

Co-occurrence of schizophrenia and smoking: a qualitative study

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KEY MESSAGES

1. The smoking and quitting behaviours of people with schizophrenia are mostly similar to non-psychiatric populations, but smokers with schizophrenia claim that smoking enables them to better cope with the illness and the adverse effects of antipsychotic medications.
2. Most participants perceive smoking cessation methods ineffective and are not interested to join the smoking cessation programme. They believe that banning of smoking is the most effective way to help them quit.
3. Most participants were not motivated to quit smoking and perceived quitting smoking as very tough owing to their schizophrenia condition.
4. To facilitate smoking cessation in people with schizophrenia, it is important to (1) encourage clinicians to address the internal barriers of

quitting and psychological needs of those with schizophrenia; (2) encourage family and clinicians to provide authentic human caring and constant presence that trigger more powerful change in the patients' internal motivation rather than external motivation from authoritarian regulations or instrumental support; (3) teach individuals acceptance-related skills to increase their psychological flexibility and acceptance of cravings to smoke; and (4) provide support to access smoking cessation services.

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Introduction

Among people with mental illnesses, the prevalence of smoking is highest among those with schizophrenia, ranging from 58% to 90%.¹ Compared with the general population, those with schizophrenia live on average 10 fewer years.² The causes of this disparity are multifactorial; smoking accounts for most excess mortality among those with schizophrenia.³

Although the smoking rate among the general population is declining, no such trend is observed in psychiatric populations. A meta-analysis reported that individuals with schizophrenia have great difficulty in quitting smoking and have significantly lower smoking cessation rate than the general population or smokers with other psychiatric illnesses.¹

Few qualitative studies have explored the experiences of tobacco use and cessation from the perspectives of psychiatric populations. Only one qualitative study explored the beliefs and attitudes on smoking behaviours among persons with schizophrenia.⁴ Factors that influence smoking and quitting in Chinese people with schizophrenia are underexamined. This may lead to failure in designing and implementing effective smoking cessation programmes to the specific needs of this population. The present study aimed to identify and examine the subjective experiences of tobacco use and quitting in Chinese people with schizophrenia.

Methods

This qualitative study used face-to-face individual semi-structured interviews. A total of 23 people with schizophrenia were recruited from the community residential mental health service settings that provide counselling and transitional residential care. The inclusion criteria were (1) a diagnosis of schizophrenia, (2) referred by medical doctors, (3) currently or previously using tobacco, (4) interested in taking part in a face-to-face individual interview, and (5) able to communicate in Cantonese. Those with disorientation, developmental disabilities and/or organic conditions were excluded.

Purposive sampling was used. Case managers referred potentially eligible subjects. Written informed consent was obtained. Interviews were arranged at a time of their convenience at the centre where they received services.

Data were collected by one research assistant and five masters students under supervision of the first author. The research assistant and all masters students had been trained by the first author to conduct semi-structured interviews based on the interview guide, using probing questions, and how to handle silence. Credibility was established by extensive use and cross-referencing of interview data, field notes, memos, discussions in supervision, consultations with experts in the field, and wide reading of research in smoking and mental illness.

Experts in community mental health care and tobacco use provided feedback on the guiding questions. Three pilot interviews were conducted to ensure the credibility of the guiding questions.

Demographic data including age, sex, and socioeconomic status were obtained. Semi-structured interviews with open-ended questions related to mental illnesses and smoking behaviours were conducted to obtain rich narrative data. Interviews began with general questions about the current smoking habit and smoking history, together with their experience on smoking cessation. If there was connection between smoking and their mental health illness, the perception and experience on smoking or cessation, barriers to cessation, views on cessation methods were explored. Interview was stopped until no new findings on key categories were obtained. Each interview took 30 to 45 minutes and was audio-recorded. The audio-taped data were transcribed verbatim. Essential findings were then translated to English for reporting.

Data were analysed through the latent qualitative content analysis based on an inductive approach⁴ to identify main categories (themes)

and patterns among the sub-categories. Analysis involved active reading, verifying, and organising data. The unit of analysis for coding and themes/categories development was an entire statement from the transcripts. The analysis helps to explore and interpret the underlying meanings of the texts (data) that lead to meaningful units of sub-categories. The sub-categories were then condensed to achieve the status of a theme.⁴ In other words, like the codes being developed as the first step of this analysis, name was given to each sub-category corresponding to the meanings of its coding. The coding and sub-categories were constantly checked, rechecked, and compared with other data in order to verify the meanings and discover common themes from the data being coded and categorised. To assure trustworthiness of results, each transcript was analysed by two investigators independently and they subsequently met to review the results (peer debriefing) to achieve consensus, credibility, and confirmability of the process.

Results

The age of participants ranged from 26 to 62 years; only one was female (Table). All participants were living in three centres with roommates. Prior to institutionalisation, most were living in public housing. Of the participants, 50% were employed and most received Comprehensive Social Security Assistance as the primary source of income. In addition, some also received income from the Disability Allowance Scheme. Most participants achieved secondary education levels. Most participants had been admitted to a psychiatric hospital before (78.5%) and received regular psychiatric follow ups in the last year (93.1%). Most started smoking on or before 25 years old (~91%) and had smoked for at least 20 years (>75%). One third tried quitting smoking before.

Four main themes emerged from the analysis: (1) smoking rationale, (2) environment and culture, (3) cognitively minimising the problems of smoking, and (4) beliefs about cessation methods.

Smoking Rationale

Perceived relationship between smoking and illness

Most participants perceived that there was no relationship between schizophrenia and smoking. For example, Henry commented that, *“There is nothing to do with smoking. Why are there many people who don’t have mental illness... a lot of people smoke but no mental illness at all... now you see.”*

Participants were generally not serious about quitting smoking. They perceived quitting as very challenging, with some related the difficulties to their illness. For example, Gordon described that having

TABLE. Characteristics of participants (n=23)

Pseudonym	Sex/ age, y	Years of smoking	Age of first smoking, y	Cigarettes smoked per day
Jason	M/41	29	12	-
Kelvin	M/46	31	15	6
Edgar	M/46	26	20	20
David	M/53	18	35	7
Ryan	M/44	26	18	20
Ann	F/51	37.5	13	3
Henry	M/49	27	22	45
Paul	M/50	37	13	10
Richard	M/26	11	15	20
Chris	M/62	-	20	25
Rock	M/43	25	18	20
Sam	M/48	8	20	15
Johnson	M/45	27	18	30
Peter	M/55	35	20	20
Max	M/50	29	21	20
Joe	M/42	14	28	7
Elvis	M/45	27	18	20
Calvin	M/50	30	20	15
Chris	M/58	33	25	3
Michael	M/54	34	20	25
Gordon	M/62	37	25	20
Kevin	M/57	37	20	6
Tim	M/53	30	23	20
Mean±SD (range)		27.66±8.35 (8-37.5)	19.96±5.14 (12-35)	17.14±9.89 (3-45)

schizophrenia was already tough enough and he could not quit smoking or his psychotic symptoms could intensify: *“Schizophrenia is too suffering, I can’t quit... if I could recover from schizophrenia after smoking cessation, I would do that... but I don’t recover from schizophrenia. I can’t quit... even so I’ll smoke again.”* *“I hear voices (if I quit), I hear the TV scolding me, the radio also scolds me, people around and the entire world scold me too.”*

Perceived relationship between smoking and medications

Several participants related smoking with antipsychotics. For example, Tim claimed that antipsychotics increased his urge to smoke: *“I really need to take 1-2 puffs of cigarette after taken the antipsychotic medications... maybe because those medications make me craves for a cigarette.”* David reported that he smoked more when he suffered from more adverse effects from antipsychotics: *“Side effects of the antipsychotics are strong, then I will take more cigarettes... say if the side effects are not that strong. I can then take fewer cigarettes.”* According to Sam, smoking helped to reduce adverse effects of antipsychotics when he was asked about the smoking effects in relation to medications: *“It helps... I don’t feel that much tired, and that much sleepy. Sometimes after the injection, I feel sleepy and very tired... When I smoke, it stimulates me to feel energetic, not worrying about being sleepy.”* However, David also suggested a negative influence of smoking on the effects of antipsychotics and in turn on his illness. He considered that cigarette smoking would reduce the effects of antipsychotics and thus accelerate the illness relapse rate: *“Your recurrence of illness will speed up (if continue to smoke)... all the medications are well calculated and taken in the hospital. But when I go out and smoke two packs of cigarettes, it will reduce half the drug efficacy of my medications, and this will then affect (my illness).”*

Environment and culture

Cigarette smoking depending on institutional smoking regulations

Many participants reported that their cigarette smoking depended on the smoking regulations of the institutions. They restricted themselves from smoking when the environment does not permit. Interviewer: *“Assuming that you’re in the hospital and can’t smoke, what would you do to refrain yourself from smoking?”* David: *“hmm... we’re not allowed to smoke in the ward and so we just don’t smoke.”* Interviewer: *“Okay, so if the environment allows, you’ll smoke. If not, you don’t. Is that right?”* David: *“Yes.”* Interviewer: *“Okay, so you stayed in the hospital for half a year, you didn’t even smoke one cigarette at all?”* David: *“No.”*

Participants who had been admitted to hospitals also reported that they restricted their cigarette smoking in the hospital owing to strict monitoring by staff. For example, Elvis stated: *“Our hospital has very strict monitoring... if you smoke, they will put you to a correctional room.”*

Some participants reported that they quit smoking while they were in hospital owing to the smoke-free policies. However, most resumed smoking upon discharged. For example, Max stated, *“I did not smoke for 3 months in the hospital because of the restriction. I smoked again after I was discharged.”* Nonetheless, a few participants reported that they smoked in hospitals when cigarettes were available. Elvis reported that he smoked in hospital as his *“family members brought cigarettes to hospital”* and Michael mentioned that he smoked in hospital as someone sold cigarettes in the hospital.

Cigarette smoking owing to institutional environment

Many of participants’ peers in the community-based residential settings smoke and this culture influenced them to smoke, even though some had quit smoking during hospital stay. Ryan stated, *“in my previous dormitory (of the community-based residential settings) there were more than 70% of people smoke... everyone smoke, and very naturally you will smoke too.”* Two participants mentioned that the mundane environment in the community-based residential area or day-care centre caused them to smoke. Ryan said, *“The previous hostel where I lived in... I always stayed there... with nothing to do there. Then I always smoked. I applied for a day-care hospital, joining some groups... making artwork... then I can smoke less frequently.”*

Smoke whenever accessible

Many participants reported that they complied with the smoke-free policies in the community-based residential settings by not smoking inside the block. However, they smoked outside their residential block or somewhere else during work, without violating the smoke-free regulations. For example, Richard reported that, *“when the manager is back, we will have to go near the rubbish bin near the entrance (of the community-based residential are) to smoke.”* This was to make sure they do not violate the rules of smoking ‘inside’ the residential area. It was clear that, in the residential care setting, schizophrenic patients who smoke do so depending on the institutional smoking regulations and culture.

Cognitively minimising the problems of smoking

Perceived benefits in smoking

Most participants described benefits of smoking, in

particular, how smoking can help them to cope or escape from their negative emotions or mood. They also talked about the different moods contributing to their smoking tendency. For example, moods such as boredom were recurring emotions that trigger the smoking craving. Chris said *“being caught in a day-care center... I felt so pathetic and boring... and I started smoking again.”* Many participants said smoking serves as way to cope with their routine and structured institutional life. Max said smoking helps *“to kill time easier... gave me (him) something to do.”* Some participants believed cigarettes helped to relieve everyday stress, such as workplace pressure (eg Edgar said *“sometimes when I work... I face some job stress... therefore, I want to smoke.”*) and negative emotions (eg Rock said *“when I am upset and feel troubled, I will smoke.”*). Many strongly expressed that smoking acts as psychological support for them. Smoking can be as simple as just satisfying their smoking craving. To other participants, smoking provided them with a sense of comfort or enjoyment. Max said *“after 2 hours of work, I want to take some rest, I will smoke as a way to enjoy myself.”* Some believed cigarettes had an enhancing effect on their alertness and concentration. Richard said *“I rely on cigarettes when I work... after I smoke... I can then concentrate... and work efficiently.”* Others believed cigarettes provided a companionship to them over the years and throughout their journey of mental illness. Rock said: *“the meaning of smoking is that it has accompanied me for many years... at that time when I was just 19 years old and started smoking, that thing (schizophrenia) happened... smoking has accompanied me many years.”* In addition, smoking serves a way to engage or make friends. Joe said: *“the attractive thing of smoking is... being able to know more friends.”* It is apparent that smoking serves a special purpose for most participants.

Minimising problems of smoking

Many participants were able to name the harmful effects of smoking on physical health, but some did not think that those harmful consequences would happen to them. When asked whether one is afraid of developing cancer owing to smoking, Kevin replied: *“I am not scared... it won't happen to me that easily”* and Rock noted: *“I have been smoking for more than 20 years, there has been no problem. Then what problem would there be?”* Some participants also had misunderstanding that drinking herbal tea or beer can help to detoxify or soothe the harmful effects of smoking to health.

Decisional balance for smoking: pros greater than cons

Some participants faced a dilemma of whether to smoke, but they often perceived the benefits of smoking to be greater than its negative effects.

For example, Elvis described his inner struggle but finally decided to give up quitting: *“It's such a dilemma... sometimes I feel like there is a devil and an angel living in my brain. The angel asked you to quit smoking quickly... the devil then asked you to smoke... they are like two people speaking in my heart.”* Interviewer: *“Do you still have this dilemma now?”* Elvis: *“Not at the moment. I decided to smoke. It is a choice. In fact there is nothing I can do. I have nothing to do at the moment, no hobby, therefore, I smoke. Smoking serves as a little enjoyment in life for ordinary people like me.”*

Most participants generally did not think too much about smoking or quitting as they had regarded smoking as a kind of ‘habit’ and that they have ‘got used to smoking’. For example, Edgar described smoking as part of their daily routine: *“smoking... is like... a part of life, similar to eating”*.

Normalise smoking behaviour

When asked about the feelings and experience of their smoking behaviours, some participants tried to normalise smoking. Rock said, *“smoking does not cause me any disturbance, I have a lot of friends and relatives who smoke.”* Some justified their smoking behaviours with reference to significant figures. Gordon said: *“Deng Xiaoping smoked and therefore, everyone of us can smoke... he also smoked in front of the television... even Deng Xiaoping could smoke, therefore, I smoke as well.”* Some compared smoking with other addictive behaviours such as taking drugs, gambling, and drinking coffee, and thought that smoking was a relatively healthier habit. Johnson said, *“some people gamble, I don't gamble, neither am I addicted to drinking coffee. I only have nicotine craving. If I smoke then I won't have diabetes... drinking coffee is also not good for health.”*

Searching for ways to minimise the negative effects of smoking

Some participants tried to minimise the negative effects of smoking such as financial burden and high amount of nicotine by using illicit cigarettes. Those illicit cigarettes are believed to be ‘much cheaper’ and ‘won't lead to heavy craving as there is only little amount of nicotine’. Data analysis identified the participants’ experience as ‘cognitively minimising the problems of smoking’.

Beliefs about cessation methods

Lack of knowledge or misunderstanding of smoking cessation methods

Participants generally had minimal knowledge of current smoking cessations methods. Some did not know how to access smoking cessation services, or what services or methods are available to assist them to quit smoking. Even though some had heard

of certain tools for smoking cessation (eg nicotine patches), there were some misunderstandings. For example, Ann asserted that, *“Methadone... can be taken in government hospitals...which is used for smoking cessation.”* Ann pointed out that no one had promoted the importance of smoking cessation and its services in the community-based residential setting and sheltered workshops.

Perceived smoking cessation programmes as ineffective

Participants perceived smoking cessation programmes or tools as not useful in smoking cessation. For example, Gordon described nicotine chewing gum and nicotine patch, which did not help him to reduce his cigarette smoking. Interviewer: *“You had (nicotine) chewing gum before, did you feel that it was ineffective (in helping you to quit smoking)?”* Gordon: *“It was just chewing gum... it is not useful.”* Interviewer: *“Does it mean that your amount of cigarette smoking remained the same after having chewing gum?”* Gordon: *“Yes.”* Interviewer: *“How about nicotine patch?”* Gordon: *“I always apply (the patch), but nothing had changed.”*

Some participants claimed that they would not want to participate in smoking cessation programmes, as they perceived them as ineffective though without trying. These participants often repeated that whether to smoke depends on oneself, in particular one’s will power and self-control. For example, Sam summarised the personal beliefs of many participants regarding what it took to quit smoking or reduce cigarette smoking: *“...quitting needs to rely on oneself, nicotine patch only has around 40% help in helping one to quit... the most important thing is to rely on one’s will power... you just have to force yourself not to smoke... some people were successful in this way.”*

Suggestions of smoking cessation methods

Many participants believed in law enforcement of banning smoking. Jason said *“...ask the government to ban smoking, don’t sell cigarettes”* Data analysis demonstrated that patients with schizophrenia dwelling in the residential setting had misunderstandings about smoking cessation methods.

Discussion

Smoking played an important role in the lives of participants. Although they considered quitting at times, it was not enough to lead many of them to quit owing to the lack of cessation support throughout their recovery journey. The data provided important clues to understand how smoke-free policies and culture in hospitals and rehabilitation settings facilitated or hampered their smoking behaviours.

Most participants did not perceive smoking to be related to schizophrenia. However, some suggested that smoking may serve unique functions for individuals with schizophrenia such as reduction of adverse effects of antipsychotics, similar to a previous study.⁵ One participant suggested that quitting might intensify psychotic symptoms, suggesting a self-medication model. Indeed, individuals with schizophrenia were reported to smoke to self-medicate positive symptoms,⁶ and nicotine withdrawal or attempts to cut down or quit smoking led to exacerbation of psychotic symptoms.⁷ However, no long-time adverse effect on the behaviour of psychiatric patients was observed following the introduction of a smoking ban.⁸ One participant believed that smoking might reduce the efficacy of their medications and thus have a negative effect on the illness prognosis. This is consistent with a review of studies that smoking induces the metabolism of some antipsychotic medications and thus smokers with schizophrenia may require higher doses of medications to control symptoms.⁹ In addition, a few participants believed that having schizophrenia would make smoking cessation more challenging. This was in line with a study that individuals with schizophrenia encountered great difficulty in quitting.⁵ Future research is needed to explore how living with schizophrenia makes quitting more difficult, and how clinicians can address the needs of patients with schizophrenia in smoking cessation treatments.

With regard to perceived attitudes of smoking and quitting, participants were mostly similar to the general population⁵ and individuals with schizophrenia in a previous study.¹⁰ Participants generally lacked motivation to quit smoking and were not considering change. They regarded smoking as part of their daily living and perceived many psychological and social benefits of smoking. Cigarettes seemed to provide a consistent and dependable companionship that some participants may be lacking in other relationships. This role of cigarettes may seem like an exaggeration for most people, but not for these participants who were often segregated and stigmatised. Cigarettes have become a form of psychological support, and these participants perceived cigarettes as a tangible being that had accompanied them for many years, even through past negative experiences. This suggests that it is important for clinicians to address patient psychological needs when providing smoking cessation services. Most participants were aware of and were able to name the negative consequences of smoking, including cancer, dyspnoea, stomach ache, hypertension, increasing heartbeat, losing weight, and producing more sputum. However, the perceived positive effects of smoking appeared to outweigh the perceived adverse effects and risks associated

with other health behaviours. The participants faced dilemmas of whether to smoke, in line with a previous research.¹¹ In addition, participants often normalised and provided justifications for their smoking behaviours and avoided believing their susceptibility to harmful health outcomes. They found ways to minimise the negative effects of smoking such as using illicit cigarettes to reduce level of nicotine. These behaviours suggest that these participants had a tendency to utilise avoidance-oriented coping strategies, including denying, minimising the seriousness of the situation, modifying and eliminating the conditions that gave rise to the problem, and changing the perception of an experience in a way that neutralises the problem. This is consistent with previous research that found avoidance-oriented coping was common among individuals with schizophrenia.¹² This desire to escape from uncomfortable emotional states has been identified as the most common trigger for relapse.¹³ Acceptance and Commitment Therapy may be useful, because it teaches participants acceptance-related skills to reduce avoidance and increase psychological flexibility. Participants can re-contextualise problematic cognitions and have more realistic views of the negative impact of smoking on them, which in turn may reduce their cigarette smoking.

Our findings also suggest that cigarette smoking in individuals with schizophrenia is related to the smoke-free policies and cultures of mental health institutions. Most participants reported that they smoked if the environment allowed or if they had access to cigarettes; participants restricted their cigarette smoking or quit if the environment did not permit, with strict monitoring or penalty such as in hospitals. However, many participants reported that, despite having quit smoking, they resumed smoking upon discharge from hospital, when they were free from restrictions or due to peer influences in the residential settings. It is also important to educate family members on providing support and avoiding actions such as providing cigarettes to help patients to quit smoking.

In addition, participants generally had little knowledge of or misunderstood current smoking cessation methods. This has implications on the availability of smoking cessation programmes and education within the mental health settings. It seems that throughout the course of their mental illness recovery, smoking was rarely addressed and there was a lack of education regarding smoking cessation tools. Indeed, this was echoed by one participant that no cessation programmes were available to them and no staff has promoted smoking cessation in the community-based residential area. It has been reported that the issue of smoking is typically ignored in mental health settings.¹⁴ This

could be because mental health providers often have limited training in addressing tobacco use. They may assume that people with mental health cannot or are not interested to quit smoking, or that symptom management should take precedence over preventive health measures.¹⁴ This is a significant problem, given that people with schizophrenia have high rates of smoking.¹⁵ Efforts should be made to promote the importance of smoking cessation and to educate individuals on the benefits of using bupropion or varenicline for reducing or abstaining from smoking. It is essential to train mental health professionals to address the issue of smoking, to view smoking cessation as a priority or as their responsibility, and to take an active role in addressing smoking as part of the mental health treatment or routine clinical care. This includes assessing patient tobacco use, providing cessation counselling, and referring smokers to local resources for additional information and cessation support. For individuals with schizophrenia, interactions with mental health professionals are often their only access to preventive health counselling.

When asked about their thoughts of current smoking cessation programmes, most participants perceived them as ineffective, regardless if they have used these programmes before. One possible reason is that the participants did not feel that these programmes have specifically targeted their needs. They believed quitting would depend on one's willpower and self-control (internal factors). At the same time, participants perceived they would only be able to quit if smoking were banned, suggesting that they encountered internal barriers to change. These findings have implications in current smoking cessation programmes. Effective smoking cessation interventions should address their internal barriers of change and to tailor assistance accordingly. Smoking cessation programmes for people with schizophrenia should also focus on teaching stress management and coping skills, given that several participants reported smoking to cope with adverse drug effects or boredom.

Limitations

Findings were based on the views of a purposive sample living in a community-based residential setting. Results may not be generalisable to other ethnic groups or people with schizophrenia in general given that smoking is influenced by various biological, psychological, and environmental factors. Future studies should use a more structured qualitative methodology, such as grounded theory, in order to advance the data analysis process. Nevertheless, the use of qualitative methodology allowed for gathering of rich data (regarding factors that influence smoking and quitting) that could not be obtained using aggregated quantitative measures.

Regarding the current status of the participants with schizophrenia, it is difficult to confirm if participants have any cognitive distortions during the interview. Some participants had difficulties in articulating their thoughts or experiences clearly, although the researchers put every effort to identify participants who were mentally stable, with the help of the staff. Participants were also re-interviewed when messages were unclear. Furthermore, many have had schizophrenia since age 27 years on average, and most had started smoking before the onset of mental illness. They did not think too much about smoking and quitting. Therefore, recall bias cannot be eliminated. Moreover, patients with schizophrenia are a heterogeneous group and 23 participants may not be adequate for making a firm conclusion. Although the number of participants was small, the findings provide guidance for future research directions.

Conclusions

There are barriers to smoking cessation for individuals with schizophrenia, including internal factors (psychological needs, illness-related difficulties, tendency to utilise avoidance coping strategy, lack of will power and self-control) and external factors (peer influence in community-based residential settings, the lack of cessation programmes available and limited cessation support within mental health services). To facilitate smoking cessation in people with schizophrenia, it is important (1) to encourage clinicians to address the psychological needs and internal barriers to quitting in patients with schizophrenia; (2) to encourage family and clinicians to provide authentic human caring and a constant presence that triggers more powerful change in the patients' internal motivation rather than the authoritarian regulations or instrumental support; (3) to teach acceptance-related skills to patients with schizophrenia, to increase their psychological flexibility and acceptance of cravings to smoke; and (4) to improve access to smoking cessation services.

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