NI, nicotine inhaler; NP, nicotine 16 mg/16 h patch; PP, placebo patch.

<sup>a</sup>NI + NP alternatively NI + PP.

<sup>b</sup>NI + PP (week 12 to month 6, tapering).

<sup>c</sup>No NRT (follow-up from month 6).

**Table 2.** Baseline subject characteristics

Characteristic	Males		Females	
	NI + NP (n=99)	NI + PP (n=97)	NI + NP (n=101)	NI + PP (n=103)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Age (years)	38.7 (7.9)	38.3 (8.7)	35.4 (8.0)	36.5 (8.9)
Weight (kg)	77.6 (11.4)	77.8 (13.4)	61.8 (12.0)	64.8 (14.8)
Height (cm)	174.9 (7.2)	175.7 (7.6)	163.2 (5.8)	162.5 (5.7)
Cigarettes/day	28.4 (11.7)	24.5 (8.7)	23.8 (9.7)	22.5 (8.4)
CO (ppm)	31.1 (11.8)	29.4 (11.4)	29.9 (11.6)	28.8 (10.3)
Cigarette nicotine content	1.11 (0.28)	1.09 (0.34)	0.97 (0.26)	0.94 (0.32)
Smoking years	22.4 (8.0)	22.0 (8.3)	18.9 (7.6)	18.8 (7.0)
No. of quit attempts	3.03 (2.3)	2.94 (2.53)	2.58 (2.16)	3.24 (3.09)

and an expired CO level <10 ppm (Jarvis, Russell, & Saloojee, 1980) at each follow-up visit, and the continuous abstinence rates at 6 weeks and at 6 and 12 months were evaluated. Participants who did not attend the follow-up visit at week 2 or later (despite a request), or who did not fulfill the above definition of abstinence, were classified as relapsing subjects. Participants lost to follow-up were assumed to be smokers.

### Statistical methods

Data were analyzed on an intent-to-treat basis (i.e., all participants who entered the study and received medication were included, regardless of medication use or outcome). Differences in intent-to-treat abstinence rates among males and females at all time points were calculated using the chi-square test. The Mann-Whitney *U* test was used to compare the baseline FTND scores and GN-SBQ scores between males and females. To test if the effect of gender on the outcome depends on the treatment given, logistic regression was used with interaction terms of gender and treatment included in the model. Gender, treatment, and the interaction term were treated as independent variables, and the outcome, success or failure, as the dependent variable. A probability value of  $p < 0.05$  was considered significant.

## Results

### Subjects

Baseline patient demographic and smoking characteristics are shown for men and women in Table 2. Overall, the baseline characteristics were comparable, except for the slight tendency for men to be older and to smoke more than women.

Reasons for stopping smoking also were similar, with concerns about future health being the most common reason, although women tended to be slightly more influenced than men by the cost of smoking and by peer pressure to quit.

### Abstinence rates

Intent-to-treat rates of continuous abstinence from smoking in men and women at 6 and 12 weeks and at 6 and 12 months are shown in Table 3. Abstinence rates were consistently higher in men than in women, regardless of treatment, the differences being statistically significant throughout the follow-up period. Men did better than women in both treatment groups. The differences were higher in Group 1, which received NI+NP, than in Group 2, which received NI+PP at all time points, although the differences were not statistically significant. At 6 weeks the male vs. female difference in outcome rates was 20% (men 71%, women 51%) in the NI+NP group and 10% (men 53%, women 43%) in the NI+PP group. At 12 weeks the differences were 12% (men 50%, women 38%) and 8% (men 35%, women 27%) in the NI+NP and NI+PP groups respectively. Finally, at 6 months the difference was 16% (NI+NP; men 33%, women 17%) and 9% (NI+PP; men 27%, women 18%), and at 12 months 13% (NI+NP; men 26%, women 13%) and 11% (NI+PP; men 20%, women 9%), respectively.

### Baseline nicotine dependence and smoking behavior

The gender differences in behavioral dependence (GN-SBQ) and nicotine dependence (FTND) at baseline are shown in Table 4. The GN-SBQ comparison

**Table 3.** Male/female differences in sustained abstinence regardless of treatment

Time point	Males ( <i>n</i> =196)		Females ( <i>n</i> =204)		<i>p</i> value <sup>a</sup>
	Abstinent		Abstinent		
	<i>n</i>	%	<i>n</i>	%	
Week 6	121	61.7	95	46.5	0.0022
Week 12	83	42.3	63	30.9	0.0170
Month 6	59	30.1	36	17.6	0.0030
Month 12	45	23.0	22	10.8	0.0010

<sup>a</sup>Chi-square.

**Table 4.** Nicotine dependence (FTND) and smoking behavior (GN-SBQ) at Baseline visit

GN-SBQ Item or questionnaire	Males ( <i>n</i> =196)	Females ( <i>n</i> =204)	<i>p</i> value <sup>a</sup>
	Mean (SD)	Mean (SD)	
My cigarette habit is very important to me	1.48 (1.16)	1.96 (1.12)	<0.0001
I handle and manipulate my cigarette as a part of the ritual of smoking	0.76 (1.14)	1.20 (1.34)	0.0009
I handle and manipulate my cigarette pack as a part of the ritual of smoking	0.38 (0.84)	0.59 (1.08)	ns
Do you keep your hands and fingers busy to distract you from smoking?	0.44 (0.84)	0.65 (1.01)	ns
Do you place something in your mouth to distract you from smoking?	0.80 (1.11)	0.80 (1.13)	ns
Do you reward yourself with a cigarette after accomplishing a task?	2.89 (1.20)	3.01 (1.00)	ns
Do you panic if you find yourself out of cigarettes or if you cannot find your cigarettes?	1.30 (1.36)	2.15 (1.32)	<0.0001
If you find yourself without cigarettes, will you have difficulties in concentrating before attempting a task?	0.90 (1.30)	1.21 (1.36)	0.0195
If you are not allowed to smoke in certain places, do you then play with your cigarette pack or a cigarette?	0.07 (0.41)	0.25 (0.81)	0.0041
Do certain environmental cues trigger your smoking, e.g., a favorite chair, sofa, room, car, or drinking?	3.01 (1.20)	3.11 (0.93)	ns
Do you find yourself lighting up a cigarette routinely (without craving)?	2.36 (0.92)	2.32 (0.90)	ns
Will just holding a cigarette in your hand (without lighting up) assist you with reducing stress?	0.23 (0.65)	0.26 (0.66)	ns
Do you find yourself placing an unlit cigarette or other objects (pen, tooth picks, chewing gum, etc.) in your mouth and sucking to get relief from stress, tension, or frustration, etc.?	0.61 (0.97)	0.55 (1.00)	ns
Does part of your enjoyment of smoking come from the steps you take when lighting up?	0.15 (0.62)	0.16 (0.62)	ns
Does part of your enjoyment of smoking come from watching the smoke as you exhale?	0.21 (0.75)	0.21 (0.72)	ns
Do you light up a cigarette without realizing you have another one burning in the ashtray?	0.42 (0.89)	0.63 (0.9)	ns
When you are alone in a restaurant, bus terminal, party, etc., do you feel safe, secure, or more confident if you are holding a cigarette?	0.42 (0.89)	0.94 (1.25)	0.0001
Do you light up if your friends light up?	2.42 (1.13)	2.78 (0.97)	0.0006
Total GN-SBQ score/average	1.06 (0.38)	1.27 (0.39)	<0.0001
FTND score	6.44 (1.93)	5.99 (1.85)	0.018

<sup>a</sup>Mann-Whitney *U* test.

showed significant male-to-female differences, with females scoring higher than males on questions 1, 2, 7, 8, 9, 17, and 18; thus at baseline, gesture (questions 1, 2 and 9), cognitive factors (question 8), anti-panic (questions 7 and 17), and social coping (question 18) components of smoking behavior were more pronounced in women than in men. Overall, females had significantly higher GN-SBQ scores than men, indicating a more pronounced behavioral component in this group. In contrast, baseline FTND score (Table 4) was significantly higher among men than among women (6.44 vs. 5.99;  $p=0.018$ ), indicating somewhat greater nicotine dependence among men. When we compared the baseline FTND values of men vs. women who were completely abstinent at each time point, we found that the differences observed at the beginning of the study remained statistically significant from week 2 to 12 months (males 6.13 vs. females 5.5;  $p=0.032$ ).

## Discussion

This study confirms previous findings of a gender difference in smoking cessation outcome in favor of men (Bjornson *et al.*, 1995; Fortmann & Killen, 1994; Nides *et al.*, 1995; Swan *et al.*, 1997; Wetter *et al.*, 1999). In our study, such differences ranged from 15% at 6 weeks to 12% at 1 year, regardless of treatment group. When men and women were stratified by treatment, however, the gender differences appeared to be more prominent in the group that received nicotine inhaler and nicotine patch (Group 1), ranging from 20% at 6 weeks to 13% at 1 year. This tendency for the outcome differences to be greater in (although not exclusive of) the group that received more nicotine is similar to that reported previously in participants who received nicotine patch vs. placebo patch (Wetter *et al.*, 1999).

The likelihood of becoming a smoker is influenced by factors that might differ from factors determining

the subsequent degree of dependence (Pomerleau, Pomerleau, Flessland, & Basson, 1992a). In this study, the smoking dependence profile of women showed a trend toward higher smoking behavioral dependence and lower nicotine dependence scores than men, a finding suggesting a greater need for behavioral compensation in women and nicotine substitution in men.

The observed gender differences could have been influenced by lower motivation among women. This factor is an important determinant of success in quitting smoking; females with higher motivation to quit were found to relapse more slowly than less-motivated comparators (Swan *et al.*, 1997). Although we did not specifically measure the degree of motivation of our participants, motivation to quit smoking was a prerequisite for inclusion into the study; thus we do not believe that this factor could explain the differences observed. In addition, the reasons for stopping smoking were virtually identical in the male and female groups at baseline.

Gender differences in cessation outcome could have resulted from negative mood related to premenstrual discomfort in female smokers. Several studies have reported increased menstrual and tobacco withdrawal symptoms in women during quit attempts, especially in the luteal, rather than the follicular, phase of the cycle (O'Hara, Portser, & Anderson, 1989; Perkins *et al.*, 2000; Pomerleau, Garcia, Pomerleau, & Cameron, 1992b). Nevertheless, a recent study performed in women during acute abstinence showed that the nicotine patch was efficient in reducing such symptoms (Allen, Hatsukami, Christianson, & Brown, 2000). Since the male vs. female difference in outcome success in our study was more prominent among participants who received the nicotine patch, we believe menstrual symptoms did not play a role.

Women often cite fear of weight gain after smoking cessation as a primary reason for relapsing after a quit attempt (Gritz, Kristeller, & Burns, 1993; Solomon & Flynn, 1993), and those with strong concerns about post-cessation weight gain are less likely to be ready to quit (Pomerleau, Zucker, & Stewart, 2001). Notwithstanding, research designed specifically to assess the relationship between concern about weight gain and cessation outcome has yielded conflicting results. Some studies in young female smokers failed to demonstrate an association between concern about weight gain and cessation outcome (French, Jeffery, Pirie, & McBride, 1992; Glasgow, Strycker, Eakin, Boles, & Whitlock, 1999; Jeffery, Boles, Strycker, & Glasgow, 1997), but others found that weight concern was positively associated with several factors, including being a woman, and that an elevated weight concern in women was associated with a reduced likelihood of quitting smoking (Jeffrey, Hennrikus, Lando, Murray, & Liu, 2000). When we used chi-square analysis to examine this factor, we found that

80% of women vs. 36% of men expressed concern about weight gain as a consequence of smoking cessation ( $p=0.001$ ). However, had relapsing women decided to smoke because they were gaining weight, and had abstinent women remained abstinent because they were not gaining weight, one would expect relapsing women to have gained more weight than abstinent women. In fact, we found that the reverse was true, with abstinent women gaining  $4.02 \pm 2.84$  kg (range 10.5 to  $-1$  kg) and relapsing women gaining  $2.29 \pm 3.78$  kg (range 9.0 to  $-6$  kg), although the result was not statistically significant. Although this gives support to the idea that weight gain was not the only factor in relapse, it does not eliminate concern about weight gain as a cause of relapse. Indeed, even if they were concerned about weight gain, relapsing women were smoking and thus presumably obtaining the weight-reducing effects of nicotine.

It is clear that, in addition to addressing the pharmacological addiction to nicotine, smoking cessation treatment for individual female smokers must address the issues of weight gain, menstrual cycle phase, and the possibility that smoking-associated cues may play a more prominent role in smoking behavior in women than they do in men (Perkins, 2001).

In conclusion, this study showed that in women, smoking behavior might be more influenced by behavioral components and less by nicotine dependence than in men, according to the GN-SBQ and the FTND. Consequently, both nicotine and behavioral treatment should be appropriately tailored to women to increase their chances of abstinence.

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### References

- Allen SS, Hatsukami D, Christianson D, Brown S. 2000. Effects of transdermal nicotine on craving, withdrawal and premenstrual symptomatology in short-term smoking abstinence during different phases of the menstrual cycle. *Nicotine & Tobacco Research* 2: 231–241.
- Bjornson W, Rand C, Connett JE, Lindgren P, Nides M, Pope F *et al* (1995). Gender differences in smoking cessation after 3 years in the Lung Health Study. *American Journal of Public Health* 85: 223–230.
- Bohadana AB, Nilsson F, Rasmussen T, Martinet Y. 2000. Nicotine inhaler and nicotine patch as a combination therapy for smoking cessation. A randomized, double-blind, placebo-controlled trial. *Archives of Internal Medicine* 160: 3128–3134.
- Fortmann SP, Killen JD. 1994. Who shall quit? Comparison of volunteer and population-based recruitment in two minimal-contact smoking cessation studies. *American Journal of Epidemiology* 140: 39–51.
- French SA, Jeffery RW, Pirie PL, McBride CM. 1992. Do weight concerns hinder smoking cessation efforts?. *Addictive Behaviors* 17: 219–226.

- Glasgow RE, Strycker LA, Eakin EG, Boles SM, Whitlock EP. 1999. Concern about weight gain associated with quitting smoking: Prevalence and association with outcome in a sample of young female smokers. *Journal of Consulting and Clinical Psychology* 67: 1009–1011.
- Glover ED, Nilsson F, Westin Å. 2001, September. *The Glover–Nilsson Smoking Behavioral Questionnaire (GN-SBQ)*. Poster presented at the Society for Research on Nicotine and Tobacco Third European Conference, Paris.
- Gritz ER, Kristeller JL, Burns DM. 1993. Treating nicotine addiction in high risk groups and patients with medical co-morbidity. In C. Tracy Orleans and J. Slade (Eds.), *Nicotine addiction: Principles and management* (pp. 279–309). New York: Oxford University Press.
- Heatherton TF, Kozlowski LT, Frecker RC, Fagerström KO. 1991. The Fagerström Test for Nicotine Dependence: A revision of the Fagerström Tolerance Questionnaire. *British Journal of Addiction* 86: 1119–27.
- Jarvis MJ, Russell MA, Saloojee Y. 1980. Expired air carbon monoxide: A simple breath test of tobacco smoke intake. *British Medical Journal* 281: 484–485.
- Jeffery RW, Boles SM, Strycker LA, Glasgow RE. 1997. Smoking-specific weight gain concerns and smoking cessation in a working population. *Health Psychology* 16: 487–489.
- Jeffery RW, Hennrikus DJ, Lando HA, Murray DM, Liu JW. 2000. Reconciling conflicting findings regarding postcessation weight concerns and success in smoking cessation. *Health Psychology* 19: 242–246.
- Jensvold MF, Hamilton JA, Halbreich U. 1996. Future research directions: Methodological considerations for advancing gender-sensitive statistics. In M. F. Jensvold, U. Halbreich, & J. A. Hamilton (Eds.), *Psychopharmacology and women: Sex, gender, and hormones* (pp. 11–42). Washington, DC: American Psychiatric Press.
- Nides MA, Rakos RF, Gonzales D, Murray RP, Tashkin DP, Bjornson-Benson WM *et al* 1995. Predictors of initial smoking cessation and relapse through the first two years of the Lung Health Study. *Journal of Consulting and Clinical Psychology* 63: 60–69.
- O'Hara P, Portser SA, Anderson BP. 1989. The influence of menstrual cycle changes on the tobacco withdrawal syndrome in women. *Addictive Behaviors* 14: 595–600.
- Perkins KA. 2001. Smoking cessation in women: Special considerations. *CNS Drugs* 15: 391–411.
- Perkins KA. 1996. Sex differences in nicotine versus non-nicotine reinforcement as determinants of tobacco smoking. *Experimental and Clinical Psychopharmacology* 4: 166–177.
- Perkins KA, Donny E, Caggiula AR. 1999. Sex differences in nicotine effects and self-administration: Review of human and animal evidence. *Nicotine & Tobacco Research* 1: 301–315.
- Perkins KA, Levine M, Marcus M, Shiffman S, D'Amico D, Miller A *et al* 2000. Tobacco withdrawal in women and menstrual cycle phase. *Journal of Consulting and Clinical Psychology* 68: 176–80.
- Piper ME, Fox BJ, Welsch SK, Fiore MC, Baker TB. 2001. Gender and racial/ethnic differences in tobacco-dependence treatment: A commentary and research documentation. *Nicotine & Tobacco Research* 3: 291–297.
- Pomerleau CS, Pomerleau OF, Flessland KA, Basson SM. 1992a. Relationship of Tridimensional Personality Questionnaire scores and smoking variables in female and male smokers. *Journal of Substance Abuse* 4: 143–154.
- Pomerleau CS, Garcia AW, Pomerleau OF, Cameron OG. 1992b. The effects of menstrual phase and nicotine abstinence on nicotine intake and on biochemical and subjective measures in women smokers: A preliminary report. *Psychoneuroendocrinology* 17: 627–638.
- Pomerleau CS, Zucker AN, Stewart AJ. 2001. Characterizing concerns about post-cessation weight gain: Results from a national survey of women smokers. *Nicotine & Tobacco Research* 3: 51–60.
- Solomon LJ, Flynn BS. 1993. Women who smoke. In C. Tracy Orleans and J. Slade (Eds.), *Nicotine addiction: Principles and management* (pp. 339–349). New York: Oxford University Press.
- Swan GE, Jack LM, Ward MM. 1997. Subgroups of smokers with different success rates after use of transdermal nicotine. *Addiction* 92: 207–217.
- West R, Hajek P, Nilsson F, Foulds J, May S, Meadows A. 2001. Individual differences in preferences for and responses to four nicotine replacement products. *Psychopharmacology* 153: 225–30.
- Wetter D, Kenford SL, Smith SS, Fiore MC, Jorenby DE, Baker TB. 1999. Gender differences in smoking cessation. *Journal of Consulting and Clinical Psychology* 67: 555–562.

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