A qualitative study on barriers to smoking cessation among unsuccessful quit smoking patients at Kuala Terengganu District Health Office (PKDKT)

Wan Noraini Wan Mahmood[1], Nur Sulaihah Omar[1], Nurul Liyana Samsuddin[2], Mazlina Mukhtar[3]

[1] Klinik Kesihatan Hiliran, Terengganu, Malaysia.
[2] Klinik Kesihatan Manir, Terengganu, Malaysia.
[3] Hospital Sultanah Nur Zahirah, Terengganu, Malaysia.

Abstract

Introduction: According to the National Health and Morbidity Survey 2015, about 22.8% (4,991,458) of Malaysian population aged 15 years and above were smokers. Data from the Quit Smoking Programme in Kuala Terengganu District Health Office (PKDKT) indicated that only 31.8% of patients successfully quitted smoking from 2017 to 2019.

Objective: This study aimed to explore the barriers to smoking cessation among patients in PKDKT.

Method: Patients were selected from the registry of Quit Smoking Clinics in PKDKT. One-to-one interview session for 20-30 minutes was conducted using semi-structured questions. Purposive sampling was carried out and patients were recruited until data saturation. The interviews were audio-recorded, transcribed verbatim, coded manually and thematically analysed using constant comparison approach.

Results: A total number of 30 patients were interviewed. Six themes were emerged from this study, namely (1) personal and lifestyle factors, (2) misconception, (3) side effects of quit smoking medications, (4) recovering from acute disease, (5) withdrawal symptoms, and (6) readiness to stop smoking. Our participants claimed that it was difficult to resist temptations, and their smoking habits often relapsed due to the influence of friends who smoked in workplaces or during social activities. They stated that they switched from smoking to vaping because they had the misconception that vaping was safer compared to cigarettes. Nicotine withdrawal symptoms, such as craving, cough, constipation, sleep disturbances and weight gain, had caused patients to resume smoking. Also, the side effects of medications for quit smoking such as nausea, headache and sleep difficulties could discourage the patients from continuing their quitting efforts.

Conclusion: Six barrier themes that were related to the failure in quit smoking attempts were identified. Strategies can be designed and implemented to overcome the barriers and to improve the success rate of Quit Smoking Programme.

Keywords: Smoking cessation, barrier, qualitative, patient

NMRR ID: NMRR-20-2836-55485

Corresponding Author: Mazlina bt Mukhtar
Department of Pharmacy, Hospital Sultanah Nur Zahirah, Jalan Sultan Mahmud, 20400 Kuala Terengganu, Terengganu, Malaysia.
Email: mazlinabtmukhtar@gmail.com

Introduction

According to the data from World Health Organization in 2021, tobacco had killed more than eight million people every year with more than seven million of deaths being the result of direct tobacco use while around 1.2 million were the result of non-smokers being exposed to second-hand smoke. The burden of tobacco-related illness and death was heaviest in low- and middle-income countries which represent 80% of the 1.3 billion tobacco users worldwide (1).

In 2015, over 1.1 billion people smoked tobacco worldwide. According to the National Health and Morbidity Survey 2015, approximately 22.8% (4,991,458) of Malaysian population aged 15 years and above were smokers. Among those who have tried to quit smoking, the abstinence rate at six months was only 3%–5% among those who self-quit and 19%–33% among those who opted for pharmacotherapy (2, 3).

The Kuala Terengganu District Health Office (PKDKT) in the state of Terengganu, Malaysia implemented the Quit Smoking Programme in its health clinics. Based on the report from the programme in 2017 and 2018, only 24.3% and 50.6% successfully quitted smoking after being enrolled in the programme. In one of the PKDKT's clinics, Manir Health Clinic, out of eleven registered patients, none of them succeeded to quit smoking and 52.2% succeeded in 2018. Overall, the success rate on smoking cessation in PKDKT was only 30% which was considered low. Although the trend of success rate was increasing, it was still far from our goal. Hence, this study was conducted to explore barriers to smoking cessation among smokers. It was hoped that this information can help in establishing strategies to increase the success rate of the Quite Smoking Programme.

Method

A qualitative study was conducted using grounded theory method to understand the barriers to smoking cessation among unsuccessful quit smoking patients who already joined Smoking Cessation Clinic in PKDKT. This study was conducted in Hiliran and Manir Health Clinics, Kuala Terengganu district, Malaysia from 1 November 2020 till 31 August 2021. Participants were recruited using purposive sampling. Consented smokers who failed to quit after attending the Quit Smoking Programme for six months at Hiliran and Manir Health Clinics were included in this study.

Eligible participants were contacted via phone to explain the purpose of the study and they were invited to meet the investigators at selected health clinic for an interview session. Sample size was determined on the basis of theoretical saturation. Informed consent was obtained from the participants before the interview session.

One to one in-depth interviews were conducted using a semi structured interview guide. Questions in the guide was developed to probe into the experiences of quitting smoking and resuming smoking after attempting smoking cessation. The interview guide was translated to Malay language by an English teacher from a higher education institution who has good command of Malay. The translated interview guide was pre-tested on three participants who had previous experience in smoking cessation programme. Adjustment was done to increase the understanding, engagement, depth and scope of the interviews. The participants involved in the pre-test study were not included in the study data set. The interviews were conducted by three investigators (WN, NL, NS) in Malay or local dialect according to participants' preferences. All investigators discussed before the interview process to ensure the consistency in the questions given. The duration of interviews took between 20 to 30 minutes. Data collection was terminated when the saturation point was achieved.

The interviews were audio-recorded using digital recorder and transcribed verbatim. The transcripts were translated to English by the interviewers. The process of data analysis started with line-by-line open coding to ensure that the analysis was comprehensive. Coding was carried out independently by WN and NL to reduce bias. Constant comparison approach was used to link the fragmented code and developed the theme.

The study conducted was in compliance with the national and international conditions and guidelines stipulated in the Declaration of Helsinki, World Medical Association (WMA). Approval from the Medical Research and Ethics Committee (MREC) of the Ministry of Health Malaysia was obtained and and the study was registered under the National Medical Research Registry (NMRR-20-2836-55485 86).

Results

Of 52 participants who failed to quit smoking after six months programme in Health Clinics, 15 refused to participate in the study and five was un-contactable. In total, 30 participants were included in this study. All of them were male, with the mean age of 42.7 (standard deviation, (SD) 10.33) years old. Most of them had secondary education and above and had been smoking for more than 15 years (Table 1).

Table 1: Demographic of the participants (n: 30)

Demographic characteristic	n (%) / Mean ± SD
Age, mean ± SD	42.7 ±10.33
Gender	
Male	30 (100.0)
Education	
Primary	4 (13.3)
Secondary	15 (50.0)
Tertiary	11 (36.7)
Years of smoking, mean ±SD	20.2 ± 8.61
<10 years	2 (6.7)
11-15 years	7 (23.3)
>15 years	21 (70.0)

Abbreviation: SD = Standard Deviation

Six themes were generated from this study, namely (1) personal and lifestyle factors, (2) misconceptions, (3) side effects of quit smoking medications, (4) recovering from acute disease, (5) withdrawal symptoms, and (6) readiness to stop smoking.

Theme 1: Personal and life style factors

A majority of participants stated that they were unable to resist temptations when they tried to quit smoking. Their smoking habit relapsed due to the influence of friends who smoked in workplaces or during social activities.

> *"If I mingled with my friends, I felt that I must smoke and I don't know why".* (Participant 1)
> *"I always smoke if I mingled with my friends who are still smoking".* (Participant 5)
> *"When my relatives offer me a cigarette… I had to accept even only for one cigarette to avoid negative impression … e.g. arrogance."* (Participant 28)

Participants also stated that quit smoking might impaired their alertness.

> *"I'm not successful in quitting smoking because without cigarette I feel sleepy during driving and reduce my focus on work. I felt very fresh and energetic if I kept on smoking".* (Participant 4)
> *"… Lorry driver like me needs to smoke to stay alert. If I'm not smoking, I feel sleepy and tired. I manage to stop smoking for only two days before I start smoked again".* (Participant 17)

Some participants stated that their failure was related to stress, boredom, and impulsive decision.

> *"I will smoke if I felt stress."* (Participant 5)
> *"I can stop smoking for four months before. But I felt so bored…all my friends still smoking… I started smoking again without a concrete reason. Just because I felt bored and just for fun."* (Participant 15)

Theme 2: Misconception

Participants also expressed their misconceptions. They perceived that vaping was better than smoking with less side effects.

> *"When I joined the quit smoking programme, I got the recognition since I was able to quit smoking…after that I change to vape because vaping for me is more acceptable and better than smoking"* (Participant 6)
> *"I felt better nowadays since I quit smoking. But I do vape since vaping had fewer side effects to health".* (Participant 13)

Some participants thought that they will succeed in quit smoking after taking smoking cessation medications for a short term.

> *"I took Champix for 14 days but I'm not feeling better. Still had the craving to smoke… No effect on me".* (Participant 23).

"I thought after I started the smoking cessation medication, the craving to smoke will disappear but nothing happened to me. I still felt the crave to smoke…. Medication had not given any effect to me". (Participant 29)

Theme 3: Withdrawal symptoms

Most of the participants also said that their failure was due to withdrawal symptoms of nicotine. They experienced increased body weight, craving, tachycardia, fatigue and difficulty to maintain focus. Increase in body weight had severe impact especially on young participants.

"My weight kept on increasing after I stop smoking. As a young man, I cannot accept that. So, I started smoking again". (Participant 9).

"No smoke made my life miserable… always felt angry, cannot focus in work and my body weight started to increase. Body weight issue made me so stress. Then I started smoking again" (Participant 10).

"I stop for two to three months… but my weight increased more and more… and I was having palpitation. I felt so scared. Then I started smoking again with my friends". (Participant 11).

Theme 4: Recovering from acute disease

Participants were able to control themselves by not smoking during disease such as acute asthma exacerbation or heart attack but they resumed smoking upon recovery.

"I had asthma but I'm not quitting smoking. I just cannot quit. When I'm having an asthma attack and hospitalised, I quit smoking for a while as the doctor advices to do so, but then when I was discharged from hospital, I started smoking again since I felt better". (Participant 17)

"I joined quit smoking programme since I saw a lot of other patients joined that clinic. I myself had no plan and determination to quit smoking. I only quit smoking if I am sick, but then I started smoking again". (Participant 5)

"I had asthma, I only quit smoking if I'm having an asthma attack. If not, I smoke". (Participant 9)

"I successfully quit smoking for six years in 2000. That's the longest achievement. At that time, I was having bad cough and asthma attack. I was hospitalised for a long time. If I was still smoking at that time, I might be dead. However, after discharged from hospital, I started smoking again. I just cannot quit since I felt healthy". (Participant 2)

Theme 5: Side effects of medication

Medication used in quit smoking programme include varenicline tablet (Champix), nicotine gum and nicotine patch. Common side effects reported by the manufacturer include nausea, headache, constipation and insomnia. Some of the participants cannot tolerate the side effects of medication which made them resumed smoking.

"I used Champix for three to four months but I experienced the side effect of dizziness. After that, I started smoking again. So difficult to quit smoking". (Participant 18)

"When I started Champix, I had nausea and dizziness. As time went by, it felt better. Smoke felt bitter to me. So, I quitted for two to three months. But I cannot tolerate the side effects of palpitation. I felt so scared. I'm afraid my blood pressure will increase and I will get hypertension. Then I started smoking again especially if I mingled with the other smokers". (Participant 11)

"When I started Champix, I felt nausea and dizziness a little bit. Then the side effects became stronger. Medication … from twice times daily, I took once daily then I stopped taking that medication". (Participant 24)

"I usually took Nicotine Gum after Isya' …. after dinner. So if I chew the gum, I cannot sleep at night. If not, I can sleep as usual". (Participant 14)

Theme 6: Readiness to quit smoking

Some participants were not voluntarily involved in the Quit Smoking Programme. They were forced by their family members.

"I joined the Quit Smoking Programme since my wife registered for me. I had no interest and determination to quit smoking. I only quitted smoking for two to three months". (Participant 25).

"I had the intention but no determination to quit smoking. I only quitted smoking during the fasting month. Then I started to smoke again". (Participant 19)
"I cannot give the commitment to follow the Quit Smoking Programme schedule. That's why I'm not interested to join this programme". (Participant 26).

Discussion

This study found six barrier themes that were related to the failure in quit smoking attempts. One of the major barriers identified in this study was personal factors and social lifestyles. Our participants quoted that they were influenced by their friends and relatives who are smokers, and they failed to resist when their friends offered them cigarettes when they were hanging out together. Likewise, Sharma et al. found that the main reason of failure to quit smoking was the influence of friends. Smokers often have the perception that smoking will increase their circle of friends, increase enjoyment and for stress relaxation (4). Similarly, according to Chean et al., the personal and lifestyle factors encompassed the presence of other smokers, easy access to cigarettes, impaired self-control and boredom. The authors concluded that smoking cessation needs will power and a strong mind set (5).

Some of our participants claimed that they resumed smoking when they were stress, bored, and even restarted smoking without any reason. Previous study reported that smokers had more pleasure when exhaling the smoke and they saw smoking as a source of pleasure rather than addiction (4). Chellappa et al. also reported that most of the smokers were aware of the harms of smoking but still fail to quit because they enjoyed smoking, and not because of addiction. Satisfaction they get from the taste of smoke was beyond the effects of nicotine replacement therapy (6). In relation, Kim et al. reported stress, grief and loss as the primary obstacles in quitting smoking and avoiding relapse. High level of stress can be due to health concerns, excessive work, inequity in the workplace, and family issues. Fears also caused some participants from embarking on a quit attempt and being successful in quit smoking. The fear of failure, fear of feeling sick during the quit attempt, fear of weight gain, and fear of losing an effective coping mechanism affected the quit smoking outcome. There were also pressure to smoke in social situations where a high proportion of smokers are present (7).

Our participants claimed that they switch from smoking to vaping because they believed that vaping was safer compared to cigarettes. This was a common misunderstanding among the public and was often used as a justification by smokers or previously successful quitters to start vaping (8). Healthcare professionals, government, non-government organisations, media and other parties should step up the efforts to educate the public about the danger and side effects of vaping. On the other hand, some of our participants misbelieved that they can automatically stop smoking after using the varenicline starter pack for 14 days. They were disappointed when they still felt the tobacco craving after the first two-week treatment. This disappointment caused them to give up on the treatment. To prevent this issue, clinicians and pharmacists can allocate more time to counsel the patients before initiating treatment with varenicline to make sure that patients fully understand the regimen and set reasonable expectations.

Our study found that the side effects of medication for quit smoking such as nausea, headache and sleep difficulties could discourage the patients from continuing their quitting efforts. Participants with night dose of varenicline and/or nicotine gum complaint of having sleep difficulties, and they claimed that they can sleep comfortably after stopping the medication. According to Ashare et al., sleep disturbance might be one important side effect of nicotine replacement therapy. However, sleep disturbance on smoking cessation was complicated by the fact that nicotine withdrawal also produced sleep disturbances (9). Besides sleep disturbances, other common withdrawal symptoms were craving, cough, constipation and weight gain. Although patients were usually counselled about the withdrawal symptoms before beginning the quit smoking attempt, these symptoms could be disturbing and may cause patients to resume smoking to eliminate the symptoms. Bush et al. reported that while post-cessation weight gain was experienced by majority of people who quit smoking, the degree of weight gains varied considerably. Smokers may try to overcome nicotine withdrawal by substituting smoking with eating, and this could cause increased calorie intake. In addition, post-cessation weight gain may also be the consequence of low satiety, emotional eating, calorie misperception, and short sleep (10). Nicotine replacement therapy was effective in delaying post-cessation weight gain. Intermittent very-low-calorie diet with nicotine replacement therapy showed improved success rate of smoking cessation while prevented weight gain (10).

Smoking is a major risk factor for cardiovascular, respiratory, cancer and many other diseases. Patients were usually advised to quit smoking to reduce their risk factors. However, some of our study participants with chronic or acute disease said that they resumed smoking after their acute events or exacerbations were resolved. They were able to stop smoking for a short period, but continue to smoke after they felt better and healthier. In a study involving patients treated for tuberculosis who received smoking-cessation interventions in Indonesia, Mark et al. found that up to 84% of patients who quit smoking were able to maintain their abstinence for up to six months after the intervention, although the patients were not followed up to determine the long term outcomes of the intervention (11).

Some of our participants stated that they joined the Quit Smoking Programme involuntarily. Although they attended clinic appointments, they failed to quit because they were not ready. Willingness and readiness of smokers to quit smoking played a very important role for their success (12). In a study by Kim et al., some smokers experienced the pressure to quit from non-smokers, which made them felt like they were getting 'picked on' (7). This experience made some of them wanted to smoke more. Smokers' readiness to quit was divided into five stages, which include precontemplation (not thinking about quitting), contemplation (thinking about quitting but not ready to quit), preparation (getting ready to quit), action (quitting) and maintenance (remaining a non-smoker). Patients should identify which stage they were currently in (13). Motivational interviews by clinicians to explore patient's ambiguity to smoking cessation was important. Discussions between the patients and clinicians in determining the treatment plan and social support would be helpful. In addition, patients should have frequent contact with the healthcare team for support and solutions in managing any difficulties.

The main limitation of this study was the possibility of recall bias since the nature of this study was based on self-reporting. Furthermore, transferability of the data which means these findings cannot be extended to wider populations with the same degree of certainty that quantitative analyses can. Finally, this study used a manual method for analysis and no software were used for the data sorting and transcribing.

Conclusion

This study found six barrier themes that were related to the failure in quit smoking attempts, which were personal and lifestyle factors, misconceptions, side effects of quit smoking medications, recovering from acute disease, withdrawal symptoms, and readiness to stop smoking. We hope that the findings from this study could help the Quit Smoking Programme team members and healthcare providers to establish strategies to overcome the barriers of quit smoking and increase the success rate. Healthcare practitioners needed to provide sufficient knowledge to patient in order to improve their confidence, to acknowledge withdrawal symptoms and to focus more on the end results during the smoking cessation process.

Acknowledgements

We thank all the participants in this study for their input and effort. We would like to thank the Director General of Health Malaysia for his permission to publish this article. We also thank Dr. Neni Widiasmoro bt Selamat, Senior Lecturer from Management and Science University and Bahagian Perkhidmatan Farmasi Negeri Terengganu. We were also grateful to Pn Aishah Hamzah, Chief Pharmacist in PKDKT and Pn Norsima Nazifah, CRC HSNZ for their guidance and contribution.

Conflict of interest statement

No external funding was received and the authors declared that there was no conflict of interest.

References

1. World Health Organization. WHO Report on the Global Tobacco Epidemic, 2008: The MPOWER package [Internet]. Geneva: World Health Organization; 2008. 342 p. Available from: https://www.who.int/publications/i/item/9789241596282
2. Institute for Public Health (IPH). National Health Morbidity Survey 2015 - Report on Smoking Status Among Malaysian Adults. Kuala Lumpur: Institute for Public Health, Ministry of Health Malaysia; 2015.
3. Lim KH, Teh CH, Pan S, Ling MY, Yusoff MFM, Sumarni M. Prevalence and factors associated with smoking among adults in Malaysia : Findings from the National Health and Morbidity Survey (NHMS) 2015. Tob Induc Dis [Internet]. 2018 Jan;16(1):1–12. DOI: 10.18332/tid/82190
4. Sharma K, Kumar M, Diwaker P, Kandavel S. Why Some Dentists Still Smoke? A Qualitative Study.

Tob. Induc. Dis [Internet]. 2018 Sep;19(1):A14. Available from: https://doi.org/10.18332/tid/140870
5. Chean K, Goh LG, Liew K, Tan C, Choi X, Tan K, et al. Barriers to smoking cessation : a qualitative study from the perspective of primary care in Malaysia. BMJ Open [Internet]. 2019; 9(7):1–8. DOI: 10.1136/bmjopen-2018-025491
6. Chellappa LR, Balasubramaniam A, Indiran MA, Rathinavelu PK. Original Article A qualitative study on attitude towards smoking , quitting and tobacco control policies among current smokers of different socio - economic status. J Family Med Prim Care [Internet]. 2021 Mar;10(3):1282-1287. DOI: 10.4103/jfmpc.jfmpc_1628_20
7. Kim S, Chae W, Park W, Park M, Park E, Jang S. The impact of smoking cessation attempts on stress levels. BMC Public Health [Internet]. 2019 Mar;19(1):1–9. Available from: https://doi.org/10.1186/s12889-019-6592-9
8. Bowker K, Ussher M, Cooper S, Orton S, Coleman T, Campbell KA. Addressing and Overcoming Barriers to E-Cigarette Use for Smoking Cessation in Pregnancy : A Qualitative Study. Int J Environ Res Public Health [Internet]. 2020 Jul;17(13):4823. DOI: 10.3390/ijerph17134823
9. Ashare RL, Lerman C, Tyndale RF, Hawk LW, Tony P, Cinciripini P, et al. Sleep Disturbance During Smoking Cessation : Withdrawal or Side Effect of Treatment ? J Smok Cessat [Internet] 2017;12(2):63–70. DOI: 10.1017/jsc.2016.11
10. Bush T, Lovejoy JC, Deprey M, Carpenter KM. The effect of tobacco cessation on weight gain, obesity, and diabetes risk. HHS Public Access [Internet]. 2016 Sep;24(9):1834–41. Available from: https://onlinelibrary.wiley.com/doi/10.1002/oby.21582
11. Nichter M, Padmawati S, Ng N. Introducing smoking cessation to Indonesian males treated for Tuberculosis: the challenges of low-moderate level smoking. Soc Sci Med [Internet]. 2016 Mar ;152:70-79. Available from: https://doi.org/10.1016/j.socscimed.2016.01.028
12. Olenik A, Mospan CM. Smoking cessation: Identifying readiness to quit and designing a plan. JAAPA [Internet]. 2017 Jul;30(7):13-19. Available from: https://doi.org/10.1097/01.JAA.0000520530.80388.2f
13. Prochaska JO, Diclemente CC. Stages and Processes of Self- Change of Smoking - Toward An Integrative Model of Change. J Consult Clin Psychol [Internet]. 1983 Jun;51(3):390-5. DOI: 10.1037//0022-006x.51.3.390