Original Article

The Effectiveness Analysis of 'Quit-Calendar' Related to Current Smokers under 'Quit-For-King' Project (Phase II)

Anun Chaikoolvatana PharmD, PhD[1], Thanawat Wongphan MD[2], Choladda Chaikoolvatana MPH, PhD[3]

[1] College of Medicine and Public Health, Ubon Ratchathani University, Ubon Ratchathani, Thailand

[2] Administration Office, Ban-Mao Hospital, Saraburi, Thailand

[3] Faculty of Nursing, Phayao University, Phayao, Thailand

Background: Quit-Calendar has been developed and initially tested in Phase I for the Quit-For-King project. The effectiveness and satisfaction of its properties were later investigated among village health volunteers.

Objective: To investigate the Quit-Calendar effectiveness, factors related to quit success, and its satisfaction under the 'Quit-For-King' Project.

Materials and Methods: One hundred eleven current smokers underwent the program. Each participant needed to go 'cold turkey' technique, which mean to stop smoking at once, then received 5A counseling and a Quit-Calendar. The measuring parameters included continuous abstinence rate (CAR) and point prevalence abstinence rate (PAR), investigated at 2-weeks, 1-, 3-, and 6- month periods via statistical analysis.

Results: Most of the participants were males (96.4%), smoked 10 cigarettes per day (53%), heavy smokers. They were mostly in 'preparation stage' of change (49%). CAR was 26.11% and PAR values increased by the end of the 6-month. There were statistically significant differences between the numbers of quitters using Quit-Calendar ($p<0.001$). Only three factors, including numbers of cigarettes, minor illness, and levels of readiness to quit significantly affected quit success ($p<0.001$). The smokers stated that the Quit-Calendar could possibly help them to quit smoking. Nonetheless, some limitations need to be resolved.

Conclusion: Quit-For-King project has been successful over a 3-year period. The Quit-Calendar is one of the cessation aids that promote quit success and help quitters to overcome nicotine withdrawal.

Keywords: Quit-For-King, Quit-Calendar, Continuous abstinence rate (CAR), Point prevalence abstinence rate (PAR), Village health volunteers

Received 18 May 2020 | Revised 22 June 2020 | Accepted 25 June 2020

J Med Assoc Thai 2021;104(2):176-84

Website: http://www.jmatonline.com

The tobacco epidemic is one of the biggest public health threats the world has ever faced, killing more than eight million people a year around the world. More than seven million of those deaths are the result of direct tobacco use while around 1.2 million are the result of non-smokers being exposed as second-hand smokers[1]. The World Health Organization predicts that the cumulative number of tobacco related deaths will increase to one billion in the twenty-first century (up from 100 million in the twentieth century), unless global tobacco control measures are implemented rapidly[2]. Recently, Tobacco Control Research and Knowledge Management Center (TRC), Thailand has reported that the number of smokers of more than 15 years of age, is approximately 10.7 million (19.1%). Most young current smokers, who's age is between 15 and 18 (7.8%), live in rural areas (39.07%). The average age of current smokers is 17.8 years old. A factory cigarette is the most common product used among the smokers (56%), followed by roll-your-own (RYO) cigarette (49.3%)[3].

Public health professionals including doctors, nurses, and pharmacists can contribute to policy making by identifying important health problems caused by tobacco, providing evidence of the effectiveness of specific cessation interventions, and suggesting appropriated models for implementing them. Implementation will require collaboration of multiple sectors. Public health professionals should not limit themselves to medical approaches and should consider broader policy approaches as well. Studies have shown that simple advice to quit smoking is an effective intervention. It is also one that can be effectively provided by a variety of

Correspondence to:

Chaikoolvatana A.

College of Medicine and Public Health, Ubon Ratchathani University, Warinchumrab, Ubon Ratchathani 34190, Thailand.

Phone: +66-87-2586468

Email: phanunch@gmail.com

How to cite this article:

Chaikoolvatana A, Wongphan T, Chaikoolvatana C. The Effectiveness Analysis of 'Quit-Calendar' Related to Current Smokers under 'Quit-For-King' Project (Phase II). J Med Assoc Thai 2021;104:176-84.

doi.org/10.35755/jmedassocthai.2021.02.10917

health professionals[4]. In developing countries like Thailand, an attempt should be made to encourage health professionals of all types to identify tobacco users and provide brief advice to quit. Furthermore, helping health professionals such as doctors, nurses, physiotherapists, and pharmacists to understand the addictive properties of tobacco is important in making them appreciate the need for treatment and the key role that healthcare providers play in increasing the cessation rates. As in many countries in the West[5], smoking cessation is not included in the educational curriculum of medical or other health professionals in many developing countries[6]. As a result, health professionals often lack the expertise to deal with tobacco. Therefore, smoking cessation training programs for health professional are required.

Noticeably, health volunteers (HV) are also important in tobacco control system, especially for developing countries such as Thailand. Sometimes HV are called either 'community health volunteers' (CHV) or 'village health volunteers' (VHV). The HV are central as rapid urbanization decreased support for primary health care, and a changing political landscape have changed HV activities[7]. They are now more generally tasked with chronic disease prevention and management including the tobacco control programs[8,9]. Regarding tobacco control policies related to HV responsibilities, it has been shown that HV could provide social support for tobacco users to seek, adhere, and connect to health care services in their community[10-12]. Within the health care system, HV also serves as a voice for the community so that services that meet the needs of the population are developed and implemented[11]. Noticeably, some previous studies showed some positive results of HV related to tobacco abstinence, identification of smokers within the community, and enrollment in quitlines[10,13].

To help a smoker quitting cigarettes, combining the healthcare system through the health professionals, HV, hospitals, and community, with other strategies including, quitting processes, medications, lifestyle modifications, or cessation aids should be strongly recommended[14]. Regarding cessation aids, a lot of evidence reported about the numbers of cigarette quitters, changes in smoking perceptions, counseling adherence, and relapsed prevention[15-18]. In the present study, the researchers introduced a new cessation aid called 'Quit-Calendar' that reminded a quitter of self-awareness, nicotine withdrawal management, and quit date identification. It was developed and modified to be a supplement for smoking cessation process. Later, it was implemented for 'Quit-For-King' Project, which was objectively established to persuade current smokers wanting to quit smoking in Phase I (Chaikoolvatana et al, 2020)[14]. The components of the Quit-Calendar, the health promoting hospital staff (HPH), and the 5A (ask, advice, assess, assist, and arrange) counseling are the keys process. HPH staff, working at the primary care settings in Sri-Sa-Ket province, would deploy both knowledge and 5A counseling skills of smoking cessation combined with the Quit-Calendar. All document supply and media related to smoking cessation were also prepared for those HPH. The present study aimed to investigate the Quit-Calendar effectiveness, factors related to quit success, and its satisfaction under the 'Quit-For-King' Project.

Materials and Methods

Study design

The present study was a prospective, descriptive study. The duration of study was 12 months. The study sites included 25 community hospitals in Sri-Sa-Ket province.

Participants

All current smokers lived in Sri-Sa-Ket province between January 2017 and 2018. They voluntarily enrolled into the Quit-For King Project during that period. The total number of participants required was calculated[19]. One hundred and eleven participants registered to quit smoking.

Ethical considerations

The study protocol was reviewed and approved by the Sapasithiprasong Hospital Council Policy Statement Ethical Conduct for Research Involving Humans (Ref. No. 029/2556; 2013 October 18). Before the commencement of the present study, the authors obtained the approval of the Director of Sapasithiprasong Hospital.

Definitions

- HPH is a hospital I primary care level taking care of local villagers in each province of Thailand.

- HV is a person living in the areas, either district, sub-district, or village, and willing to help HPH regarding to the health issues of their own area.

- CHV is a synonym for the HV in western countries.

- VHV is a synonym for the HV. It is more specific for those who living and volunteering to work with HPH regarding the health issues of their

Figure 1. Front page of Quit-Calendar.

own village.

- Continuous abstinence rate (CAR) is the percentage of the participants remaining continuously abstinent from week 2 to week 9 (primary end point) and from week 9 to week 24 (secondary end point).

- Prevalence abstinence rate (PAR) is the percentage of participants remaining abstinent from cigarette smoking for the last seven days (secondary end point).

- Nicotine addiction is also called tobacco dependence. It is an addiction to tobacco products caused by nicotine. Nicotine dependence means a person cannot stop using the substance, even though it is causing him harm. Nicotine produces physical and mood-altering effects in the brain that are temporarily pleasing. These effects make that person want to use tobacco and lead to dependence. At the same time, stopping tobacco use causes withdrawal symptoms, including irritability and anxiety.

Methodology

From Phase I, 177 HPH professionals from 25 district areas enrolled to the training program. A smoking cessation service was placed in any HPH around the province. Each HPH selected six current smokers who wanted to quit cigarettes. Each participant needed to go 'cold turkey' technique, which mean to stop smoking at once, and received the 5A counseling. Cessation medications and alternative therapies such as herbs or acupuncture were prohibited. They were given and instructed by HPH staff how to use various color stickers on Quit-Calendar for their quit dates (Red=identify quit date, Green=quit smoking, Blue=relapsed smoking) (14) (Figure 1).

In addition, nicotine withdrawal management and lifestyle modification were provided. Then, they came back for follow-up at 2-weeks, 1-, 3-, and 6-month periods. They were requested to bring back the calendar and underwent the interview describing how they could cope with the quit process and checked number of different color stickers posted.

Research tools

A questionnaire paper: 1) Demographic data include gender, age, weight, medical history, education levels, alcohol, and smoking history. 2) Smoking behaviors include types of cigarettes, duration of smoking, number of cigarette rolls per day, time of the first cigarette smoked in the morning.

Outcomes measurements: The measuring parameters included CAR, point PAR at 2-weeks, 1-, 3-, and 6- month periods, key factors related to quit success and the equation of the relation between Quit-Calendar and quit success were also investigated. Finally, the satisfaction of the users was also evaluated.

Data analysis

For demographic information, smoking behaviors,

continuous abstinent rate, and point prevalence abstinent rate, descriptive analyses were employed including frequencies, percentage, mean, standard deviation (SD). Regarding the relation between Quit-Calendar and demographic factors, McNemar Test and Cochrane's Q test were implemented. For key factors related to quit success, chi-square or exact probability test was conducted via IBM SPSS Statistics, version 22.0 (IBM Corp., Armonk, NY, USA). Likert's scales were used to evaluate the calendar user satisfaction [Very satisfied (5) → Very unsatisfied (1)]. Finally, the relations between non-drug therapies together with Quit-Calendar and quit success were investigated via chi-square tests.

Results

One hundred eleven current smokers wanting to quit smoking enrolled into the Quit-For-King Project. Most of the participants were males (107, 96.4%), aged between 30 and 40 years old (72, 65%). One third of them drank occasionally (39, 35%). Medical histories included hypertension (10, 9%), diabetes (5, 45%) and tuberculosis (4, 3.9%). Regarding smoking histories, a common type of cigarettes used was RYO cigarettes (50%), followed by mixed type cigarettes and factory cigarettes (32% and 29%), respectively. The participants stated they usually smoke 10 cigarettes per day (53%). Thirty-eight percent of the participants were highly addicted to nicotine as described 'smoking the first cigarette after waking up less than 5 minutes', followed by moderate to mild nicotine addiction 'smoking the first cigarette after waking up 30 to 60 minutes' (30%, 28%, respectively). Noticeably, when the participants got ill, they mostly tended to stop smoking for a while (96%). Meanwhile, the smoking-warning signs and quit smoking advertisements at the governmental building such as hospitals, temples, schools did not change the smokers' feeling (69%).

When investigating the 'ready-to-quit' status of the participants via transtheoretical model of change (TTM model), the findings showed that most participants were in 'preparation stage' (49%), which mean they were ready in both physical and psychological status. The following was 'contemplation stage' (38%) as the participants thought about quitting cigarettes but somehow, they might have some difficulties and were uncertain whether they could overcome those issues. The rest were those who currently quit cigarettes ('action stage', 15%) and were not interested to quit smoking ('pre-contemplation stage', 13%).

Table 1. Numbers of quitters at 2-week, 3-, 6-month periods (n=111)

Quit duration(s)	Frequencies; n (%)		
	Still smoking	Decreased smoking	Quit smoking
Started	111	-	-
2-week	31 (27.92)	68 (61.26)	11 (10.88)
3-month	33 (29.72)	58 (52.25)	20 (18.03)
6-month	43 (42.36)	35 (31.53)	33 (26.11)

Table 2. The relation between Quit-Calendar and a number of cigarette quitters (n=111)

Start with smoke	Abstinence at 6-month		Chi-square[a]	Asymptotic significance (p<0.05)
	Quit	Non-quit		
Quit	0	0	31.03	0.001
Non-quit	33	78		

[a] McNemar test

Table 3. A number of quitters and periods of Quit-Calendar use (n=111)

Time	Quit (f)	Non-quit (f)	Cochran's Q	df	Asymptotic significance[a]
Abstinence at 2nd week	11	100	26.214[a]	2	0.001
Abstinence at 3rd month	20	91			
Abstinence at 6th month	33	78			

[a] Cochrane's Q test

Continuous abstinence rate

At 6-month periods (24 weeks), 33 persons completely quit smoking (26.11%) (Table 1).

Point prevalence abstinence rate

Overall, the percentage of participants who could quit for the last seven days at 2-week, 3-month, and 6-month periods gradually increased (Table 1). When focusing on the relations between the Quit-Calendar and some demographic factors, the results revealed that the Quit-Calendar could possibly increase the number of cigarette quitters at 6-month period (p=0.001) (Table 2).

Relation between quit success and Quit-Calendar used periods

The findings revealed there were statistically significant differences between the numbers of quitters using the Quit-Calendar at 2-weeks, 3-, and 6-months (p<0.001). It implied the longer the calendar was used, the higher the number of quitters (Table 3).

Table 4. Demographic factors related to quit success (n=111)

Demographic data	Score	df	Significance
Gender (s)	0.816	1	0.366
Marital status	1.304	1	0.253
Alcohol consumption	0.731	1	0.392
Medical illness(s)	0.61	1	0.435
Income (s)	3.77	1	0.052
Types of cigarettes	0.096	1	0.756
A number of cigarette rolls	6.924	1	0.009*
Minor illness (e.g., fever, cough, sore throat)	6.334	1	0.012*
Levels of readiness to quit smoking (e.g., contemplation, preparation)	4.347	1	0.037*

* Significant at p<0.05

Demographic factors related to quit success

Besides the Quit-Calendar itself, other factors were involved the quit success. The present study showed that the numbers of cigarette, minor illness such as fever, cough, or sore throat, and levels of readiness to quit smoking, which included 'Contemplation' and 'Preparation', significantly affected quit success (p=0.009, 0.012, 0.037, consecutively) (Table 4).

The equation of quit success related to Quit-Calendar (n=111)

The demographic data were analyzed via Logistic regression to create an equation. The authors found that factors showed in Table 4, including numbers of cigarette rolls, minor illness, readiness to quit smoking, could predict the quit success among quitters who used the Quit-Calendar at the time.

Equation

As a result, the equation was presented below. This model could predict the variation of quit success of at least 34.7% (Nagelkerke R^2):

$$\log (p/1-p) = 4.882 + (1.462 \times \text{numbers of cigarette rolls}) + (-3.316 \times \text{minor illness}) + (-0.871 \times \text{readiness to quit smoking}$$

where p is a probability of quit success

Interestingly, when investigating other factors related to quit success including 1) moral supports, 2) sticker patching, 3) do nothing, and 4) miscellaneous, the result found that moral supports could help the quitters using the Quit-Calendar to stop smoking at 2-weeks (31/111 persons), and 6-month period (33/111 persons) significantly (p=0.017, 0.001, respectively).

When asking the quitters' attitudes towards the Quit-Calendar at 2-weeks and 6-month periods, most informed that the Quit-Calendar could possibly help them quit smoking at 2-weeks and 6-month periods (42%, 49.25%, consecutively). In addition, they stated they could specify their own quit dates by using the Quit-Calendar (55%, 57.5%, respectively). Nevertheless, at 6-month period, when asking whether the Quit-Calendar could prevent them from smoking again, they revealed that they were not sure this cessation aid could help them (45.5%) while 40% agreed that the Quit-Calendar could do so.

Discussion

From the present study, the authors implemented the Quit-Calendar developed from Phase I and investigated the outcomes. The results revealed that the Quit-Calendar was found to provide a crucial reminder for smokers to identify their quit dates, learn some self-help guides, and receive behavioral assistance presented on each calendar page. Since the Quit-For-King project had launched, health providers in the present study areas have integrated this cessation aid into their routine 5A counseling. In addition, the Quit-Calendar could play the most essential role in smoking cessation, as it was used as a supplementary tool combined with the routine counseling process. Currently, the authors believe that the Quit-Calendar could motivate people to quit smoking. The study results were similar to other studies that offered some cessation aids such as online interactive or tailored feedback, indicating that some cessation aids could possibly enhance the smoker compliance to quit smoking[20,21]. Some other examples were also published including health-provider hand-held devices and electronic reminders that improve cessation efforts, which they often exacerbate clinician time. Computer screeners, electronic decision support, and other technological tools are increasingly used for behavioral interventions in primary care[22-24]. As the numbers of interactive-technological tools being developed for use in health-care settings have been increasing, using some technologies that engage patients, providers, and clinic staff to promote behavioral interventions such as smoking cessation may provide an innovative platform through which evident-based practices can be supplied. Web-assisted tobacco interventions also has positive association between website utilization and success in quitting. Lenert et al reported a positive association between the number of online cessation modules completed and short-term abstinence rates[25]. Cobb et al reported a positive association between time spent at the website and cessation outcomes[26]. Saul et al reported

a strong association between the number of website visits and abstinence rates at 6-month follow-up[27]. Therefore, the findings of those studies including the Quit-Calendar will encourage both health providers and quitter who want to be involved in smoking cessation services.

Importantly, the findings suggested that most quitters were positively satisfied with the Quit-Calendar as a supplementary tool for smoking cessation. It helped them to remember the quit dates by posting stickers in different color. This reminding process is so important for those who are currently on the quit smoking process as the quitters might sometime face some difficulties to overcome during the quit process. Once, they realize they have committed to stop smoking with helps from the counselors, they could get themselves back and continue to stop smoking. Some evidence indicated that regular face-to-face counseling with cessation aids could potentially enhance smoking cessation[28]. Nevertheless, the reminding processes of the quitters including, self-control, withdrawal symptom management, and family and friend supports need to be provided continuously. Thus, the quitters would not go back to smoke again.

Regarding the factors related to quit success, the results revealed that the longer the quitters used the Quit-Calendar, the higher number of quitters at 6-month periods. The result was significant and could be explained when the quitter used the Quit-Calendar more frequently. It allowed the quitter to prepare themselves, set up a plan, set quit date, get familiar with healthcare staff, and prepare other suggestions. That is much more effective than trying to pull it all together on a whim. Additionally, the Quit-Calendar provided the quitters some advice related to withdrawal management, comments, and personal story that the quitter could write down the activities that trigger a variety of habits they want to break, especially smoking relapse. All stories they wrote down could help them figure out what activities associated with smoking and help them alter those habits that lead to smoke again. Later, the quitter would develop their own strategies with the helps from health providers to overcome these habits. Another factor significantly related to quit success included levels of readiness (Table 4). As most quitters were in either 'Contemplation' or 'Preparation' stage, as a result, they considered and took some steps towards changing their current smoking behavior such as giving up smoking, change some habits influencing their nicotine craving. In addition, those who were in these two stages had positive attitudes towards smoking cessation and prevention[29,30]. In contrast, some previous publications have identified different factors that related to the readiness to quit smoking, including demographic and socio-economic characteristics such as age, gender, marital status, education, and income[31,32].

Interestingly, the number of cigarettes related to quit success, had mixed results (Table 4). The authors found a significant relation between these two variables. However, some previous findings indicated that the number of cigarettes smoked per day were not significantly associated with the stages of change (SOC) of the readiness to quit smoking[33,34]. Finally, the 'minor illness' factor was found to be significantly related to quit success. The quitters revealed they temporarily stopped smoking when they had cough, fever, or sore throat. As they might be aware of smoking health risk effects. As a result, they preferred to stop smoking shortly. Therefore, if the authors wanted the current smokers to quit cigarettes, knowledge and awareness of health risk effects related to quit intention need to be provided for the quitters. Some research revealed the association of smokers' knowledge and awareness of health risk effects and quit intention that smokers who had well knowledge and awareness of health risk effects of cigarettes were more likely to have plans to quit smoking[35-39]. Additionally, knowledge of the impact of smoking involving to health-related quality of life (HRQoL) can also be important in encouraging smokers to quit. Several studies showed that HRQoL is better among non-smokers and former smokers than those current smokers[40-43]. Social and moral supports are also particularly important during the initiation of the cessation process as shown in the present study and some previous results[44-46].

Finally, the achievement of the Quit-For-King project or "3 million in 3 years" has been well recognized in all aspects including cessation service access, quit success, lesson learn, quit process, withdrawal management, and project continuity[47]. The project has set up clear objectives and strategies to undergo. Additionally, budget and workforce are adequately provided including health providers, village volunteers, and communities. More importantly, families, friends, colleagues, and lovers are the key persons who always give both physical and moral supports for the quitters[48,49]. As a result, quit success has been reported from data-based system of Thai Health Organization and showed that there have been 2.9 million public smokers enrolled between

2016 and 2019. By the end of 2019, 116,405 smokers quitted smoking, which was updated on April 28, 2019. Noticeably, local communities such as temples, schools are involved in smoking cessation processes by integrating with traditional festivals, religions, and doctrines. The community involvement has been reported as self-motivation for quit smoking[50].

Conclusion

The Quit-Calendar is considered as 'cessation aid' for the Quit-For-King project. The findings supported some evidence of the calendar success related to quitting regarding CAR and PAR. Other components including demographic information such as numbers of cigarettes, medical illness, levels of readiness, health providers, the love ones, and community network are also important for quit success.

What is already known on this topic?

Previously, there have been some smoking cessation aids, including medications and technological devices in Thailand. However, an emerging low-cost self-learning Quit-Calendar has not been introduced.

What this study adds?

The Quit-Calendar could increase the quit rate for both CAR and PAR in the Quit-For-King project. In addition, most users were satisfied with its usefulness.

Acknowledgement

The authors' gratefulness goes to all HPH in Sri-Sa-Ket for training enrollment, manpower, and data collecting process. Many thanks to the Tobacco Control Research and Management Center (TRC) for some advice and financial support. My appreciation goes to College of Medicine and Public Health, Ubon Ratchathani University for facilities and time engagement. Finally, thanks to everyone involved in this project.

Conflicts of interest

The project was funded by the TRC, which is an organization run by the Thai government. There are no conflicts of interest.

References

1. World Health Organization. WHO global report on trends in prevalence of tobacco smoking [Internet]. Geneva: WHO; 2015 [cited 2020 Feb 26]. Available from: https://apps.who.int/iris/bitstream/10665/156262/1/9789241564922_eng.pdf.
2. World Health Organization. WHO report on the global tobacco epidemic, 2013 [Internet]. Geneva: WHO; 2013 [cited 2020 Jun 26]. Available from: https://apps.who.int/iris/bitstream/10665/85381/1/WHO_NMH_PND_13.2_eng.pdf.
3. Tobacco Control Research and Knowledge Management Center (TRC). The incidences of tobacco consumption behaviors in Thailand. A National Survey of Tobacco Consumption in Thailand. Bangkok: TRC, Mahidol University; 2017.
4. Fiore MC, Bailey WC, Cohen SJ, Dorfman SF, Goldstein MG, Gritz ER, et al. Treating tobacco use and dependence. Clinical practice guideline. Rockville, MD: US Department of Health and Human Services; 2000.
5. Ferry LH, Grissino LM, Runfola PS. Tobacco dependence curricula in US undergraduate medical education. JAMA 1999;282:825-9.
6. Richmond R, Larcos D, Debono D. A worldwide survey of teaching about tobacco in medical schools. In: Richmond R, editor. Educating medical students about tobacco planning and implementation. Paris, France: The International Union Against Tuberculosis and Lung Disease; 1996. p. 281-96.
7. Chuengsatiansup K, Suksuth P. Health volunteers in the context of change: Potential and developmental strategies. J Health Syst Res 2007;1:268-79.
8. Dans A, Ng N, Varghese C, Tai ES, Firestone R, Bonita R. The rise of chronic non-communicable diseases in southeast Asia: time for action. Lancet 2011;377:680-9.
9. Sranacharoenpong K, Hanning RM. Diabetes prevention education program for community health care workers in Thailand. J Community Health 2012;37:610-8.
10. Cox LS, Okuyemi K, Choi WS, Ahluwalia JS. A review of tobacco use treatments in U.S. ethnic minority populations. Am J Health Promot 2011;25:S11-S30.
11. Cherrington A, Ayala GX, Amick H, Allison J, Corbie-Smith G, Scarinci I. Implementing the community health worker model within diabetes management: challenges and lessons learned from programs across the United States. Diabetes Educ 2008;34:824-33.
12. Krantz MJ, Coronel SM, Whitley EM, Dale R, Yost J, Estacio RO. Effectiveness of a community health worker cardiovascular risk reduction program in public health and health care settings. Am J Public Health 2013;103:e19-27.
13. Suarez N, Cox LS, Richter K, Mendonza I, Fernandz C, Garrett S, et al. Success of "Promotores de Salud" in identifying immigrant Latino smokers and developing quit plan. Int J Public Health 2012;4:343-53.
14. Chaikoolvatana A, Wongphan T, Chaikoolvatana C. The potential enhancement of the smoking cessation aid called 'Quit-Calendar' for 'Quit-For-King' Project (Phase I). J Nur Healthcare 2019;4:1-8.
15. Rodgers A, Corbett T, Bramley D, Riddell T, Wills

M, Lin RB, et al. Do u smoke after txt? Results of a randomised trial of smoking cessation using mobile phone text messaging. Tob Control 2005;14:255-61.
16. Free C, Whittaker R, Knight R, Abramsky T, Rodgers A, Roberts IG. Txt2stop: a pilot randomised controlled trial of mobile phone-based smoking cessation support. Tob Control 2009;18:88-91.
17. Stead LF, Hartmann-Boyce J, Perera R, Lancaster T. Telephone counselling for smoking cessation. Cochrane Database Syst Rev 2013;(8):CD002850.
18. Civljak M, Stead LF, Hartmann-Boyce J, Sheikh A, Car J. Internet-based interventions for smoking cessation. Cochrane Database Syst Rev 2013;(7):CD007078.
19. Jacobs DR Jr, Adachi H, Mulder I, Kromhout D, Menotti A, Nissinen A, et al. Cigarette smoking and mortality risk: twenty-five-year follow-up of the Seven Countries Study. Arch Intern Med 1999;159:733-40.
20. Swartz LH, Noell JW, Schroeder SW, Ary DV. A randomised control study of a fully automated internet based smoking cessation programme. Tob Control 2006;15:7-12.
21. Pike KJ, Rabius V, McAlister A, Geiger A. American Cancer Society's QuitLink: randomized trial of Internet assistance. Nicotine Tob Res 2007;9:415-20.
22. Hunt DL, Haynes RB, Hanna SE, Smith K. Effects of computer-based clinical decision support systems on physician performance and patient outcomes: a systematic review. JAMA 1998;280:1339-46.
23. Hayes RJ, Moulton LH. Cluster randomized trials. Boca Raton, FL: Chapman & Hall/CRC; 2009.
24. Souza NM, Sebaldt RJ, Mackay JA, Prorok JC, Weise-Kelly L, Navarro T, et al. Computerized clinical decision support systems for primary preventive care: a decision-maker-researcher partnership systematic review of effects on process of care and patient outcomes. Implement Sci 2011;6:87.
25. Lenert L, Muñoz RF, Stoddard J, Delucchi K, Bansod A, Skoczen S, et al. Design and pilot evaluation of an internet smoking cessation program. J Am Med Inform Assoc 2003;10:16-20.
26. Cobb NK, Graham AL, Bock BC, Papandonatos G, Abrams BD. Initial evaluation of a real-world Internet smoking cessation system. Nicotine Tob Res. 2005 Apr; 7(2): 207–16.
27. Saul JE, Schillo BA, Evered S, Luxenberg MG, Kavanaugh A, Cobb N, et al. Impact of a statewide Internet-based tobacco cessation intervention. J Med Internet Res 2007;9:e28.
28. Junnual N, Chaikoolvatana A, Suebsamran P, Thongnun W, Sitthibutra C. Evaluation of quit-calendar in smoking cessation at Sapasithiprasong Hospital, Ubon Ratchathani. Southeast Asian J Trop Med Public Health 2015;46:155-67.
29. Velicer WF, Redding CA, Sun X, Prochaska JO. Demographic variables, smoking variables, and outcome across five studies. Health Psychol 2007;26:278-87.
30. Hyland A, Li Q, Bauer JE, Giovino GA, Steger C, Cummings KM. Predictors of cessation in a cohort of current and former smokers followed over 13 years. Nicotine Tob Res 2004;6 Suppl 3:S363-9.
31. Lariscy JT, Hummer RA, Rath JM, Villanti AC, Hayward MD, Vallone DM. Race/Ethnicity, nativity, and tobacco use among US young adults: results from a nationally representative survey. Nicotine Tob Res 2013;15:1417-26.
32. Siahpush M, Heller G, Singh G. Lower levels of occupation, income and education are strongly associated with a longer smoking duration: multivariate results from the 2001 Australian National Drug Strategy Survey. Public Health 2005;119:1105-10.
33. DiClemente CC, Prochaska JO, Fairhurst SK, Velicer WF, Velasquez MM, Rossi JS. The process of smoking cessation: an analysis of precontemplation, contemplation, and preparation stages of change. J Consult Clin Psychol 1991;59:295-304.
34. Snow MG, Prochaska JO, Rossi JS. Stages of change for smoking cessation among former problem drinkers: a cross-sectional analysis. J Subst Abuse 1992;4:107-16.
35. Çetinkaya PD, Turan A, Zerman N, Çetinkaya F, Anar C. Smoking cessation rates by method used to qiuit at one year among patients attending a smoking cessation clinic in Turkey. Southeast Asian J Trop Med Public Health 2018;49:879-86.
36. Yang J, Hammond D, Driezen P, Fong GT, Jiang Y. Health knowledge and perception of risks among Chinese smokers and non-smokers: findings from the Wave 1 ITC China Survey. Tob Control 2010;19 Suppl 2:i18-23.
37. Sansone GC, Raute LJ, Fong GT, Pednekar MS, Quah AC, Bansal-Travers M, et al. Knowledge of health effects and intentions to quit among smokers in India: findings from the Tobacco Control Policy (TCP) India pilot survey. Int J Environ Res Public Health 2012;9:564-78.
38. Hammond D, Fong GT, McNeill A, Borland R, Cummings KM. Effectiveness of cigarette warning labels in informing smokers about the risks of smoking: findings from the International Tobacco Control (ITC) Four Country Survey. Tob Control 2006;15 Suppl 3:iii19-25.
39. Romer D, Jamieson P. The role of perceived risk in starting and stopping smoking. Slovic P, editor. Smoking: Risk, perception, and policy. Thousand Oaks, CA: SAGE Publications; 2001. p. 64-81.
40. Tillmann M, Silcock J. A comparison of smokers' and ex-smokers' health-related quality of life. J Public Health Med 1997;19:268-73.
41. Wilson D, Parsons J, Wakefield M. The health-related quality-of-life of never smokers, ex-smokers, and light, moderate, and heavy smokers. Prev Med 1999;29:139-44.
42. Stewart AL, King AC, Killen JD, Ritter PL. Does smoking cessation improve health-related quality-of-life? Ann Behav Med 1995;17:331-8.

43. Lyons RA, Lo SV, Littlepage BN. Perception of health amongst ever-smokers and never smokers: a comparison using the SF-36 Health Survey Questionnaire. Tob Control 1994;3:213-5.
44. Mermelstein R, Cohen S, Lichtenstein E, Baer JS, Kamarck T. Social support and smoking cessation and maintenance. J Consult Clin Psychol 1986;54:447-53.
45. Westmaas JL, Bontemps-Jones J, Bauer JE. Social support in smoking cessation: reconciling theory and evidence. Nicotine Tob Res 2010;12:695-707.
46. May S, West R. Do social support interventions ("buddy systems") aid smoking cessation? A review. Tob Control 2000;9:415-22.
47. Nukrookumpholphat S, Suwannakhud N, Nathason A. Three million- three year project evaluation: Quit smoking around Thailand. Rama Nurs J 2019;25:102-18.
48. Jampaklay A, Siriratsami B, Siriratsami T, Kenrot P, Pornwiwatnachai S, Pornwiwattanachai S, et al. International tobacco control policy evaluation project Southeast Asia Survey [Thailand], wave 3 (2008) on among smoker. Bangkok: Institute for Population and Social Research, Mahidol University; 2010.
49. Junmool B, Pornchaikate Au Yeong A, Yuttatri P. Brief intervention for smoking reduction or cessation in adults: evidence-based nursing. J Public Health Nurs 2013;27:61-73.
50. Phetphum C, Nimpitukpong P. A literature review of measures to limit the access to tobacco by youths. J Public health 2015;45:310-23.