Smoking and Unemployment: A Photo Elicitation Project

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ABSTRACT

INTRODUCTION: Research has documented higher smoking prevalence with unemployment and greater difficulty with gaining re-employment for those who smoke. Using photo elicitation methods, we sought to gain a deeper understanding of the connection between job-seeking and tobacco use.

METHODS: Unemployed daily smokers (18 men, 1 woman) were recruited from the San Francisco Employment Development Department (EDD) and provided disposable cameras with 27 exposures and a list of 20 photo prompts related to job-seeking and tobacco. Study staff reviewed the photos with the participants and audio-recorded their narratives. The photos and narratives were coded for themes.

RESULTS: Of 363 photos, the most frequent photo imagery related to transportation (n = 56, 15.4%), work or education (n = 39, 10.7%), and littered cigarettes (n = 39, 10.7%). Narrated themes centered on motivators to quit smoking (255 mentions from 15 participants); people, places, and things associated with smoking (248 mentions, 16 participants); and motivators to secure work (157 mentions, 13 participants). The intersection of smoking and unemployment received 92 mentions from 11 participants, with 60 mentions (8 participants) identifying smoking as a barrier to re-employment.

CONCLUSIONS: Both motivators to quit and associated smoking cues were salient in the environments of job-seeking smokers. Struggles with quitting and perceptions that smoking is harming re-employment success suggest the potential for offering tobacco treatment in EDD settings. With permission, the photos and themes have been incorporated into a tobacco treatment intervention for job-seeking smokers.

KEYWORDS: Smoking, unemployment, qualitative

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Background

Prior research has consistently demonstrated an association between higher smoking prevalence and unemployment. In California, the job-seeking unemployed were found to have the highest smoking prevalence (21%) relative to the non-job-seeking unemployed (16%) and the employed (15%).[1] In upstate New York, heavy and continuous smoking and occasional smoking were associated with a greater likelihood of unemployment when compared with nonsmoking from adolescence to adulthood.[2] In the United Kingdom, unemployed job-seekers were twice as likely to smoke compared with employed or economically inactive individuals (eg, retired, students).[3]

With the earlier research, given the cross-sectional study designs, unknown was whether smoking made it harder to find employment, whether job-loss led to smoking, or both, or whether a third factor better accounted for the association between employment and smoking, such as having less education or living in a low-income area. To address some of these data limitations, a prospective observational study of job-seeking and smoking was conducted, and analyses controlled for confounding factors. The study found that by 12 months follow-up, 57% of nonsmokers were re-employed compared with 27% of job-seekers who were smoking; among those who gained re-employment, nonsmokers earned on average US$5.00 more per hour than those who smoked.[4] The disparity of smoking status among those out of work is a public health concern, as smoking is costly and greatly increases the risk of chronic disease.[5]

Most of the research to date has been epidemiologic, survey studies. To gain a more personalized understanding of the experience of being out of work and smoking and to inform the development of a tailored tobacco cessation intervention for job-seekers who smoke, we conducted a qualitative photo elicitation project. The methods were inspired by photovoice, which is a community-based participatory research methodology developed by Caroline Wang, where participants take photographs and share corresponding narratives.[6] Photovoice has been successful in providing a platform for participants to communicate their experiences, stories, and views about their community,

* The first two authors contributed equally to this work.

especially for participants with limited power.[7] In the addictions field, photovoice methods have been used in studies of alcohol and illicit drugs; with adults and adolescents; clinicians, students, and the unhoused; in the US and internationally; and as a research method, therapeutic strategy, and advocacy tool.[8-15] The few publications of photovoice applied in tobacco control have largely focused on youth advocacy efforts.[16-19]

For our purposes here, we engaged participants using photography as a discussion starter and narrative tool to gain a better understanding of the experience of job-seeking when one smokes and to inform tobacco cessation treatment development. Similar photo elicitation methods have been used in addiction research to study clients' perceptions of treatment settings; the experiences of unhoused veterans with regard to substance use, treatment, and recovery; nutritional choices of mothers in residential substance abuse treatment; and determinants of smoking initiation among indigenous youth.[20-23] While photo elicitation methods have been used in work environments, we are unaware of prior photo elicitation research that has examined job-seeking.[24,25] Hence, the current project provides a novel, personalized, and visualized study of the experience of job-seeking when one is using tobacco.

Purpose or Aims

Given the greater prevalence of cigarette smoking among unemployed individuals and greater difficulty in obtaining re-employment for those who smoke, we examined the experience of being unemployed and seeking work as a person who smokes in San Francisco, California, using photo elicitation. Our aim here was to better understand experiences with tobacco and employment seeking and to incorporate the messaging into a tobacco cessation intervention for job-seekers.

Methods

Recruitment

Participants were recruited from the San Francisco Employment Development Department (EDD). Inclusion criteria included age 18 years or older, English literate, currently smoking at least 1 cigarette per day, unemployed and actively job-seeking at the time of study enrollment, and not planning to relocate out of the area in the near future.

Procedures

The study was approved by the Stanford University Institutional Review Board. All participants provided informed consent and completed a brief assessment of their demographic characteristics, employment history, and tobacco use behaviors. As this study focused on unemployed people, part of a low-income population, not all participants had access to a cell phone with a camera. Thus, all participants were provided with a disposable camera with 27 exposures and a list of 20 prompts related to job-seeking and tobacco (Supplement 1). They were encouraged to take the photos during the following week and then return the cameras for photo developing. Study staff developed the images and then scheduled a session to review the photos one-on-one with the participant. In open-ended interviews with a research staff member (Supplement 2), participants provided photo narratives; conversations were allowed to deviate from the structured questions and flow organically. The interviews were audio-recorded and transcribed. For their time and involvement, participants were compensated US$10.

Data reduction and analysis

We coded all available photos and narratives for themes. Two participants did not provide a narrative, and one participant did not provide photos. The interview transcripts were analyzed with NVivo software to examine frequent word use and to determine common narrative themes. For calculating word frequencies, stemmed words with the same base word (eg, smoke and smoking) were grouped together. Common words such as "I," "me," and "like" were excluded from word frequencies. The words "right," "mean," and "kind" were manually excluded from the word count analysis because of their oft-use as speech fillers (ie, "that's right" in reference to a question, "I mean," "kind of").

Content analysis was conducted independently by the first author. Each quote from each participant was analyzed individually. Quotes were initially read and named based on the semi-structured interview guide. The code list, however, continued to evolve and grow as more themes arose. Analytic memos were used to document coding definitions. During the process, interviews and coding styles were reviewed with the senior author.

To determine reliability of the developed coding system, a research staff team member was provided with 46 quotes from one randomly selected transcript to code independently. The two independent sets of code were compared to calculate inter-coder reliability. Comparing at the unit of codes, percent agreement ranged from a minimum of 89% (e.g., personal values, beliefs) to 100% (e.g., motivation to quit, no-smoking signs). Comparing at the level of quote, percent agreement ranged from 93% to 100%. The inter-coder reliability evaluation was reviewed with the senior author, the identified coding discrepancies were resolved, definitions and limitations of codes were discussed, and codes were reorganized and consolidated to create a final codebook. The interviews were then re-evaluated by the first author to fit the final code list (Table 1).

Theme and word counts reflect the actual number of quotes, referred to as "mentions." The number of participants who expressed a theme also was tallied to provide an index of the degree of representation of a theme for the sample.

Results

Sample description

Participants were 18 men and 1 woman, aged 26-63 years, who completed their photos and interviews from May 2015 to September 2017. Over half (n = 10) did not have stable housing (5 unhoused, 4 single room occupancy, 1 halfway house); 6 had

Table 1. Coding themes, representative quotes, and counts from the participant narratives.

BROAD CATEGORY	REPRESENTATIVE QUOTES	SUB-CATEGORIES AND COUNTS (NO. OF MENTIONS/NO. OF PARTICIPANTS)
Motivators to Quit Smoking	"I'm not trying to die of lung cancer." ". . . I'm going to quit anyway because it's really starting to get on my nerves." "I think if we had these [graphic images] on American cigarettes, these warning labels, it would be effective."	**Total: 255 mentions/15 participants** Personal well-being (81/13) Personal values (63/11) Environmental effects/dirty image (53/12) Smoking harms to significant others (33/11) Education or anti-smoking campaigns (18/8) Warning labels (7/3)
Associated Cues to Smoke	"There's a whole lot of cigarette butts on the ground, and when I don't have cigarettes . . . I pick them up." ". . . I smoke a lot with my wife." "Alcohol's got . . . this major withdrawal, but cigarette smoking is the hardest thing I've ever had to quit." ". . . coffee and a cigarette. That's the first thing you want when you wake up in the morning."	**Total: 248 mentions/16 participants** Tobacco triggers: cigarette litter, ashtray (101/16) Settings: cafe, bar, parks, tobacco retailers (84/13) People: Friendships/sexual relationships (39/11) Nicotine withdrawal (15/7) Lack of regulation (7/3) Attraction to kids: cool, flavoring, ads (2/2)
Motivators for Job-Seeking	"When you don't have money, you can't do anything." "It's difficult being homeless and having limited funds. I really admire people who get up and they're homeless and they go to work and they look for work or whatever." "I took pride in my work . . . and in myself."	**Total: 157 mentions/13 participants** Housing security (12/4) Reducing stigma and shame (30/11) Finding purpose (44/8) Social pressure or expectations (10/5) Social status (27/5) Re-building identity (34/10)
Stigma, Shame, Marginalization	"It's becoming a problem because city governments are limiting the areas or spaces where you can smoke." "If I don't manage my smoking the way I do . . . is where I could end up. Sitting outside looking for stuff on the ground to smoke." "If you tell people you're unemployed, they kind of . . . you're not a contributor . . . You're a drag on society."	**Total: 148 mentions/13 participants** No smoking signs and feeling prohibited (44/8) Internalized stigma and shame of smoking and/or unemployment (22/9) Social anomie and marginalization (20/6) Homelessness (20/5) Discrimination for smoking (18/6) Embarrassment of smoking/unemployment (15/5) Police targeting for smoking/unemployment (9/5)
Process of Quitting	"Trying to quit is going to be hard. It's going to be going up hills." "It's like a storm, you're fighting it, and then it passes, and then you're into the calm zone." "What I've done lately is, rather than have a couple puffs of a cigarette, I have a handful of dry Cheerios."	**Total: 95 mentions/13 participants** Successful/unsuccessful quit attempts (41/9) Overcoming challenges to quitting (35/7) Feeling hopeless about quitting (19/9)
Smoking as a Barrier to Re-employment	"It was actually in our job—in our employee handbook that you could be terminated for smoking." "I had the biggest office . . . I had the front parking space. It's going to be a struggle for me to ever get up top there because of smoking." "I don't have the ability to enter that power structure to get to where I really want to get in my job search."	**Total: 92 mentions/11 participants** Smoking restrictions in the workplace (32/8) Physical characteristics of smoking such as smell of smoke, stained teeth (30/8) Employment unattainable due to smoking (23/4) Unemployment, a consequence of smoking (7/3)
Drug Use	"I feel like the less marijuana I have to hide from the public then, the less cigarettes I'll smoke . . . Instead of pulling out a cigarette I can pull out a joint or a pipe." "The other way is the Willie Nelson method . . . Every time you want a cigarette, you smoke a joint."	**Total: 67 mentions/11 participants** Marijuana use (34/6) Other mentions of drug use (18/8) Tobacco co-use with other substances (9/5) Switching from tobacco to other substances (6/2)
Religion	"Without the Creator working on behalf, our existence is, for lack of a better phase, unemployable."	**Total: 12 mentions, 4 participants** Mentions of religion, church, a higher being or being a person of faith (12/4)
Photo Elicitation Experience	". . . the whole time I was taking it . . . I didn't smoke a cigarette the whole time, 'cause it was actually therapeutic for me . . ." ". . . would it be possible for me to get a copy of the negatives?"	**Total: 26 mentions, 12 participants** Enjoyment of the process of photo elicitation (11/6) Process comments (15/10)

a criminal history that would be reportable on a job application. Participant race/ethnicity included African American (n = 9), Caucasian (n = 7), and other/multiracial (n = 3). Participants reported being unemployed for 13 days to 5 years: 6 were unemployed for <3 months, 5 for 3.1 to 6 months, 3 for 6.1 to 12 months, 3 for 12.1 to 24 months, and 2 for >24 months. The type of work being sought by participants related to transportation (n = 3), hospitality (n = 5), sales and service (n = 3), janitorial or maintenance (n = 2), and security, agriculture, laborer, health, and finance (each n = 1). One participant did not report their industry of interest. The sample smoked on average 12.5 cigarettes per day (SD = 7.0, range: 3-20).

Figure 1. Example of images taken by study participants related to their job-seeking and smoking.

Table 2. Description and frequency of themes identified in the participants' photos ($N = 363$).

THEME	DEFINITION/EXAMPLES	COUNT	%
Transportation	Buses, cars, sidewalks, streets	56	15.4
Work or education	Worksites, workers, diplomas, tools of trade	39	10.7
Littered cigarettes	Discarded cigarette butts (34) or packs (5)	39	10.7
Tobacco retailer	Retailer that sells tobacco	37	10.3
Symbols	Hopes/fears of job-seeking, quitting smoking	34	9.4
No smoking signs	No smoking sign on street or in a building	27	7.4
Personal tobacco	Packs, cigarettes, or ashtrays (not trash)	27	7.4
Other people	Someone other than the participant	25	6.9
Employment centers	Exterior or inside of an employment center	17	4.7
Quitting for health	Health benefits of quitting tobacco use	16	4.4
Places to smoke	Parks, watching TV, outside coffee shops	9	2.5
Self-portraits	Photo of participant smoking (2) or not (3)	5	1.4
Environmental symbols	Places with cigarette litter: ocean, nature	3	0.8
Pets	Image of a domesticated animal	3	0.8
Miscellaneous	Anything else that did not fit a theme	26	7.2

Photo and narrative content

Figure 1 shows examples of some of the photos taken by study participants. Of 363 photos with viewable images, the most frequent photo image themes were of transportation (n = 56), work or education (n = 39), and littered cigarettes (n = 39) (Table 2). The most frequent narrated themes in the interviews concerned motivations to quit smoking; people, places, and things associated with smoking; and then job-seeking (Table 1). The most frequent words were related to tobacco (cigarette, smoking, packs), employment (works, job), time (day, week, month, year, morning), and then interpersonal (people, person, guy, brother, kids), environmental (signs, place, street, outside, parks), financial (buy, money), and emotional or aesthetic (want, need, care, help, good, bad, pretty) aspects.

Intentions to quit and past quit attempts

The interviews included expressions of ambivalence, resistance, hope, and hopelessness around quitting smoking, with most of the participants not intending to quit smoking in the near future (10 participants); 4 intended to quit smoking in the next 6 months, and 3 intended to quit smoking in the next 30 days. One participant said, "When I stop smoking, I can even be my best, even more so than now." Another participant stated, "I've been smoking for over 30 something years. So, nothing is going to trigger me to stop smoking."

Looking back, participants described a number of personal actions to quit smoking (41 mentions, 9 participants) and overcoming challenges (35 mentions, 7 participants). Strategies recommended as having some success in an effort to smoke less included engaging in hobbies, replacing cigarettes with a snack, and purchasing single cigarettes from the store (which retailers are not legally permitted to do) instead of packs. The photo narratives revealed the use of imagery as symbolic of the process of quitting smoking (35 mentions, 7 participants). For example, a clean room was said to represent a smoke-free lifestyle, and hilly San Francisco city streets represented the ups and downs of quitting smoking.

Motivators to quit smoking

The most frequent theme of discussion was motivation to quit smoking (255 mentions, 15 participants). The most frequently mentioned motivators to quit smoking were personal well-being (81 mentions, 13 participants) and personal values (63 mentions, 11 participants). Personal well-being included health generally (51 mentions, 13 participants), lung disease (13 mentions, 6 participants), death (11 mentions, 3 participants), and disability (6 mentions, 3 participants). Personal values included negative views toward smoking (e.g., "smoking is [a] bad habit") and concerns about sacrifices made to support the addiction (e.g., "Maybe I could have stuff like this if I didn't smoke").

Associated smoking cues

Nearly as frequent as discussion around motivators to quit were discussions about people, places, and things associated with smoking (248 mentions, 16 participants). Most (n = 15) participants took photos of objects in their environment, such as ashtrays and cigarette butts; 12 participants took pictures of places, such as parks, the street, or retailers where they purchased or smoked tobacco. One person who was unhoused explained, "I could just look around my environment and it makes me wanna smoke . . ." Participants (n = 11) also identified other people as being associated with their smoking, such as friends or sexual partners who smoke.

Motivators for job-seeking

Efforts and drives to find work were a common theme (157 mentions, 13 participants) and included housing security (12 mentions, 4 participants), reducing stigma and shame (30 mentions, 11 participants), finding purpose (44 mentions, 8 participants), social pressures or expectations (10 mentions, 5 participants), social status (27 mentions, 5 participants), and re-building identity (34 mentions, 10 participants). One participant described his background in food service: "I enjoy making food for folks, because you get used to feedback, gratification . . ." Another explained, ". . . what you do is a lot about your identity . . . And if you tell people you're unemployed . . . You're a drag on society." Another spoke about social connectedness and purpose, "as a human being where you can work with other people and there's this camaraderie. You're all working for the same thing hopefully, and I miss that."

Smoking as a barrier to re-employment

Just over half (11 participants, 92 mentions) of participants explicitly expressed a concern that their smoking impeded their ability to find employment and/or discussed how being employed helps limit smoking. Specifically, participants spoke of the physical characteristics of smoking, such as the smell of cigarette smoke or yellow discoloration of teeth, directly preventing their re-employment (30 mentions, 8 participants); 4 participants (23 mentions) discussed feeling that employment was generally out of reach or unattainable because of their smoking; and 3 participants (7 mentions) viewed unemployment as a consequence or punishment of smoking (e.g., karma). One participant said,

> I don't smell like a cigarette when I walk in there [to a job interview]. But still, maybe—you can probably hear it in my voice. It's a little raspy . . . how many times do you have a chance to make a first impression?

Another participant said, "smoking . . . that's closing doors to me." Using imagery, a participant reflected, "The traffic's being made worse because the lane's closed. Am I the lane closure because I smoke . . . Am I not working as much because I'm smoking?" In contrast, being employed was viewed as helpful for reducing or quitting smoking due to having greater structure and a nonsmoking culture (16 mentions, 7 participants) and due to smoking restrictions in the workplace (16 mentions, 7 participants).

Stigma and marginalization

Themes of stigma and marginalization were raised in relation to smoking (44 mentions, 8 participants), unemployment (22 mentions, 9 participants), and homelessness (20 mentions, 5 participants). Participants reported experiencing negative looks or remarks from strangers, attention from the police, and restrictions on smoking or participation due to not having resources. As one participant described, "There's, like, a whole bunch of rules. They always hassle me about smoking in the park, but I've never seen a sign." Another described,

> . . . when you have a job, those are the places you can go. Do you know what it's like to walk by a restaurant and then see people eating and you know you got one dollar maybe? I took a picture of that because those are things that you can do when you have a job . . . You can't just get on the bus with no money.

Homelessness was discussed as a barrier to finding re-employment due to stigma and instrumental barriers (20 mentions, 5 participants). One participant said, "I really admire people who get up and they're homeless and they go to work and they look for work or whatever. I just admire them because I know what it takes now." Another individual who was unhoused explained, "Can't iron and all that to try to go to a decent interview. It's kinda like you're stuck . . ."

Lifestyle themes

Spiritual faith and participation in formal religion was a lifestyle theme identified as inconsistent with smoking and supportive of job-seeking (12 mentions, 4 participants). A participant stated, "Smoking is not a very religious thing to do,

I don't think." Another said that religion gave him "an extra boost, extra strength inspiration to keep moving forward" in his job-seeking.

Drug use, especially marijuana use, was mentioned as a way to quit cigarette smoking and, with state legalization of recreational marijuana use, as a potential source of employment (8 mentions, 2 participants). One participant described shifting from tobacco to marijuana use, saying, "I feel like I use tobacco now as more like a crutch for when I can't use marijuana."

Discussion

To better understand the relationship between smoking and unemployment and with the ultimate goal of informing a tailored tobacco cessation treatment intervention, the current study gave voice to a disenfranchised group: job-seeking adults who smoke cigarettes daily, many of whom were unstably housed. Taking photos of artifacts, people, and places that are salient to their job-seeking and smoking, participants communicated their experiences and perspectives.

This study was prompted by the disparities in job-seeking success among unemployed people who smoke. Notably, we found that salient motivators to quit smoking included health concerns and personal values. For participants living on the street, motivation to quit smoking was deterred by unavoidable cues to smoke. Cigarette butts were particularly common images and mentioned frequently in the narratives, perhaps because they are prevalent on city streets. Cigarette butts are the leading form of litter globally.[26] Stress and lack of a predictable daily routine also were identified triggers to smoke. Participant narratives reflected evidence of smoking-induced deprivation, whereby the drive to support the nicotine addiction took priority over meeting other basic needs. Our prior longitudinal study of unemployed job-seekers who smoke indicated prioritization of smoking over important job-seeking needs such as transportation costs, cellular phone service, grooming care, and new clothes.[4]

All study participants were determined to find work, driven by internal motivation, such as a sense of identity and purpose, and by external factors, such as improving their social, living, and financial situations. Finding work and quitting smoking can improve personal financial well-being. A majority of participants also spoke of how employment can limit smoking and smoking can limit the likelihood of re-employment. As people who smoke, participants viewed themselves at a disadvantage due to hiring managers being aware of the smell of smoke, tar stained teeth, or smoke altered vocal chords. Messaging on the link between smoking and unemployment is relevant and may encourage cessation attempts.

A third (n = 6) of participants had criminal records, which may in part explain their difficulty in obtaining employment. Formerly incarcerated people have the highest unemployment rate, with unemployment being a risk factor for recidivism.[27] Including members of this disproportionately impacted population in the study provides an opportunity to include their perspectives in future messaging. Our prior research found that the strong association for smoking with difficulty securing re-employment held when controlling for confounding variables, including criminal history.[4] We are unaware of any research reporting on the relative effects of smoking versus criminal history on unemployment.

Marijuana was mentioned as an alternative to tobacco smoking and as an avenue for re-employment. With the legalization of adult recreational marijuana use in California, future research should examine the ways in which marijuana use affects re-employment success, if at all. Homelessness, a cause and consequence of unemployment, was identified as a barrier to finding work and a source of stigma. Faith and religion were mentioned as a source of support and motivation.

Limitations

Study limitations include the small and mostly male sample and some challenges producing photos with discernable images from the disposable cameras. The sample size of 19 participants is similar to other photo elicitation studies.[28,29] The greater draw of men participating may mean that themes specific to women were missed.[30] Geographic generalizability may also be limited due to San Francisco's lower-than-average unemployment rate of 2.8% to 3.6% during the time period when the study was conducted (2015-2017); however, homelessness in San Francisco has also increased more than 14% since 2017, suggesting that interventions promoting employment in this region remain relevant.[31,32] Finally, the current study was not designed to determine the causal association between smoking and unemployment.

Notably, the process overall was viewed positively by participants. The qualitative photo elicitation methodology effectively encouraged participants to document and share their stories. Many remarked in their interviews that they enjoyed the experience of taking photos and requested to keep copies of the photo prints for themselves, which we were pleased to provide (see "process comments" in Table 1). Participants reported the process allowed them to "learn a lot about [themselves]" or "look at something that they didn't see before." One participant even said that the process "was actually therapeutic . . . the joy out of just doing it made [him] feel better and not wanna smoke a cigarette."

Implications for Practice and/or Policy and Research

Research is needed to identify ways to reduce the harms of smoking on financial well-being particularly for those most vulnerable such as the unemployed. A setting of emerging interest is EDDs for encouraging tobacco cessation among job-seekers. In the current study, images and narratives were collected from job-seeking smokers and the content was analyzed for themes. Our goal was to develop realistic, credible, and impactful health promotion messages. Identified themes relevant for messaging included a focus on health concerns, personal values and beliefs, and the impact of smoking on job-seeking.

The period of unemployment could be an opportune time for tobacco cessation interventions. Job-seekers who smoke may be more motivated to quit due to financial costs and negative perceptions among potential employers. However, the stress of seeking work and a lack of structure in one's day could be deterrents. The photos and themes identified in this photo elicitation project have been incorporated into a tobacco cessation treatment printed manual for job-seekers who smoke being evaluated in a randomized controlled trial.

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Author Contributions

AKM participated in the study design and acquired the data. SLW drafted the manuscript and analyzed the data. JPP conceived and designed the study and provided the final approval for publishing. CGB participated in the study design. All authors revised the manuscript critically.

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