"STOP the PUFF! Tayo'y mag bagong BAGA, SIGARILYO ay ITIGIL": A Pilot Community-based Tobacco Intervention Project in an Urban Settlement

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ABSTRACT

The success rate for smoking cessation in the country remain low despite the intensified efforts of the government to curb smoking. There is a need to support tobacco control policies with clinical interventions for smoking cessation. However, cessation experts in the country are few and healthcare workers with training on tobacco interventions are limited. The project aimed to address the clinical aspect of tobacco control by establishing tobacco cessation services in the community. This was done by providing brief tobacco intervention training among health workers and community leaders, thus allowing this intervention to be integrated in the existing programs of the community health center. This also led to the creation of possible referral mechanisms to cessation support providers. This was complemented with health education activities that promote smokefree behavior.

Keywords: tobacco; cigarette smoking; tobacco dependence; smoking cessation; brief advice; brief tobacco intervention

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INTRODUCTION

Tobacco use continue to be one of the leading cause of death and disability worldwide. Around 8 million deaths worldwide each year are tobacco related, 7 million of which are attributed to direct tobacco use while around 1.2 million are due to exposure to secondhand smoke. There are around 1.1 billion smokers worldwide and 80% of these live in lowand middle-income countries [1]. The Philippines is one of the countries in the Western Pacific region with the highest prevalence of tobacco use [2] and seven out of the 10 leading cause of mortality in the country is tobacco related. [3] The Philippine government has intensified its efforts to curb smoking, focusing mainly on policies that target the wider determinants of health such as smoking bans, graphic health warnings and sin tax law. These efforts have resulted to a significant decrease in the prevalence of smoking from 17.3 million in 2009 to 15.9 million in 2015. Also, the number of smokers who are interested in quitting increased by 16.3% from 2009 to 2015. However, those interested in guitting that were seen by a health care provider did not increase significantly and only around half made a quit attempt. More importantly, the quit success rate did not increase. [4] This demonstrates a wide disparity between the number of smokers who want to quit and the number who are able to quit successfully. This gap may be addressed by strengthening health

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care interventions especially among smokers that are heavily dependent on nicotine. There may be a need to complement national policies with programs that target the specific needs of smokers.

Brief Tobacco Intervention (BTI), also known as brief advice, is a strategy that is proven to be effective, practical and doable in the community setting. [5] Unfortunately, cessation experts in the country are few and healthcare workers with training on tobacco interventions are limited.

The primary objective of the project was to establish smoking cessation intervention in the community by empowering health workers and community volunteers on giving BTI and to improve access to cessation support by establishing a referral mechanism to smoking cessation services. The project also aimed to promote smoking cessation in the community through health education activities that promote smoke-free behavior and encourage smoking cessation among current smokers.

Review of Related Literature

Studies have shown that the outcome of quit attempt is related to various individual, socio-cultural and environmental factors. [6-13] Some factors were consistently shown to be related to guit success but there are certain factors that differ in every population. Studies done among smokers in South Africa, USA and South Korea showed that higher educational level is related to quit success. [6-8] However, in a similar study done in Brazil, this was correlated with failure. [9] Being married was associated with guit success in the studies done in USA and in South Korea [7,8] however, this was not seen in the study done in South Africa. [6-10] It can be surmised therefore, that cultural, social and behavioral aspects of smoking that affect quit outcomes may be unique in each population or community (Table 1, Appendix A).

DiGiacomo et al [14] recommends a multifaceted approach in smoking cessation, taking into consideration the individual and socio-cultural factors that are unique to each community. These factors are usually not targeted by national policies that focus on the wider determinants of health. Community-based interventions, on the other hand, may better address these factors. There is also evidence that communitybased interventions and those that are tailored to specific indigenous groups have greater retention and quit success rates compared to center-based interventions. [14-20] These suggest that establishing a community-based smoking cessation intervention is effective and feasible (Table 2, Appendix A).

METHODOLOGY

The project was done in three phases as described in Table 3. A health needs assessment and situational analysis were done in the first phase. This involved an appraisal of the attributes of the community and an analysis of the specific needs of the community pertaining to tobacco control. This was done primarily through review of secondary data, focus group discussions (FGDs) and informal interviews. The primary goals of the FGDs were to understand the general views of the community on tobacco, determine the level of awareness on its effects and identify misconceptions on tobacco use and smoking cessation. The findings were used to modify the design of the training and health education modules to better fit the needs and attributes of the community.

Phase 2 of the project involved the conduct of BTI training for health workers and volunteers in Munting Ilaw health center. The training was done in two separate sessions to align with the health workers' schedule and minimize interruption in the delivery of services of the health center. The target number of participants was 30, in accordance with the WHO recommendations. [5] The general objective of the seminar and workshop is to capacitate the participants on the method of conducting brief tobacco intervention. The module used was adopted from the BTI module of the Department of Health [21] and modified based on the result of the situational analysis. It consisted of 5 modules namely: 1. Building the Momentum; 2. Brief tobacco Intervention Essentials; 3. Not ready to guit; 4. Ready to guit; and 5. Staying guit or relapse. The description, contents, methodology and resources of the modules are summarized in Table 5 (Appendix B). Gaps in knowledge, concerns and misconceptions identified during the FGDs were given emphasis during the training. Possible referral mechanisms to smoking cessation services were discussed at the end of the session.

Phase 3 of the program involved health promotion activities such as information campaign on the dangers of smoking and promotion of smoking cessation services. This was done in the form of a lay fora.

PHASES	STAKEHOLDERS	RESOURCES	OUTCOME	MONITORING
 Health Needs Assessment Interviews/ Focus Group Discussions 	Barangay Health Officer Barangay Health Workers/Volunteers Community Leaders	Questionnaires	Inventory of available cessation services and manpower Qualitative data on the perception of the community regarding smoking and smoking cessation	Accomplished needs assessment
2. Training of HWs and Volunteers on Brief Cessation Advice	Barangay Health Officer Barangay HWs/Volunteers	Cessation Expert Training Module Venue Training Materials	100% attendance by all HWs All HW's are knowledgeable on brief cessation advice	Attendance sheet Post-test
3. Creation of a referral pathway	Barangay Health Officer Smoking cessation clinics	DOH data Inventory of available cessation services and providers	Referral pathway	No. of patients referred to smoking cessation clinics/ quitline
4. Health Information Campaign	Barangay/Rural Health Officer Community Leaders Community Members	Health Education Materials (flyers/posters)	Game show Lay fora	Attendance sheet Post-test

Table 3. Project Design

Table 4. Actual Schedule of Activities

ACTIVITY	DATE/TIME	VENUE AND PARTICIPANTS
1. Focused Group Discussion with BHW's	November 11 (Monday) 12pm to 1pm	Venue: Kasiglahan Village Health Center
2. Interview with MHO	November 20, 2019	Venue: RHU
3. Brief Tobacco Intervention Seminar	Part 1 (Module 1 and 2): November 21 (Thursday) 1pm to 4pm	Venue: Munting Ilaw Participants: BHW's
	Part 2 (Module 3,4 and 5): November 28 (Thursday) 1pm to 4pm	
4. Health Promotion Activity	December 7 (Saturday), 8am onwards	Venue: Phase 1K Covered Court Participants: community leaders and members
5. Focused Group Discussion with community members	Every Monday and Friday FGD1: Smokers FGD2: Former Smokers FGD3: Spouse/Children/Relative of smokers FGD4: non-smokers exposed to SHS	Participants (3 to 5 per session)
6. Data Gathering	October to December, 2019	

The actual schedule of the conduct of activities is presented in Table 4.

OBSERVATIONS AND RESULTS

A. Health Needs Assessment

1. Health Profile of the Community

The project was implemented in Phase 1-K Kasiglahan Village, Barangay San Jose, Rodriguez Rizal where a memorandum of agreement exists between Barangay San Jose and the University of Santo Tomas, Master in Public Health (International) program. Kasiglahan Village is situated in Barangay San Jose which is one of the eleven barangays in Rodriguez Rizal. Although originally an agricultural land, the area has undergone massive development over the recent years and is now considered as an urban area. It is the 6th most populated barangay in Rodriguez with a population of 124,868 in 2015. This population has grown quite rapidly over the past few decades largely due to the development of relocation sites that catered to displaced families from Quezon City and other cities surrounding the Pasig river. Kasiglahan Village is one example of these developments, with residents mostly relocated from Quezon City areas. [22]

There are several health facilities within Rodriguez Rizal. The Rural Health Unit is manned by the rural health officer, physicians, nurses, midwives, sanitary inspectors and malaria officers. There is a 25-bed infirmary (Montalban Infirmary) that is located in Kasiglahan Village and a government health facility (Casimiro Ynares Sr. Memorial Hospital). Other private health providers likewise exist which include hospitals, lying-in clinics and multi-specialty clinics. Each barangay has at least one health center with some having satellite health centers. Hospitals outside of the municipality are also easily accessible through jeepneys and other public utility vehicles. Based on the interviews with the residents and health workers from Kasiglahan Village, patients needing tertiary care are usually brought to hospitals in Metro Manila such as East Avenue Medical Center in Quezon City and Amang Rodriguez Memorial Medical Center in Marikina City. These hospitals are what they deem as the most accessible and capable of providing higher level of healthcare.

Munting Ilaw Health Center is a satellite health center of Barangay San Jose and is located in Kasiglahan Village. It is tasked to provide basic health services to the residents of Kasiglahan Village such as maternal and child health, family planning, immunization, and nutrition. It also houses a directly observed treatment short-course (DOTS) clinic for the management of tuberculosis. It is manned by nurses, midwives, barangay health workers, municipal health workers and volunteers.

The leading causes of morbidity in Rodriguez Rizal in 2012 include: 1. Animal Bite; 2. Acute upper respiratory tract infection; 3. Pulmonary tuberculosis; 4. Dengue; 5. Asthma; 6. Acute rhinitis; 7. Acute gastroenteritis; 8. Hypertension; 9. Body injuries and 10. Pharyngitis. Mortalities are mostly due to cardiac causes such as myocardial infarction. Other causes of death include community acquired pneumonia, cancer (mostly of the lung), intra-cerebral hemorrhage, pulmonary tuberculosis and non-disease related deaths due to body injuries and gunshot wounds. [22]

2. Tobacco cessation services and policies in the community

None of the existing health facilities within the municipality have an existing tobacco cessation service and there is no smoking cessation clinic anywhere in the municipality and in nearby areas. The municipality has a newly drafted tobacco-free resolution; however, it has not been fully implemented at the time of the implementation of this project. There is an existing ordinance prohibiting smoking in public spaces. This is strictly implemented in the city proper and major establishments but not so much in the communities.

3. Tobacco interventions from the perspective of health workers.

The FGD was attended by 24 health workers. The goal of the discussion was to determine the general perception of the workers on smoking cessation interventions and the usual practices in the health center in order to identify possible strategies to integrate BTI in their existing programs.

None of the health workers had attended any seminar on or related to BTI. Advise on smoking cessation and inquiry regarding the smoking status is not customarily done in any of the existing programs of the health center, except in the TB Directly Observed Treatment Short-Course (TB-DOTS) clinic wherein the smoking status of each patient is included in the patient's record. Even so, giving advice is done inconsistently.

Most did not know that BTI can be integrated in all of their programs and only a few recognized the relevance of BTI in their particular line of work (i.e. family planning, nutrition). None were aware of the existence of the National Quitline and no referral mechanism to cessation providers exists.

4. Understanding the perspective of current smokers.

FGDs were done to better understand the predicament of smokers in the community. FGDs were done instead of formal interviews with structured questionnaire to allow free flow of thoughts and ideas and thereby be able to capture aspects that are not obtained by the Philippine Global Adult Tobacco Survey (GATS).

Most of the participants initiated their smoking habit during their teen years and curiosity was the most common reason for trying. Most had the initial intention to just satisfy their curiosity but eventually got hooked to habit. One of the participants started using chewed tobacco at the age of five. Her parents were tobacco farmers and it was customary for them to chew tobacco leaves while farming. She transitioned to cigarette smoking during her teen years and maintained the smoking habit until adulthood. All of them agreed that it was easy to initiate and maintain the smoking habit because tobacco products were widely available, easily accessible and, at the time of their smoking initiation, very affordable. They are aware of the ill-effects of tobacco on their health, however, there is a general perception that these ill-effects are unlikely to happen to them. And if it does, they are resigned to accept it as an inevitable consequence of their smoking habit. Most are willing to quit "when it is absolutely necessary", however, they do not foresee that they will be able to do so in the near future. This implies that the motivation to quit is generally low. When asked about possible motivations for them to quit, answers included: further price increase in tobacco products, development of health complications and total smoking ban. Tobacco products are also prioritized over other necessities such that they will go to the extent of borrowing money or forego one meal in order to sustain the smoking habit. There is a deep understanding of the current tobacco control policies and the intentions of such policies. However, these did not seem to deter the smoking habit as they were able to adapt to these policies. The smoking ban is not strictly enforced in the community; hence they are able to smoke freely while they are in the community. When going to the city proper or while at work where smoking ban is strictly enforced, they are able to decrease their cigarette consumption. The graphic health warnings on cigarette packages was likewise not enough to dissuade them from smoking because they usually buy individual sticks instead of packs. Others cover graphic warnings in the packaging while some think that the pictures are not real and were only meant to scare them. None of the participants had ever received advice from health workers but most of them will likely avail of smoking cessation services if it is available in the community. None were aware of the National Quitline and most are quite skeptic if it is functional.

5. Lessons from the former smokers.

Similar to the FGDs with smokers, the questions during the discussions with former smokers revolved around the initiation of the smoking habit, knowledge of the ill effects of tobacco and views on current national and local tobacco control policies and how it influenced their quit journey. In addition to these, the discussion also focused on the motivation/s for quitting and the challenges encountered during their quit journey.

The common motivation to quit was health reasons since all of the participants were diagnosed with a tobacco-related illness that led to the decision to quit. Most of the participants were only given very brief advice by their physicians and all were able to guit completely, unassisted ("cold turkey" style), and without using any pharmacologic treatment for tobacco dependence. The biggest challenge for most of them was seeing other people smoke, especially during gatherings and special occasions. The urge to relapse into the smoking habit was easier to resist after a few weeks of being tobaccofree. Although they fully support the existing tobacco control policies, most claim that it had little impact on their motivation to quit. The graphic health warnings had some influence in their decision to guit, but seeing real patients with tobacco related illnesses on TV was a stronger motivation for them. When asked about their views on providing cessation services in the health center, most deemed it unnecessary since smokers will quit unassisted for as long as they are motivated. To encourage smokers to guit, they think that it is important to find the right motivation because it is easier to guit when the motivation is strong.

6. Protecting the non-smokers.

The discussions with non-smokers, particularly the ones who are exposed to second-hand smoke in their homes, focused on questions about their feelings about the smoking behavior of their loved ones or household members and how they think it will affect them and the other members of the family. The participants were also asked how they deal with the smoking behavior of the household member/s.

Most of the participants were spouses of smokers. All of the participants do not condone the smoking behavior of their spouses; however, they feel that their sentiments and objections to the smoking habit are being disregarded. They are fearful of the illeffects of smoking to the health of their spouses and their children as well. As most of their spouses are breadwinners, the smoking habit is a source of anxiety and worry about the future of the family should their spouse develop a tobacco related illness. Unfortunately, these feelings of fear, apprehension and anxiety are often invalidated. Attempts to encourage the spouses to quit smoking are seldom done because discussions on the need to guit often leads to disagreement and tension in the household. Most of the participants are aware of the ill-effects of second-hand smoke, but they are not aware of thirdand fourth-hand smoke. They are receptive of the idea of having a cessation service in the community, however, they are not sure if their spouses will avail of the service or comply with the recommendations.

B. Brief Tobacco Intervention Seminar And Workshop

At the start of the training, each of the participants were asked to write their job designation, job description and their perceived role in tobacco control. Most of the participants recognized their role as a source of information while a few recognized that they can be role models. The other roles that they can assume in tobacco control were discussed during the training. The first session consisted of modules 1 and 2 and was given mostly in a lecture format. This involved discussions on the mechanism of nicotine addiction, harms of tobacco, benefits of quitting, common misconceptions and the general approach to BTI. The second session consisted of Modules 3 to 5 and involved a discussion of the specific steps in giving brief tobacco intervention. An algorithm on how to approach each patient at various stages of quitting was presented in a workshop format wherein a video demonstration was presented after each lecture and the participants were asked to present a return demonstration. Feedback was given by the facilitator and also solicited from the rest of the audience. At the end of the session, the importance of a referral system to smoking cessation providers and clinics was discussed. Since there is no existing referral mechanism yet in the community, the participants were asked to brainstorm on the possible referral mechanism specifically in Rodriguez Rizal. These

mechanisms were presented to the whole group and they were made to choose the most feasible, efficient and plausible mechanism. A pre- and posttest was also done evaluate the effectiveness of the training in terms of improving knowledge. Out of the 34 attendees, only 25 were able to accomplish both the pre- and post-test. It was evident that after the workshop, the mean test scores of the participants significantly improved (p<0.001). At an average, their test score increased by 2.08 points which translates to a 20.8% increase in baseline knowledge (95% CI: 1.35 to 2.81). To somehow ensure that the knowledge will be translated into practice, posters, guide cards and education materials were given to the health center and rural health unit (Appendix C).

C. Community Health Promotion And Education

The community health education and promotion was done in conjunction with the health education and promotion activity for non-communicable diseases in the community. The findings in the FGDs were taken into consideration and misconceptions identified were corrected in the lay fora. The activity consisted of short lectures interrupted by games to break monotony and to maximize attention span and retention of concepts. The National Quitline was promoted and participants were encouraged to urge the smokers in the community to utilize this service. Education on how to give very brief advice while avoiding conflicts in doing so was also given. A pre- and post-test was done to measure the effectiveness of the lecture in augmenting the participant's knowledge. Out of the 58 attendees, 37 completed the pre- and post-test. It was evident that after the lecture, the mean test score of the participants significantly improved (p<0.001). At an average, the test scores increased by 2.73 points which translates to a 27.3% increase in baseline knowledge (95% CI: 2.18 to 3.28).

DISCUSSION

The tobacco quit success rate in the Philippines continue to be dismal despite the government's efforts to curb smoking. Nearly half of smokers who are interested in quitting were not given proper advice by a health care provider. [4] In the community, several factors contribute to this (Figure 1). There is an



Figure 1 illustrates the problem tree wherein the low quit success rate is identified as the main problem that this project sought to address. The roots represent the factors that contribute to the problem while the branches represent the complications or effects of the main problem.



Figure 2 The alternative tree shows the contrast of the problem tree wherein the problem is converted into a positive outcome. The roots represent the factors that can contribute to the realization of this positive outcome and therefore the cascade of negative effects is prevented.

apparent lack of cessation services. Health workers are not trained on brief tobacco intervention and a referral system to cessation support services is not in place. Misconceptions on tobacco cessation is also rampant even among health workers. Like in the rest of the country, tobacco products are widely available and easily accessible. On the contrary, access to nicotine replacement therapies is limited. The prices of cigarettes, even with the surge due to the sin tax law, are still affordable. There is an apparent lack



Figure 3 The objective tree represents the possible solutions to the problems identified. The main objective of this project is to increase the quit success rate in the community. The roots represent the interventions that can help realize the objective.

of motivation for smokers to quit despite the graphic warnings and other policies that restrict access to tobacco products and decrease opportunity to smoke. Although a smoking ban exist, this is not uniformly enforced. These factors all contribute to the problem which is a low quit success rate. This in turn result to a myriad of complications such as high prevalence of smoking, high mortality and morbidity from tobacco related illnesses, ultimately leading to greater economic cost.

The objective tree (Figure 3) represents the possible solutions to the problems identified. The outcome that this project envisions is a high quit success rate in the community. However, not all of the interventions identified can be accomplished by this project. Restrictions to tobacco products, price increase and policies on the use of nicotine replacement therapies would need to be addressed by national and/or local government programs and policies. Instead, this project focused on community-based interventions such as the establishment of smoking cessation intervention and referral mechanism in the community health center and health education and promotion activities in the community.

In 2003, the Philippines, being a member of the WHO Western Pacific region, was required to implement the strategies in the WHO Framework Convention on Tobacco Control (FCTC). Bourne from this treaty, the Philippines drafted its National Tobacco Control Strategy (NTSC) for the years 2011-2016. It's three main strategies focused on: 1. Promotion and advocacy for the complete implementation of the FCTC; 2. Mobilization for public action; and 3. Strengthening the organization capacity. [23] This project is consistent with the activities specified under strategy 3 namely: human resource development, smoking cessation and tobacco dependence treatment, public awareness and education. Likewise, it is consistent with one of the social sectoral objectives of the municipality which is "to implement sustainable preventive healthcare programs to lessen incidence of diseases caused by unhealthy lifestyle". [22]

CONCLUSION AND RECOMMENDATIONS

The tobacco problem is centuries old and cannot be solved overnight. It is indeed complex and full of challenges. It was found in the situational analysis that the smoking habit can be initiated at the age of five. This means that tobacco use is not freely chosen and therefore there is a need to alter the general environment through interventions that target the wider determinants of health. Such policies already exist; however, it is essential to strengthen these policies and complement it with clinical interventions. According to the European Society of Respirology [24], in order to achieve a smoke-free society, tobacco cessation should be supported from policy to clinical perspective. Community based interventions have been consistently shown to be effective in improving quit success rates. Although establishing a formal smoking cessation clinic in the community is ideal, the task may be challenging in a low resource setting as it will entail additional resources. Providing training to the existing health workforce and integrating brief tobacco intervention with the existing programs of the community health center may be more feasible. Likewise, creating a referral mechanism to smoking cessation providers and clinics may augment the efficiency of smoking cessation efforts in the community.

The project aimed to address the clinical aspect of tobacco control by establishing tobacco cessation services in the community. This pilot project has shown that providing brief tobacco training among health workers is feasible. There is a need to assess whether this knowledge is translated into practice and whether the training created attitudinal change as well.

Recommendations

It is important that tobacco control remain a priority despite the countless other health problems that need attention. Especially because 5 out of the top 10 causes of mortality in the municipality are tobacco related and 4 out of the 5 causes of mortality are due to tobacco related diseases [22] . A local smoke-free policy is essential and its prompt implementation is encouraged. Stricter and consistent enforcement of the smoking ban is likewise encouraged. Continued health education is necessary to contradict misconceptions on tobacco cessation. BTI training should likewise be cascaded in other health centers, with priority given to at least the head nurse and TB-DOTS nurses. Regular updating of the seminar, on a yearly or every two years basis, is likewise necessary. Once smoking cessation services are fully integrated in the programs of the health centers and more cessation providers are available, smoking cessation clinics in key institutions in the municipality can be established. In the meantime, while smoking cessation clinics are not yet available in the municipality, it is recommended to promote the use of the National Quitline.

Limitations

Tobacco control is multi-faceted and this project mainly focused on the clinical aspect. Although an increase in the knowledge of the participants was documented, whether this knowledge was translated into practice was not assessed. Measuring the impact of the project in terms of increasing quit success rate is likewise ideal but beyond the scope of the project.

Conflict of Interest Statement

The project was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Ethics Approval and Consent to Participate

Not applicable.

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APPENDICES

APPENDIX A: SUMMARY OF REVIEW OF RELATED LITERATURE

Table 1. Summary of Studies on Factors Associated with Quit Outcomes

TITLE, AUTHOR/S, DATE OF PUBLICATION	OBJECTIVES	METHODOLOGY	POPULATION AND SAMPLE SIZE	KEY FINDINGS	LIMITATIONS
 Factors associated with smoking cessation in South Africa Authors: Olalekan A Ayo-Yusuf, Ben Szymanski Year of Publication: 2010 	To determine the factors associated with attempting to quit smoking and successfully doing so, among South Africans.	Cross-sectional	N=12, 481 South African Adults Data from 1998 South African Demographic Survey	Quit Attempt rate: 68.1% Quit Success rate: 14.1% Factors associated with quit success: • Female • > 55 y/o • 1 to 7 years of schooling • Currently dependent	Data set is from 1998 Cross-sectional possibility of reverse causation of the observed effects. Smoking and drinking habits were assessed by self-report only
 Factors Associated with Successful Smoking Cessation in the United States, 2000 Authors: Chung-won Lee, PhD, MA, and Jennifer Kahende, PhD Year of Publication: 2007 	To identify factors associated with successful quitting so that cessation programs could be tailored to those at highest risk for relapse.	Cross-sectional	N= 3,990 Adult US citizens Data from 2000 National Health Interview Survey	Quit attempt rate: 40% Quit success rate: < 10% Factors associated with quit success: • Rules against smoking at home • >35 y/o • Married or living with a partner • Non- Hispanic white • College education	Cross-sectional nature of the study Survey is limited to civilian, non- institutionalized US citizens Smoking and drinking habits were based on self-report only No data on the number of cigarettes smoked by former smokers
 Factors Associated with Successful Smoking Cessation in Korean Adult Males: Findings from a National Survey Authors: Youngmee KIM, Won-Kyung CHO Year of Publication: 2014 	To explore the fac- tors associated with successful smoking cessation among South Korean adult males.	Cross-sectional	N= 7,839 Korean males, aged 19–65 years Data from Korea National Health and Nutrition Examination Survey (KNHANES) from 2007 to 2012	Quit success rate: 45.5% Factors associated with quit success: Older age Marriage Higher income Smoking larger amounts Use of will power Alcohol abstinence Cancer history Better mental health Higher quality of life	Cross-sectional nature of the study Data on the duration of abstinence is not available Homogenous population

TITLE, AUTHOR/S, DATE OF PUBLICATION	OBJECTIVES	METHODOLOGY	POPULATION AND SAMPLE SIZE	KEY FINDINGS	LIMITATIONS
 What distinguishes successful from unsuccessful 	To compare individuals who successfully quit smoking	Cross-sectional	N= 600 young adults aged 18 to 37 in France	Factors associated with quit outcome:	Cross-sectional nature of the study
tobacco smoking cessation? Data from a study of young adults	from those who relapsed on socio- demographic,		Data come from telephone interviews conducted in	 remaie sex parental status illegal drug use Factors associated 	Participants' nicotine dependence was not assessed
(TEMPO)	psychological and health		2011 with participants	with a low probability of smoking cessation:	Study population
Authors: Inès Khati, Gwenn Menvielle, Aude Chollet, Nadia Younès, Brigitte Metadieu, Maria Melchior	factors		of the TEMPO community- based study	 job strain symptoms of hyperactivity/ inattention 	had more favorable socioeconomic circumstances than the general population of France
Year of Publication: 2015					Tunce
5. Factors Affecting Smoking Cessation Success of Heavy Smokers Registered in the Intensive	To investigate the factors involved in the success of smoking cessation in	Cross-sectional	N= 98 heavy smokers enrolled in an intensive care smoking cessation camp	Quit success rate: 98% Factors associated with quit success:	Data cannot be generalized because the population used was very specific.
Care Smoking Cessation Camp (Data from the National Tobacco Control Center)	heavy smokers enrolled in an intensive care smoking cessation camp		program in South Korea Data from the National	 Married More frequent counselling sessions Higher education level 	
Authors: Hansol Yeom, Hee-Sook Lim, Jihyun Min, Seoni Lee, Yoon- Hyung Park	program.		Tobacco Control Center	Factors NOT associated with success:	
Year of Publication: 2018				Level of nicotine dependenceGender	
6. Factors associated with smoking cessation success	To assess factors associated with the success	Cross-sectional	N= 156 patients enrolled in	Factors associated with quit success:	Cross-sectional design
in Lebanon	rate of smoking cessation		an outpatient smoking	 Compliance with offered treatment 	Total sample size is small
Authors: Zeina A. Bacha, Nelly Layoun, Georges Khaya, Souheil Hallit	among Lebanese smokers in a smoking cessation center.		cessation center in Lebanon	 Highly motivated Highly dependent 	Selection bias is possible because of the refusal rate
Year Published: 2018					Use of a questionnaire may not always be accurate
					Relied on self- reported data

Table 1. Summary of Studies on Factors Associated with Quit Outcomes (Continued)

TITLE, AUTHOR/S, DATE OF PUBLICATION	OBJECTIVES	METHODOLOGY	POPULATION AND SAMPLE SIZE	KEY FINDINGS	LIMITATIONS
 7. Predictors of smoking cessation: A longitudinal study in a large cohort of smokers Authors: Mathias Holm, Linus Schiöler, Eva Andersson, Bertil Forsberg, Thorarinn Gislason, Christer Janson, Rain Jogi, Vivi Schlünssen, Cecilie Svanes, Kjell Toréna 	To study the smoking cessation rate in relation to several potential predictors, with special focus on respiratory and cardiovascular disease.	Prospective cohort	N = 4,636 born between 1945 and 1973 from seven centers in Northern Europe (Norway, Sweden, Iceland, Denmark, Estonia)	Quit success rate: 39% Factors associated with quit success: • Older age • Higher education • Fewer years of smoking • Hospitalized due to ischemic heart disease	Recall bias due to the use of self- reported data Possible risk of misclassification since no biochemical marker for smoking dependence was used
Year of Publication: 2017					
 8. Factors relating to failure to quit smoking: a prospective cohort study Authors: Renata Cruz, Soares de Azevedo, Rejane Firmino Fernandes Year of Publication: 2011 	To identify factors relating to failure of attempts to quit smoking among smokers who sought care at an outpatient clinic in a general university hospital	Prospective cohort	N=100 smokers who sought treatment at the Psychoactive Substances Outpatient Clinic in Brazil	Quit success rate: 66% among those who adhered to treatment; 17% among those who did not adhere to treatment Factors related to quit failure: • Without tobacco related diseases • Without leisure • Higher education level	Small number of subjects evaluated Smoking status was measured through self- reporting, without biological validation The study was conducted using a convenience sample

Table 1. Summary of Studies on Factors Associated with Quit Outcomes (Continued)

 Table 2. Review of Articles on Community-based Smoking Cessation Services

TITLE/AUTHOR/YEAR PUBLISHED	OBJECTIVES	METHODS	KEYS FINDINGS	LIMITATIONS
 Feasibility and Effectiveness of a Community-Based 	To evaluate the feasibility, acceptability, and	Prospective Cohort	Orientation improved knowledge of efficacious and	community partners did not have the resources necessary to collect
Smoking Cessation Intervention in a	effectiveness, in addition to the effects	N= 1944	non-efficacious treatments.	detailed data.
Racially Diverse, Urban Smoker Cohort	of a psychoeducation- based orientation on smoking cessation	Intervention: evidence-based smoking cessation	Acceptability: > 90%	there was substantial attrition
Authors:	knowledge for Courage to Quit	intervention disseminated to	Feasibility: completion rates were 53% in the	relied on self-reports
Yasmin Asvat, PhD, Dingcai Cao, PhD, Joel J. Africk, JD, Alicia	(CTQ).	racially diverse, urban community sites in Chicago,	full and 75% in the short programs.	the long-term maintenance of smoking cessation is unknown
Matthews, PhD, and Andrea King, PhD		Illinois.	Intent-to-treat quit rates: 19% in the full and 17% in the short	beyond the end of treatment
Year Published: 2014			programs	

TITLE/AUTHOR/YEAR PUBLISHED	OBJECTIVES	METHODS	KEYS FINDINGS	LIMITATIONS
2. Results from a Community-Based Smoking Cessation Treatment Program for LGBT Smokers Authors: Alicia K. Matthews, Chien-Ching Li, Lisa M. Kuhns, Timothy B. Tasker, and John A. Cesario Year Published: 2013	To evaluate the treatment outcomes associated with a culturally tailored smoking cessation treatment program for LGBT smokers that were offered as part of clinical practice in a community-based health center.	Prospective Cohort N= 198 LGBT individuals Intervention: group-based treatment based on the American Lung Association's "Freedom from Smoking Program" (ALA-FFS), tailored to LGBT smokers' needs.	Treatment completion rate: 42.4% Self-reported quit rates: 32.3% Treatment attendance (OR = 2.45), use of NRT (OR = 4.24), and lower nicotine dependency (OR = 0.73) were positively associated with quitting smoking.	Relied on self-reports Did not collect any culturally specific measures A full battery of smoking questions was not included. No data were available on longer-term quit rates associated with the program.
3. Improving Participants' Retention in a Smoking Cessation Intervention Using a Community-based Participatory Research Approach Authors: Anthony Estreet, Jummai Apata, Farin Kamangar, Christine Schutzman, Jane Buccheri, Anne-Marie O'Keefe, Fernando Wagner, and Payam Sheikhattari	To compare participant's retention in three phases of smoking cessation interventions, one provided in a health clinic and the subsequent two in community-based settings.	Prospective Cohort N= 951 from two underserved urban communities with low socioeconomic profiles and high rates of smoking Phase: clinic Phases II and III: community venues	Retention increased substantially over the three phases Phase I: 13.8% Phase II: 51.9% Phase III: 67.9% Retention was significantly higher in community settings than in the clinic setting (OR = 6.7; 95% CI = 4.6, 9.8). Higher retention was significantly associated with higher quit rates	Unavailability of some information.
Year Published: 2017				
4. A systematic review of the effectiveness of smoking cessation interventions among patients	To consolidate existing evidence on smoking cessation interventions among TB patients in LMICs and summarize the practice, policy, and research	N= 14 articles form 11 countries between 2007-2017 RCT: 3 Cluster RCT: 2 Prospective	Addition of smoking cessation intervention to routine TB case management is feasible and effective in reducing smoking rates among patients during	Most of the studies included were non-randomized or observational. Risk of bias was high in many studies.
with tuberculosis Authors: E. Whitehouse, J. Lai,	implications of these findings to improve smoking cessation	Cohort: 5 Non-randomized	anti-TB treatment.	Sample size is small.

 Table 2. Review of Articles on Community-based Smoking Cessation Services (Continued)

TITLE/AUTHOR/YEAR PUBLISHED	OBJECTIVES	METHODS	KEYS FINDINGS	LIMITATIONS
 Community-based navigators for tobacco cessation treatment: a proof- of-concept pilot study among low- income smokers Authors: Arnold H. Levinson, Patricia Valverde, Kathleen Garrett, Michele Kimminau, Emily K. Burns, Karen Albright and Debra Flynn 		Prospective Cohort N=40 Intervention: Smoking cessation treatment navigation (quit line, NRT, medications)	Quit attempt rate: 70% Quit success rate: 18%	Designed to assess feasibility and not intervention efficacy Relied on self-reporting
Year Published: 2015				
 6. Development of a community-based network to promote smoking cessation among female smokers in Hong Kong Authors: William H. C. Li, Sophia S. C. Chan, Zoe S. F. Wan, M. P. Wang, K. Y. Ho and T. H. LAMA 	To describe the development of a community-based network to promote smoking cessation among female smokers in Hong Kong.	 Prospective cohort Intervention: training of cessation volunteers provision of gender specific cessation counseling 	Quit rate: 28.4% Reduction in smoking prevalence: 50.3% The community-based network program is effective and feasible	only 14 out of 194 women's organizations joined WATT and Only eight of the 14-WATT members participated in our needs assessment survey.

Table 2. Review of Articles on Community-based Smoking Cessation Services (Continued)

Year Published: 2017

T. H. LAM

APPENDIX B: BTI MODULE DESCRIPTION [21]

Table 5. Brief Tobacco Intervention Seminar and Workshop

MODULE	LEARNING OUTCOME Participants will be able to:	COURSE DESCRIPTION	METHODOLOGY	CONTENTS
1. Building the momentum	Describe the current worldwide and national burden of disease due to tobacco use; Describe the different levels of Tobacco Intervention; and Describe the different stages of Tobacco Dependence.	This module provides background information on the national statistics for tobacco use, tobacco dependence, the most common preventable risk factor of illness and death.	Lecture-discussion	Tobacco Related Statistics Three-Link Chain of Tobacco Dependence Levels of Intensity in Tobacco Interventions Why Become a BTI Provider?

MODULE	LEARNING OUTCOME Participants will be able to:	COURSE DESCRIPTION	METHODOLOGY	CONTENTS
2. BTI Essentials	Demonstrate the 5As (Ask, Advice, Assess, Assist, Arrange) as the effective BTI methodology to assist a tobacco user to quit smoking and help them stay quit; and Assess a person's readiness to quit, using the "Readiness to Change" model.	In this module, participants will learn how to determine a person's readiness to quit using tobacco and be introduced to the Five A's, a simple method to help people quit tobacco.	Lecture-discussion	BTI Flowchart The Readiness to Change Model The Five A's Learning Activity: Readiness to Change
3. Not Ready to Quit	Participants will be able to assess and identify tobacco users who are not yet ready to quit.	In this module, participants will be guided on how to apply the "Five A's" to help tobacco users who are not ready to quit. Participants will watch and discuss sample interventions with the facilitator, and will be given time to practice and demonstrate their newly acquired skills	Lecture-discussion; role-playing	Video role-plays: "Not Ready to Quit" and "Thinking about Quitting" Learning Activity: Role-play and skills development
4. Ready to Quit	Identify tobacco users who are ready to quit using tobacco within the next thirty days; Describe the six basic elements of a simple Quit Plan and give a brief explanation of each; Effectively use the tobacco intervention tools in the Guidebook to deliver a brief intervention; and Apply the Brief Intervention flowchart to guide the intervention.	In this module, participants will continue using the "Five A's" to identify and assist individuals who are ready to quit using tobacco within the next 30 days. Participant will help the individual who want to quit create a simple Quit Plan by setting a Quit Date and identify basic strategies to help in quitting, such as finding supportive people and learning problem-solving skills.	Lecture-discussion; role-playing	Video role-plays: "Ready to Quit" Learning Activity: Role-play and skills development
5. Staying quit or relapse	Identify a person's tobacco use status and readiness to change during follow-up; Identify at least two reasons people relapse and at least two relapse prevention strategies; Identify two recommended for follow up contact with tobacco users who have developed a Quit Plan; and Give one example of a follow-up reminder tool.	In this module, participants will gain the skills needed to follow up with tobacco users after an initial intervention. Skills on how to assist tobacco users who have stayed quit as well as those who have relapsed will be discussed in this module. The skills covered include the timing of follow- ups to get the best outcome, how to create and use simple re- minder systems, and suggestions for what to say during a follow-up.	Lecture-discussion; role-playing	Video role-plays: "Ready to Quit" Learning Activity: Role-play and skills development

Table 5. Brief Tobacco Intervention Seminar and Workshop (Continued)

APPENDIX C: POSTERS





Figure 4 The 5A's in Brief Tobacco Intervention [21]



Prochaska et al., 1997)

Stage	Time Frame
Not ready to quit	No intentionto quit within 6 months
Thinking about quitting	Intentionto quit in the next 6 months
Ready to quit	Intentionto quit within 30 days
Quitting	Stopped smoking for less than 6 months
Staying quit	Tobaccofree for more than 6 months
Relapse	Using tobacco again after being tobacco free

Figure 5: Readiness to change model [21]