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A cross-sectional study on factors affecting the intention to quit smoking among female call centre employees

Hyunjin Oh[1] | Sunjoo Boo[2] (ID)

[1]College of Nursing, Gachon University, Incheon, South Korea

[2]College of Nursing, Institute of Nursing Science, Ajou University, Suwon, South Korea

Correspondence
Sunjoo Boo, College of Nursing, Institute of Nursing Science, Ajou University, 164, World cup-ro, Woncheon-dong, Yeongtong-gu, Suwon, South Korea 16499.
Email: sjboo@ajou.ac.kr

Abstract

Aim: This study aims to describe smoking related characteristics among female call centre employees in South Korea and identify the factors influencing intention to quit smoking in the next 6 months.

Design: This is a cross-sectional study.

Methods: An anonymous online survey was conducted at three call centres of credit card companies in South Korea. Female employees with at least 6 months of experience ($n = 115$) who were currently smoking were included in this study.

Results: Overall, 20% of participants intended to quit within 6 months. Female call centre employees find it most difficult to resist the urge to smoke in negative mood situations. Factors affecting the quit intention were higher educational status, previous quit attempts lower perceived risk of craving and higher social support.

Public Contribution: Measuring and monitoring craving as perceived risk and providing social support can be useful for designing smoking cessation interventions in this population.

KEYWORDS
call centres, smoking, smoking cessation, women, workplace

1 | INTRODUCTION

Smoking is a leading cause of death, and it is estimated that about 1 billion people smoke worldwide (World Health Organization Tobacco, 2021). Although the prevalence of tobacco use among men is declining, female tobacco use is increasing in some countries (Romeo-Stuppy et al., 2021). Recent research reports that the tobacco-related deaths in active smoking women have more than doubled after 2000 (Olié et al., 2019). Female smokers are at high risk for morbidity and mortality related to smoking (Allen et al., 2014).

Importantly, the occupational vulnerability and the high level of smoking of female call centre employees are reported in Korea (Boo & Oh, 2019; Yang et al., 2019). The prevalence of smoking in

this population ranges from 20 to 37% (Boo & Oh, 2019; Kim, 2015), which is substantially high compared to the general population (3.5%) (Statistics Korea, 2021). Call centre employees have relatively low rates of pay, unstable job security and deal with customers' hostility and verbal abuse; so, they experience high levels of psychological distress (Boo & Oh, 2019; Kwon & Yang, 2015; Oh et al., 2017). They are expected to express positive emotions with customers and have sedentary long work hours which affects them psychologically. They tend to hide their negative emotions, thereby experiencing emotional repression. These result in negative health outcomes like depression and anxiety (Boo & Oh, 2019; Oh et al., 2017; Yang et al., 2019). These risk factors may increase the level of tobacco dependence (Mishra et al., 2010).

2 | BACKGROUND

Current smokers have a tendency to underestimate the benefits of smoking cessation. Previous studies reported that perceiving less benefits in quitting smoking (Fidler & West, 2009) and greater nicotine dependence (Chen et al., 2020) are associated with less intention to quit than former smokers had (Park et al., 2009). Low intention to quit may be an important barrier for effectiveness of smoking cessation interventions. A recent study of cancer patients showed that a high perceived risk of smoking is a pivotal predictor of the intention to quit and cessation (Alton et al., 2018). To date, little is known about the perceived benefits of quitting smoking and intention to quit among female call centre employees.

A meta-analysis indicated that confidence to refrain from succumbing to the urge to smoke is an important factor for successful smoking cessation, but the relationship between self-efficacy for quitting smoking and future abstinence was weaker than expected (Gwaltney et al., 2009). People with high self-efficacy are likely to try to quit smoking, but it remains unclear whether the self-efficacy is associated with smoking behaviour in people who have only considered quitting but have not yet tried (Wang et al., 2021). In their study, people who smoked on the previous day were less likely to try to quit based on daily self-efficacy and abstinence plans (Wang et al., 2021).

Understanding smoking behaviour and intent to quit are very critical to smoking cessation interventions. Concerning cessation, this can involve positive attitudes towards smoking (Zou et al., 2019). For example, the individuals are influenced by their environment, such as having family or friends who smoke (van den Brand et al., 2019). Other social and political factors influence the individuals' smoking behaviours, such as smoking policy at work (Syamlal et al., 2019).

Policy in the workplace is important for public health because it protects employees, both smokers and non-smokers, from harmful health effects. South Korea ratified the World Health Organization framework convention on Tobacco Control (FCTC) in 2005. Article 8 of the FCTC requires 100% smoke-free settings in all indoor workplaces and public places to protect people from second-hand tobacco smoke exposure. Smoking in public places in South Korea has been banned since 2012. However, workplace smoking regulations currently apply to bigger corporations with national plans of gradual expansion (Lim & Cho, 2018). Many call centres have dedicated smoking places, either indoors or outside. Literature shows that the effects of smoke-free policies vary by population, implying that smoke-free policies encouraged cessation in some people, while others ignored the policy (Obieche et al., 2021). Smoke-free workplaces may encourage quitting or a reduction in smoking (Frazer et al., 2016); a study reports that employees in smoke-free workplaces are less likely to begin smoking than those who are exposed to smoke (Hopkins et al., 2010).

Finally, the individuals' beliefs and behaviours about social and political factors further influence the risk of smoking continuation. Understanding the complexity of risk factors on smoking behaviours is important when examining smoking behaviour and intent to quit. The current study included nicotine dependence, smoking attitudes (Li et al., 2015), quit attempts within a year (Fidler & West, 2009), self-efficacy (Gwaltney et al., 2009; Wang et al., 2021) and perceived risks and benefits of smoking cessation (Li et al., 2015) as individual levels of potential covariates of intention to quit. Additionally, social support and social pressure to smoke were explored, because being around smokers and having cigarettes available increase smoking relapse (Waring et al., 2020). Workplace contextual factors such as smoking policy and smoking cessation education influence smoking behaviour (Obieche et al., 2021). There have been very few studies looking into the factors influencing intent to quit smoking in the workplace, especially regarding females in call centre settings. Thus, this study's aims are to describe smoking-related characteristics among female call centre employees in South Korea and to identify the factors influencing intent to quit in the next 6 months.

The research question of this study is 'What are the factors affecting the intention to quit smoking especially among female call centre employees'?

3 | METHOD

3.1 | Design and participants

This cross-sectional analysis is part of a larger online survey investigating the prevalence of smoking and attitudes of Korean female call centre employees (Oh & Boo, 2022). The participants of the original study were recruited from three call centres of a leading credit card company with about 1000 employees. Indoor smoking was prohibited at the data collection call centres, although smoking in designated outdoor locations was permitted. The research flyers, which featured a summary of the study and a link to the survey, were distributed by unit managers. Of the 618 call centre employees who voluntarily accessed and filled out the original online survey, 115 female employees who were currently smoking were included in this analysis. Current smoking was defined as self-reports of smoking 100 or more cigarettes in their lifetime and at least one cigarette per day.

3.2 | Measures

3.2.1 | Intent to quit

The dependent variable of this study was intent to quit smoking within the next 6 months. It was measured with the question, 'Are you planning to quit smoking: within the next month, within the next 6 months, sometime in the future or not planning to quit'? The responses were dichotomized so that 1= 'within the next month' or 'within the next 6 months' and 0 = 'sometime in the future' or 'not planning to quit' for the analysis of this study.

3.2.2 | Smoking-related characteristics

Smoking status, duration of smoking, amount of smoking and changes in the amount of smoking with call centre jobs were assessed as smoking history. Nicotine dependence was assessed using the Fagerström Test for Nicotine Dependence (FTND) (Heatherton et al., 1991), which is widely considered as the standard for assessing levels of nicotine dependence in clinical practice. It is easy to administer, with six items regarding tobacco-related habits and behaviour. It has acceptable levels of reliability, and significant correlations with biochemical markers associated with physiological dependence on nicotine (Ahn et al., 2002; Heatherton et al., 1991). Scores range from 0 to 10 with a higher score indicating higher levels of nicotine dependence.

Social pressure from non-smokers is an important predictor of intention to quit. Social pressure at work and home was assessed with the following question: 'Do your colleagues or boss encourage you to quit smoking'? Social pressure at home was assessed with the question: 'Do your family members such as spouse, children and close relatives encourage you to quit smoking'? Response options for the questions were on a 5-point scale from strongly disagree (1) to strongly agree (5). Smoking cessation experiences included attempt to, tried method and perceived reasons for failure to quit smoking.

Current smoking policy at work was assessed with the following question used in a study by Willemsen et al. (2004): 'How is smoking by employees regulated at your workplace'? The response choices were (a) smoking at work is entirely at the discretion of the employees (no explicit policy), (b) there is no ban on smoking except in some general areas that are open to all employees (moderate smoking restriction), (c) smoking is restricted to designated areas (general no-smoking policy), (d) smoking is not permitted anywhere in our organization (complete smoking ban) and (e) do not know.

3.2.3 | Smoking attitudes

The 7-item Attitude of Smoking scale was used to measure smoking attitudes. The scale was from the Teenage Attitudes and Practice Survey by the National Center for Health Statistics in the US (United States Department of Health and Human Services, 1989). The participants were asked to rate their general perception about smoking and its health effects on a 4-point Likert scale, ranging from strongly disagree (0) to strongly agree (4). The total score was calculated by averaging the item scores. Higher scores indicated a positive attitude towards smoking. In this study, Cronbach's alpha was 0.82.

3.2.4 | Perceived risk and benefit of smoking cessation (PRBQ)

Participants completed the 39-item self-report PRBQ (McKee et al., 2005) by responding to the stem question, 'Use the scale below

to rate how likely each item would be if you were to stop smoking' using a 7-point Likert scale, ranging from no change (1) to certain to happen (7). Items were grouped into two subscales—perceived risk and perceived benefits of smoking cessation. Perceived risks include weight gain, negative affect, attend/concentrate, social ostracism, loss of enjoyment and craving. Perceived benefits include health, well-being, self-esteem, finances, physical appeal and social approval. Each item's responses were averaged to create the scale scores, and the overall Perceived Risk and Perceived Benefit scales were calculated by averaging the risk and benefit items respectively. The Cronbach's alpha was 0.90–0.93 when it was developed (McKee et al., 2005), and it was 0.94–0.95 in this study.

3.2.5 | Self-efficacy

Self-efficacy was measured with a 9-item self-efficacy for smoking cessation scale (Kim & Kwon, 2006; Velicer et al., 1990). Participants were asked whether they thought they would be able to refrain from smoking in various difficult situations, such as social situations and positive/negative affect situations. Answers were given on a 7-point scale from totally disagree (1) to totally agree (7), with a high score representing high self-efficacy. The average of the nine items was used as the scale score in the analysis. The Cronbach's alpha was 0.87 in Kim and Kwon's (2006) study, and it was 0.90 in this study.

3.2.6 | Social support

Levels of social support from family, friends and other significant persons were assessed using the 12-item Multidimensional Scale of Perceived Social Support (Zimet et al., 1988). Each item was scored on a 7-point Likert scale, ranging from very strongly disagree (1) to very strongly agree (7). The total score was calculated by summing the item scores, with higher scores indicating higher levels of social support. The internal reliability was 0.88 at the time of scale development (Zimet et al., 1988) and was 0.96 in this study.

3.3 | Analysis

Statistical analyses were conducted with SPSS 23.0. The general and smoking-related characteristics were presented with frequencies and percentages for categorical variables and means (±standard deviations) for continuous variables. Distribution of tried method of quitting and reasons for failed quitting attempts were depicted in figures. Bivariate analyses (χ^2 tests and t tests) were conducted to examine differences in general and smoking-related characteristics of the participants and study variables by intent to quit smoking. Logistic regression (stepwise method) was used to identify the factors affecting intention to quit smoking within 6 months among female call centre employees. Significant variables in the bivariate analyses ($p < 0.05$) were considered as candidates for inclusion in the

logistic regression model. Assumptions were checked for every statistical analysis. The level of significance was set at 0.05.

3.4 | Ethics

Ethical approval was obtained from the Ethics Committee of a research institution (IRB #: AJOUIRB-SUR-2020-561) and all participants provided informed consent. The study was conducted in accordance with the Declaration of Helsinki.

4 | RESULTS

The distribution of general and smoking-related characteristics by quit intention are presented in Table 1. The average age of the participants was 37.4 years (±8.1). About 37.4% of the participants were married, and 49.6% had earned college degrees. Approximately 14% used e-cigarettes, and 17.4% smoked both cigarettes and e-cigarettes. Thirteen percent of participants began smoking after getting call centre jobs, and about 61% increased the amount of smoking. Overall, 20% of participants intended to quit within 6 months. Those reported less amounts of cigarettes per day, lower levels of nicotine dependence as measured by the FTND, and stronger social pressure to quit at home. About 37% reported that their workplace had no explicit policy (Table 1).

About two in five participants reported a quit attempt within a year, and the proportion was higher among those with intention to quit (73.9%) than their counterparts (32.6%). The most frequent method to quit was will, followed by switched to e-cigarettes (Figure 1). Only 3.4% of those with quit attempts did counselling and 1.1% had nicotine replacement therapy. Negative affect was reported as the most common perceived reason for failed quit attempts (57.3%), followed by weak will (24.7%) and withdrawal symptoms (14.6%) (Figure 2).

Table 2 summarizes attitudes, perceived risk and benefits of smoking cessation, self-efficacy and social support by quit intent. Overall, those who planned to stop viewed quitting as having lower levels of risk and greater levels of benefit. Specifically, levels of craving ($t=2.809$, $p=0.009$) and loss of enjoyment ($t=2.213$, $p=0.035$) as perceived risk from quitting were significantly lower in those who planned to stop smoking, while levels of self-esteem ($t=-2.199$, $p=0.030$) as perceived benefit were significantly higher in those who planned to stop smoking. The levels of self-efficacy for refraining from smoking in various temptation situations ($t=-3.652$, $p<0.0001$) and social support ($t=-2.508$, $p=0.027$) were higher for those with the intention to quit than in their counterparts.

To identify factors affecting the intention to quit, we performed logistic regression analysis with potential predictors found in the previous bivariate analysis to be significantly correlated with the intention to quit (Table 3). Factors affecting intention to quit were higher educational level, quit attempts within a year, lower perceived risk of craving when quitting and higher social support. A one-point increase in perceived risk of craving lowered the likelihood of intent to quit by 35% (OR=0.65; 95% CI: 0.48–0.89). A one-point increase in social support increased the likelihood of intent to quit by 1.04 times (OR=1.04; 95% CI: 1.01–1.08). Those with a college education or above are 3.26 times more likely to intend to quit compared to their counterparts (OR=3.26; 95% CI: 1.03–10.39). Those who attempted to quit within a year are 5.94 times more likely to intend to quit compared to their counterparts (OR=5.94; 95% CI: 1.90–18.57), after controlling for other variables in the model.

5 | DISCUSSION

The prevalence of smoking among women at Korea's call centres is alarmingly high compared to the general population of women in Korea. The intention to quit as a concept of readiness to quit smoking is a significant factor for success in quitting (Abrams et al., 2000). However, we observed low levels of intention among female call centre employees. Less than 20% of participants in this study had the intention to quit within a 6-month period, and 41% made attempts to quit smoking within a year. The low intention is an important barrier to smoking cessation programs since it is closely related to quit attempts (Diemert et al., 2013).

The low intention to quit smoking in this study seems to be related to job characteristics and smoking-permissive work environments. Call centres have very specific and unique characteristics which are emotionally labour-intensive (Boo & Oh, 2019). Employees are often exposed to customers' hostility and verbal abuse, while advised to restrain their feelings to satisfy customers. Quantity and quality of their calls are monitored by supervisors (Boo & Oh, 2019). They often experience pressure due to the intensity of monitoring and expected outcomes. Despite the scarcity of research on what lead female call centre employees in Korea to smoke, prior qualitative research found that they frequently smoke cigarettes at work to relieve the acute stress or anger they experience while dealing with abusive consumers (Kim, 2015). Their supervisors even sometimes propose they smoke to quickly take their minds off the negative affect so that they can return to work and deal with another client as a means of increasing productivity (Kim, 2015). According to this study, such an emotionally labour-intensive and smoking permissive work environment increases smoking prevalence as well as decreases cessation intention. About 61% of participants increased the number of cigarettes they smoked with call centre jobs, 13% even started smoking with the job and 37% perceived no explicit smoking policy in their workplace, which might be related to the high prevalence of smoking and low quitting intention in this population (Table 1).

Previous studies indicate that attitude and experiences of smoking as well as quitting are different for men and women in terms of behavioural and psychological factors (Fidler & West, 2009; Reid et al., 2009). Women are more likely than men to smoke cigarettes to relieve tension, negative affect, or stress. Women report more reasons for smoking but are less likely to perceive the health benefits of

TABLE 1 Differences in general and smoking related characteristics of participants by intention to quit (N=115).

Variables	Total (n=115)	Intent to quit within 6 months		X^2/t	p
		No (n=92)	Yes (n=23)		
Age	37.36±8.11	37.70±8.03	36.00±8.47	0.896	0.372
Marital status (married and living together)	43 (37.4)	32 (34.8)	11 (47.8)	1.337	0.335
Educational status (≥college graduate)	57 (49.6)	41 (44.6)	16 (69.6)	4.600	0.038
Household income (≥3,000,000 KRW/month)	55 (47.8)	42 (45.7)	13 (56.5)	0.871	0.485
Number of customers per day	95.61±71.11	97.99±74.65	86.17±55.29	0.711	0.479
Smoking status					
Cigarette	79 (68.7)	62 (67.4)	17 (73.9)	2.249	0.328
E-cigarette	16 (13.9)	15 (16.3)	1 (4.3)		
Both	20 (17.4)	15 (16.3)	5 (21.7)		
Cigarettes smoked per day	9.33±4.83	10.04±4.83	6.84±4.01	2.841	0.005
Fagerstrom Nicotine Dependence	3.50±2.35	3.75±2.34	2.52±2.17	2.285	0.024
Changes in the amount of smoking after working at a call centre					
Started smoking	15 (13.0)	12 (13.0)	3 (13.0)	0.504	0.974
Increased the amount of smoking	70 (60.9)	55 (59.8)	15 (65.2)		
No changed	25 (21.7)	21 (22.8)	4 (17.4)		
Decreased	5 (4.3)	4 (4.3)	1 (4.3)		
Duration of smoking (month)	96.59±88.65	102.13±93.03	74.43±65.42	1.655	0.105
Number of quit attempts					
0	26 (22.6)	22 (23.9)	4 (17.4)	2.809	0.431
1	26 (22.6)	23 (25.0)	3 (13.0)		
2	30 (26.1)	23 (25.0)	7 (30.4)		
≥3	33 (28.7)	24 (26.1)	9 (39.1)		
Quit attempt within a year (yes)	47 (40.9)	30 (32.6)	17 (73.9)	12.990	<0.0001
Smoking cessation education (yes)	24 (20.9)	18 (19.6)	6 (26.1)	0.474	0.491
Social pressure for smoking cessation at home	4.14±0.94	4.04±0.95	4.52±0.85	−2.208	0.029
Social pressure for smoking cessation at work	2.99±0.99	2.92±0.99	3.26±0.96	−1.472	0.144
Current smoking policy at work					
No explicit policy	43 (37.4)	34 (37.0)	9 (39.1)	0.310	0.958
Moderate smoking restriction	44 (38.3)	35 (38.0)	9 (39.1)		
Complete smoking ban	20 (17.4)	16 (17.4)	4 (17.4)		
Do not know	8 (7.0)	7 (7.6)	1 (4.3)		

quitting. Participants with no intention to quit in this study reported generally lower levels of perceived benefit of quitting but higher levels of perceived risk from quitting than their counterparts even though the differences were not statistically different (Table 2). This trend is consistent with a previous report (Al-Natour et al., 2021), suggesting that low intention to quit smoking may be related to believing that the benefits for smoking cessation do not outweigh risks of smoking. Specifically, participants with no intention to quit had significantly higher scores on craving and loss of enjoyment as perceived risks of smoking cessation, where they did differ from those with the intention to quit. It is consistent with a previous study that

female smokers enjoy the taste of cigarettes and use smoking as a stress reliever; these are significant barriers (Al-Natour et al., 2021).

This study found that the likelihood of the intention to quit is associated with higher levels of education, prior quit attempts within a year, higher levels of perceived risk of quitting and higher social support. Many quitters have a history of failed efforts to quit before they succeed. About 55% of participants in this study reported two or more failed quit attempts. In the quitting process, women are less likely than men to feel confident in their ability to quit and to be demoralized due to failed quit attempts (Smith et al., 2015). The majority of those with failed attempts in this study tried to quit
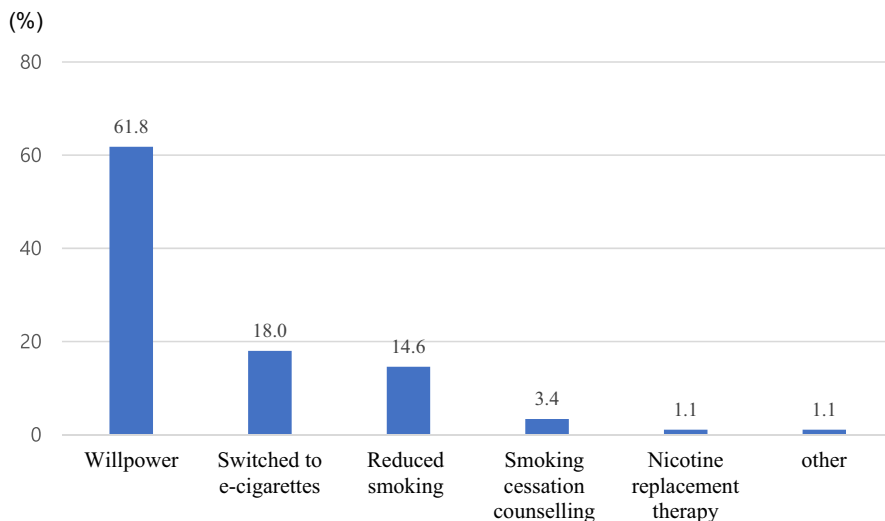
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FIGURE 1 Distribution of tried method of quitting among those with quit attempts (N = 89).
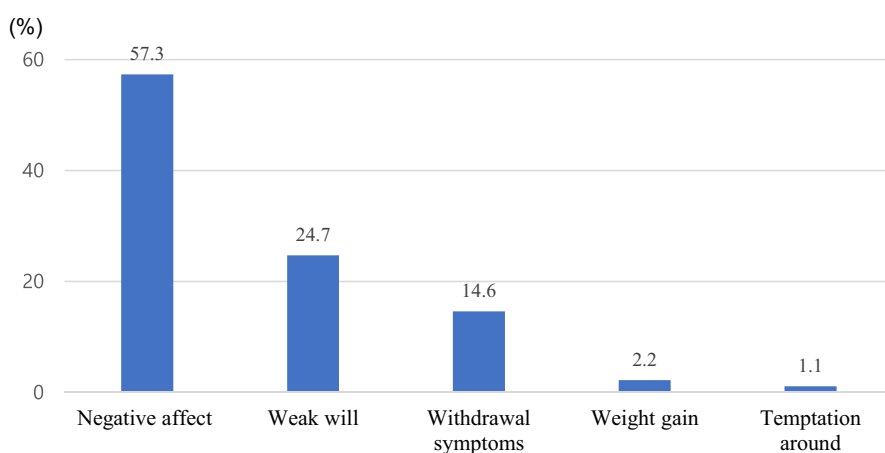
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FIGURE 2 Distribution of reasons for failure to quit among those with quit attempts (N = 89).

without any help. Willpower (61.1%) was the key method reported, followed by switching to electronic cigarettes (18.9%) and reducing the number of cigarettes per day (14.4%). Only 3.3% reported that they counselled for smoking cessation, and 1.1% used nicotine replacement therapy. However, per year, only 2–3% of smokers who quit by their willpower, without help, succeed (Hughes et al., 2004). Pharmacotherapy, including nicotine replacements, is proven to be safe and increases the likelihood of successful quitting especially in women (Smith et al., 2015). A combination of counselling and pharmacotherapy is the most effective (Ranney et al., 2006). Given that prior quit attempts increase the likelihood of the intention to quit, identifying women who might benefit from smoking cessation interventions and leading them through a proven and safe smoking cessation method is crucial.

Higher perceived risk of quitting is associated with lower intention to quit, lower levels of confidence in quitting and difficulty in maintaining abstinence (McKee et al., 2005). In this study, craving as a perceived risk of quitting lowered the likelihood of having the intention to quit. Recognizing the inability to manage cravings as a risk of quitting smoking implies that the confidence to suppress the urge to smoke is low in a desire situation. Interestingly, negative affect was identified as the most common reason for failed quit attempts (Figure 2), but the levels of negative affect as perceived risk of

quitting were not statistically significantly different from quit intention (Table 2). Negative affect might trigger the craving for cigarettes and higher levels of confidence in suppressing the craving and would lead to quit intent, as well as successful smoking cessation. The level of confidence to refrain from smoking in risky situations may fluctuate in the process of quitting (Hopkins et al., 2022), thereby many quitters often have a history of failed attempts. Therefore, female call centre employees would benefit from identifying their high-risk situations and developing specific behaviours to better prepare to cope with them.

In addition, higher social support increased the likelihood of intention to quit, which is consistent with a previous report (Waring et al., 2020). Female smokers at call centres have a strong tendency to smoke when they have cravings at work. This suggests that it is necessary to develop a smoking cessation intervention with social support in the workplace in consideration of the working environment and characteristics of the workplace. Identification of and preparation for situations that place female call centre employees at high risk for smoking should be emphasized. Skill training needs to be developed and provided to assist the employees in developing cognitive and behavioural coping mechanisms. For example, negative affect was the most reported motive in these participants; thus, they need to be advised to develop their own

TABLE 2 Mean differences in study variables by quit intention (N = 115).

Characteristics	Total	Intent to quit within 6 months		t	p
		No (n = 92)	Yes (n = 23)		
Smoking attitude	11.73 ± 3.62	12.00 ± 3.31	10.65 ± 4.57	1.330	0.194
Perceived risk					
Negative affect	5.46 ± 1.38	5.61 ± 1.20	4.87 ± 1.85	1.834	0.078
Craving	5.43 ± 1.58	5.69 ± 1.31	4.41 ± 2.09	2.809	0.009
Loss of enjoyment	5.36 ± 1.68	5.56 ± 1.52	4.54 ± 2.07	2.213	0.035
Attend/concentrate	4.98 ± 1.66	5.07 ± 1.56	4.63 ± 1.98	1.002	0.325
Weight gain	4.87 ± 1.74	4.84 ± 1.76	4.96 ± 1.71	−0.275	0.783
Social ostracism	3.79 ± 1.73	3.77 ± 1.72	3.87 ± 1.81	−0.255	0.799
Perceived benefit					
Physical appeal	5.71 ± 1.35	5.65 ± 1.38	5.96 ± 1.21	−0.970	0.334
Social approval	5.25 ± 1.35	5.16 ± 1.33	5.60 ± 1.38	−1.399	0.165
Health benefits	5.20 ± 1.41	5.19 ± 1.40	5.26 ± 1.50	−0.217	0.829
Self-esteem	5.01 ± 1.34	4.88 ± 1.35	5.55 ± 1.20	−2.199	0.030
Finances	5.11 ± 1.41	5.01 ± 1.44	5.52 ± 1.21	−1.580	0.117
General well-being	4.72 ± 1.31	4.62 ± 1.30	5.13 ± 1.30	−1.682	0.095
Self-efficacy for quitting smoking	28.73 ± 9.79	23.30 ± 8.09	30.13 ± 7.69	−3.652	<0.001
Social support	63.76 ± 16.54	62.05 ± 16.76	70.57 ± 13.95	−2.508	0.027

TABLE 3 Logistic regression analysis of predictors affecting the intention to quit smoking among female call centre employees.

Variables	B	p	OR	95% CI
Educational status (≥college graduate)	1.18	0.045	3.26	1.03–10.39
Quit attempts within a year (yes)	1.78	0.002	5.94	1.90–18.57
Perceived risk of quitting – craving	−0.43	0.008	0.65	0.48–0.89
Social support	0.04	0.025	1.04	1.01–1.08

strategies for handling a stressful situation at work such as taking a short walk. It is also crucial to inquire their motivation to quit, identify if they are informed about their risks and benefits and guide towards best evidence-based strategies including counselling and pharmacotherapies.

5.1 | Limitations

This study has some limitations. A cross-sectional design was used; hence, it is not possible to infer causality from the results. The data were collected from three call centres, which may not be representative of the general population of female call centre employees. Finally, since this study used the self-reported anonymous survey, smoking status may have been underestimated due to the negative social taboo against female smoking in South Korea.

6 | CONCLUSION

An emotionally labour-intensive and smoking permissive work environment could increase smoking prevalence as well as decrease cessation intention. In this study, the low intention to quit smoking among female call centre employees and associated factors were explored, suggesting that cognitive interventions to increase intent to quit smoking should be the priority in developing smoking cessation programmes. Occupational health nurses are well positioned and should play a central role in facilitating call centre employees to quit smoking as well as in encouraging them to take responsibility for their own and non-smokers' health through health education.

The quit attempts within a year, craving as a perceived risk of quitting and social support were significant factors influencing the intent to quit smoking among participants. This suggests that measuring and monitoring craving as a perceived risk and providing social support can be useful for designing smoking cessation interventions in this population and for identifying vulnerable populations or high-risk situations in which a woman reports low confidence in being able to resist the smoking craving. Given that prior quit attempts increase the likelihood of the intention to quit, identifying employees who might benefit from smoking cessation interventions and leading them through a proven and safe smoking cessation method is crucial. Effort and support are also required to urge companies to develop a health education program for call centre employees, which includes smoking cessation and stress management. In addition, the experience of other nations shows that the only sensible public health approach is to prohibit smoking in the workplace. As a

result, a stronger smoking cessation policy in the workplace must be devised and monitored.

AUTHOR CONTRIBUTIONS

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Data available on request due to privacy/ethical restrictions.

ORCID

Sunjoo Boo 🄳 https://orcid.org/0000-0002-0402-614X

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