

SAINT PAUL'S HOSPITAL MILLENNIUM MEDICAL COLLEGE
DEPARTMENT OF PUBLIC HEALTH



TITLE: ASSESSMENT OF
SMOKE FREE LEGISLATION NONCOMPLIANCE LEVEL AND ITS
ASSOCIATED FACTORS AMONG HEALTH CARE STAFFS IN FIVE
FEDERAL GOVERNMENT HOSPITALS IN ADDIS ABABA, ETHIOPIA,
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I, the undersigned, declared that this is my bona fide original work, has never been presented in this or any other university, and that all the resources and materials used for the body of work with thesis, have been fully acknowledged.

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DEPARTMENT OF PUBLIC HEALTH GRADUATE STUDIES

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Abstract

Background: In February 17, 2014, the Ethiopian government passed a new smoking legislation through house of parliament that banned smoking in public places and work places including health care facilities. However, data's on the level of non-compliance and factors associated with non-compliance towards smoke free legislation in hospital settings of the country has not been investigated yet.

Objective: To estimate level of noncompliance and factors associated with noncompliance towards smoke free legislation among health care staffs in five federal government hospitals in Addis Ababa, Ethiopia, 2017.

Methods: hospital based cross-sectional study design triangulated with observational study was conducted in five federal government hospitals. Data was collected through direct observation and interviews using checklist, structured and pre-tested questionnaires and nine data collectors and one supervisor were involved in data collection process. Three hundred and fifty health care staffs were interviewed. Fifteen largest buildings were also observed for noncompliance in the selected hospitals. Data was entered by Epi Info and analyzed using SPSS version 21 software. Logistic regression was used to compute the crude and adjusted odds ratios for the factors affecting to non-compliance with the legislation. A p-value of < 0.05 at 95% CI was considered to be statistically significant.

Result: Non-compliance level among health care staffs was 50(10.3%). Associated factors affecting to the non-compliance level of the staff were: being male (AOR=5.89, p value=0.001), having poor knowledge (AOR=2.71, p-value=0.022) and having Unfavourable attitudes (AOR=6.15, p-value=0.000).

Conclusion: non-compliance level was high and needs careful enforcement for 100% smoke free legislation in addressing knowledge and attitudes of health care staffs.

Key words: Smoke free, Hospital staff non-compliance, Legislation, Ethiopia

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Abbreviations and Acronyms

AaBET: Addis Ababa Burn, Emergency and Trauma

DSA: designated smoking area

EFMHACA: Ethiopian Food, Medicine and Health Care Administration and Control Authority

EDHS: Ethiopian Demographic Health Survey

HCSs: Health Care Staffs

IRB: Institutional Review Board

LMICs: Low and Middle Income Countries

OPD: Out Patient Department

PI: Principal Investigator

SPSS: Statistical Package for Social Science

SHS: Second Hand Smoke

SPHMMC: St. Paulo's Hospital Millennium Medical College

STEPS: The STEP wise approach to non-communicable disease risk factors surveillance

TB: Tuberculosis

TC: Tobacco Control

UK: United Kingdom

USA: United States of America

US: United State

WHO FCTC: World Health organization Frame Work Convection on Tobacco Control

WHO: World Health Organization

1. Introduction

1.1. Background

Tobacco consumption and exposure to secondhand smoke (SHS) are a leading cause of morbidity and mortality worldwide. Moreover, it is firmly established that there is no safe level of exposure(1).Cigarette smoking is the main source for SHS exposure because it is the most prevalent form of tobacco smoking although specific patterns differ between countries. Second-hand tobacco smoke is the combination of smoke emitted from the burning end of a cigarette or other tobacco products and smoke exhaled by the smoker. SHS contains over 7000 chemicals of which at least 69 are known carcinogens or otherwise toxic(2).

Unless urgent action is taken, tobacco could kill one billion people in this century and the annual death toll could rise to more than eight million by 2030. Nearly80% of the world's one billion smokers live in low- and middle-income countries. As part of efforts to combat this growing problem, which can protect everyone from the detrimental effects of exposure to second-hand tobacco smoke, the World Health Organization's Framework Convention on Tobacco Control (WHO FCTC) has called for comprehensive legislation to eliminate tobacco smoking in all indoor public places and workplaces and adapted the frame work convection on Tobacco control (FCTC) in 2003 (3,4).

Following this, many countries in the WHO Africa Region are enacting and implementing domestic legislation for tobacco control(5).The International Public Health Convention of the World Health Organization (WHO) also stipulates that the public should be protected from cigarette smoke exposure in public places as exposure to any level of smoking is harmful. Further, the only truly effective method of public protection is a complete ban of smoking in public areas. The convention notes that appropriate legislation, enforcement and ongoing evaluation are necessary components to the eradication of smoking in public places (8).Protection from exposure to second-hand smoke is considered as a fundamental human right and freedom. Article 8 of WHO FCTC Guidelines urges Parties to create 100% smoke-free environments in all indoor public places, indoor workplaces and other public places where a hazard exists due to tobacco smoke exposure. Parties agree that approaches other than 100% smoke-free environments, including ventilation and air filtration technology and the use of designated smoking areas (DSA), do not provide effective protection and thus, conflict with the mandate of Article 8 of WHO FCTC(3).(5-8)

Ethiopia is an early signatory (2004) to the WHO FCTC, having ratified proclamation on February 17th, 2014 and entered into force on 23 June 2014 and adopted the tobacco control directive No. 28/2015; which comprehensively banned smoking in all public places including health care facilities which will add momentum to national tobacco control efforts and will assist our country in

meeting its obligation under FCTC. This legislation specifies that smoke free public sites must post clear signs prohibiting smoking, removing ashtrays, ensuring compliance, requesting smokers to stop smoking or to leave the premises and notifying law enforcement agents. Despite such clear messages, the effectiveness of smoking related policy and intervention may inevitably depend on the knowledge, attitudes, practice and support of health care staff to this legislation. However, a key challenge to the implementation of this legislation is that they are inadequately enforced or lately entered into enforcement (6–8).

Health care facilities are among the most influential setting for modeling abstinence from smoking and promoting smoke-free environment. Health professionals have the trust of the population, the media and opinion leaders, and their voices are heard across a vast range of social, economic and political arenas. Hospitals can and should promote, implement and comply with tobacco control legislation, particularly smoke free legislation. However, this may not be a case in Ethiopia, where the legislation on smoke free work place enacted after the FCTC has yet to be enforced broadly across the region of the country and within health care facilities particularly like hospitals(9).

Regarding to the data's on level of non-compliance and factors associated with smoke free legislation in hospital setting are scarce, even there is no study undertaken in Ethiopia. So, it is crucial to document effectiveness of the legislation in hospital setting through assessing non-compliance level which further assist the enforcement authority to strengthen the law accordingly.

1.2. Statement of problem

Tobacco use and exposure remain the cause of 6 million preventable deaths per year globally, accounting for 6% of all female and 12% of all male deaths in the world. More than 5 million of those deaths are the result of direct tobacco use while more than 600,000 are the result of non-smokers being exposed to secondhand smoke which accounts 1% of the global mortality, specifically over 100,000 in the Western Pacific Region alone. Moreover, most of these deaths occur in low and middle income countries (LMICs) where 80% of the world's one billion smokers reside in which the tobacco burden is the highest(2,10). In addition, a much larger number of people suffer from non-communicable diseases, for which tobacco is an important risk factor. This is a staggering health problem, but the damaging effects go beyond health. The epidemic also has a huge socioeconomic impact, not only on individuals and families, but also on health systems and on the socioeconomic development of the countries of the Region(11).

Globally 12% of all deaths among adults aged 30 years and over were attributed to tobacco. One of those low-income countries, Ethiopia, is particularly burdened by exposure of SHS and prevalence of tobacco consumption that is contributing to the increase of non-communicable diseases now a day in the country(12).

Tobacco use is the second biggest contributor to the epidemic of non-communicable disease, next to high blood pressure and it killed 100 million people in the 20th century. Unless we act, the death toll can reach 1 billion people in the 21st century. It is also responsible for over 71% of all cases of lung cancer deaths globally, 42% of chronic respiratory disease deaths, and nearly 10% of all deaths from cardiovascular disease (2).Fact sheet data of Ethiopia on African tobacco free initiative of march23, 2017 shows that, more than 9600 peoples are killed by tobacco-caused disease every year, while more than 100,000 children and more than 2,326,000 adults continue to use tobacco each day in Ethiopia. Complacency in the face of the tobacco epidemic will ensure the tobacco industry continues to run roughshod over the lives of Ethiopia's citizens and ensure that tobacco's death will grow with each passing year. This fact sheet also shows that 131 men and 54 women are being killed by tobacco every week, 79200 boys and 21700 girls still smoke cigarettes each day and 754500 peoples use currently smokeless tobacco(13).

Ethiopia STEPs survey of 2015 tobacco fact sheet indicate that 12.6% adults at work place and 10.3% adults at their home were exposed to second hand tobacco smoke and the average monthly expenditure for manufactured cigarette was 137.00 ETB(14).

To protect everyone from the detrimental effects of exposure to second-hand tobacco smoke, the World Health Organization's Framework Convention on Tobacco Control (WHO FCTC) has called for comprehensive legislation to eliminate tobacco smoking in all indoor public places and workplaces and adapted the framework convention on Tobacco control (FCTC) in 2003 (3,4). Despite this international commitment to eliminate exposure to tobacco smoke, only 11% of the world's population is adequately protected by law from exposure to second-hand smoke which indicate unacceptable gap between commitment and practice (3). Therefore, the issue of prohibiting smoking in the public places is currently high on agenda in many countries including Ethiopia. It is also unsurprising, and maybe appropriate, that among those organizations leading the way towards a smoke-free environment are health care settings such as hospitals. However, data regarding non-compliance level and factors associated with non-compliance level in hospitals setting of Ethiopia after the legislation has been enacted as a country was unknown; we couldn't find any published data regarding non-compliance and associated factors in such setting.

1.3. Significance of the study

Ethiopia ratified the WHO FCTC in 17 February 2014, the 178th country in the world to become a Party to the Convention and entered into force on 23 June 2014(15,16). In order to promote the implementation of smoking ban in other similar settings of public places, hospitals, it is imperative to explore level of non-compliance and factors affecting to non-compliance towards the smoke free legislation in hospitals. Additionally, to fully implement smoke free environment in other settings targeted by WHO FCTC for smoke free environment like educational facilities, Universities, government facilities, public transport, bars, restaurants, and other indoor offices of the country knowing noncompliance level and factors associated with non-compliance towards smoke free legislation in such setting is crucial. Moreover, as this assessment is the first on smoke free legislation in Ethiopia, collected data will be used as a base line and provide directions for an action plan to improve the implementation and support for smoke-free legislation. The other purpose of this noncompliance study is to provide decision makers with evidence regarding the extent of noncompliance with the legislation and to inform priorities for implementation and enforcement. It will also assist enforcement authority to move towards a total smoke-free legislation in all health care facilities of the country.

2. Literature Review

2.1. Non-compliance/compliance level

A cross-sectional (observational) study conducted in Turkey in 2016 on compliance with smoke free legislation in public building revealed that at least one person is smoking in 145 venues, among most frequently observed public venues 18/79(22.7 %) smoking were observed in hospitals with dining areas. The presence of ashtrays was positively associated with indoor smoking and cigarette butts, No-smoking signs were negatively associated with the presence of cigarette butts(17).

An observational study conducted in Istanbul, Turkey in different public places in 2016 to determine non-compliance and factors associated with the smoke free law for 2013 and 2014 indicated non-compliance level were respectively 49% and 29.7%. in the selected public places(6).

A cross-sectional study conducted in 2014 to assess compliance to smoke free legislation in public places of Karnataka, India in 2014 shows health care facilities are among public places having the highest compliance with smoke free legislation(18).

A cross-sectional survey conducted in India in 2013 on compliance to smoke free legislation in 1401 public places revealed that all healthcare facilities (n=117) showed low signage display 43(36.8%) in comparison to other public places, but there was a moderately high compliance to the act of smoking, which was verified with the absence of smoking 110(94.0%), smoking aids 114(97.4%), smell of tobacco smoke 115(98.3%) and cigarette butts 93(79.5%)(19).

Another observational study conducted in 2012 on implementation, barriers and challenges of smoke free policy in hospitals of Egypt revealed that nearly half of the inspected places in the study (entrances, reception, waiting areas, patient wards out-patient clinics, corridors, elevators, stairs, physicians', nurses' and employees room) had at least one anti-smoking sign. The places where anti-smoking sign were most likely to be absent (>70% of the time) were the patient wards, physician's offices, nurse's offices, and elevators. Educational and informational posters about smoking were virtually nonexistent, cigarette butts were prevalent at the entrances and waiting areas and nearly one out of ten inspected places had ashtrays available. They also revealed there was no designated smoking area in the hospital(20).

A cross-sectional study conducted by 2011 in a Portuguese teaching hospital prior to the national smoking ban showed that 70.3% of the smokers smoked on the premises and 76% of staff reported being frequently exposed to second-hand smoke (SHS)(21).

A cross-sectional study conducted at teaching hospitals of Cambridge , United Kingdom on hospital employee in 2009 showed that among smokers 68% of them were compliant while 32% of them were non-compliant to the smoke free policy (22).

2.2. Factors related to non-compliance/compliance to smoke free legislation

2.2.1. Socio-demographic related factors

A study conducted by Lazuras et al in 2012 in Greece and Bulgaria revealed that smokers' compliance with smoke-free policies was predicted by their age(23).

A descriptive cross-sectional study conducted at teaching hospital of United kingdom in 2009 to assess failure of hospital employees to comply with smoke free policy indicated Sex of the hospital employee was not associated with their non-compliance to the policy (22).

2.2.2. Knowledge and Attitude related factors

A cross-sectional study conducted in six Chinese cities in 2014 to assess factors associated with support for smoke-free policies among government workers which include hospital also indicated knowledge of the harmfulness of the SHS was positively associated with support with smoke free policies(24).

A study conducted on policy compliance of smokers on Tobacco free university campus in 2014 indicated knowledge of non-compliant smokers was the factors associated with their compliance (25).

A study conducted in 2014 by Jancey et al in Australia to examine reason for non-compliance with smoke free policy showed awareness to the policy was identified factor for non-compliance to the policy(26)

An observational study conducted in Istanbul, Turkey in different public places; which include hospital in 2016 to determine non-compliance and factors associated with the smoke free law for 2013 and 2014 revealed that venue type, issued fines for inspection and no smoking signage were predictors of noncompliance in the selected public places(6).

A survey study conducted on implementation, barriers and challenges of smoke free policy in hospitals of Egypt in 2012 on knowledge and attitudes of hospital workers' revealed that the majority (>90%) of the hospital workers knew that exposure to Second-hand smoke is harmful to health. Physicians and nurses had a more favorable attitude towards the smoking ban when compared to administrative employees(20).

A study conducted by Lazuras et al in 2012 in Greece and Bulgaria revealed that smokers' compliance with smoke-free policies was predicted by perceived health risks of smoking and beliefs(attitudes) related to the benefits of smoking at work(23).

A cross-sectional study conducted in Portuguese teaching hospital prior to the national smoking ban in 2011 showed that smoking behavior of the employee were the most important predictors of TC

attitude (hospital smoke free policy). Being a smoker was associated with less positive attitudes to hospital smoke-free policy and to the national ban, and with less disagreement with SHS hospital exposure(21).

A cross-sectional study conducted by 2011 in a Portuguese teaching hospital prior to the national smoking ban showed a very high level of agreement (91.8%) with smoking bans, even among smokers. This study also revealed that smoking behaviour of health care workers was the most predictors of non-compliance with partial smoking ban in hospitals.(21).

A Cross-sectional survey conducted in Australia in 2010 to examine the views of psychiatric inpatient hospital staff regarding the perceived benefits of and barriers to implementation of a successful total smoking ban in mental health services revealed that more than two-thirds of staff agreed that a smoking ban would improve their work environment and conditions, help staff to stop smoking and improve patients' physical health. The most prevalent clinician perceived barriers to a successful total smoking ban related to fear of patient aggression (89%) and patient non-compliance (72%). Two thirds (67%) of all staff indicated support for a total smoking ban in mental health facilities generally, and a majority (54%) of clinical staff expressed support for a ban within their unit. Clinical staff who believed a smoking ban would help patients to stop smoking were more likely to support a smoking ban in their unit(27).

A cohort study conducted in six cities of china on smokers and non-smokers in 2010 revealed that Supports of workers for comprehensive smoke-free policies was positively associated with knowledge about the harm of SHS(28).

A descriptive cross-sectional study conducted at teaching hospital in the United kingdom in 2009 to assess failure of hospital employees to comply with smoke free policy was associated with nicotine dependence or smoking behaviour and find out neither of it but non-compliance was associated with their attitudes(22).

A study conducted by Hyland A. in 2009 in four countries on smoke free policy shows that support for and compliance with smoke free policies can be influenced by the interaction of several psychosocial and cultural factors, such as socio-demographics, individual attitudes and beliefs, smoking behaviour and nicotine dependence, health beliefs and exposure to SHS, public health education campaigns, social and cultural norms concerning smoking, and tobacco industry marketing and regulation (22,29).

A survey conducted on staffs attitudes to smoking-related policy and intervention in psychiatric and general health care settings in England in 2006 found that more favourable attitudes to smoke-free

health care environments, smoking bans and stop-smoking intervention were observed among clinical staff in general medical settings compared with staff working in psychiatric settings. The largest group difference in attitudes was observed in relation to smoking bans. While approximately 1 in 10 staff in the general setting disagreed with a smoking ban in their wards or clinics, nearly one in three psychiatric staff was against such a ban in their setting. In relation to professional group, doctors exhibited the most favourable attitudes towards smoke-free health care environments, while nurses were the most positive towards taking a role in smoking cessation intervention(30).

A study conducted on Knowledge and attitudes towards tobacco control among smoking and non-smoking physicians in 2 gulf Arab states in 2004 found that physicians who smoke are less knowledgeable regarding the hazards of smoking, and have less favorable attitude towards tobacco control. They also found that attitude of never smokers towards tobacco control policies was significantly better than that of smokers for all the statement related to tobacco control policies. In conclusion, smoking behavior of physicians affect their knowledge, or “readiness to admit” of smoking related diseases as well as their attitude towards tobacco control policies (31).

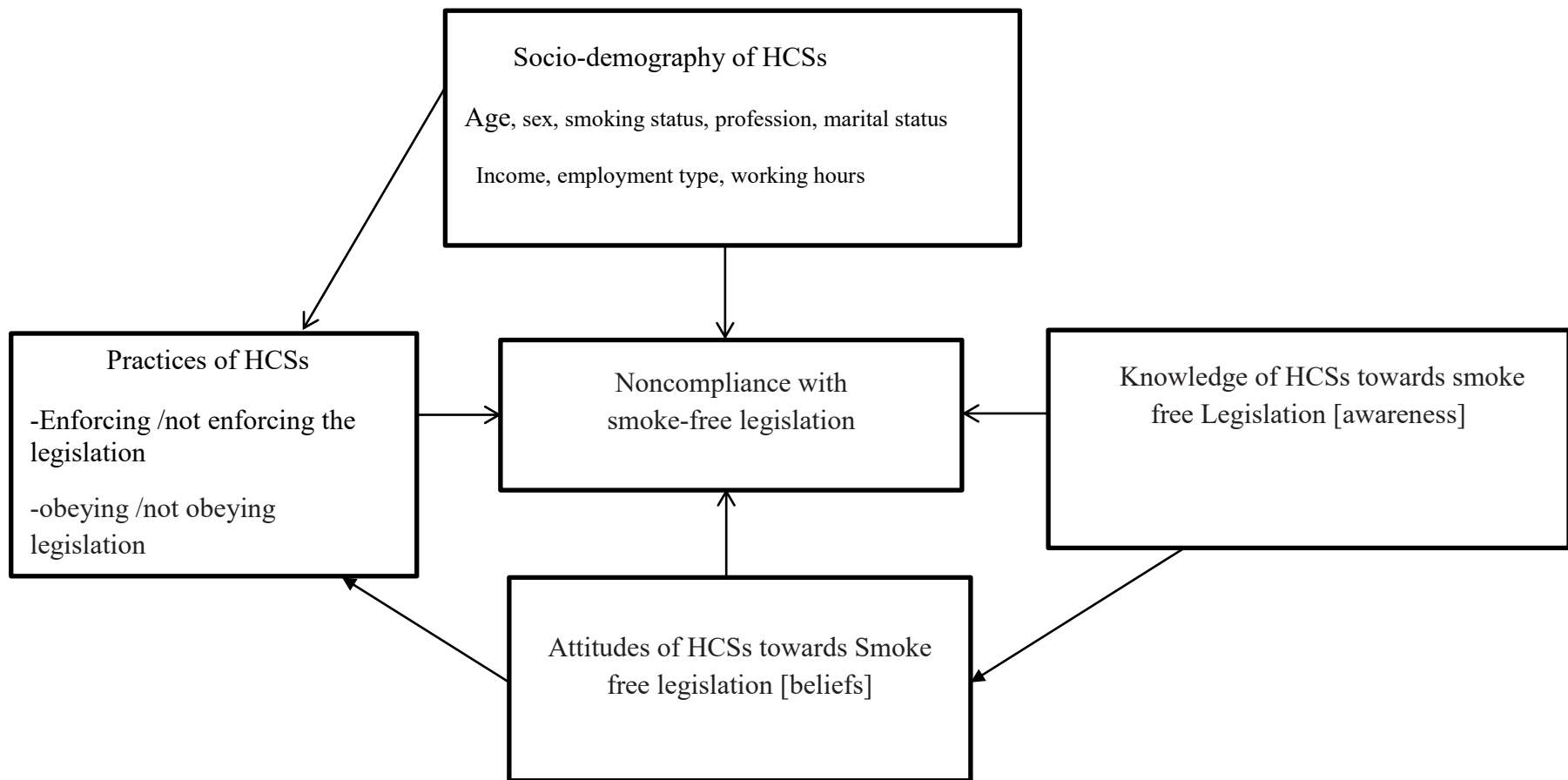


Figure 1: Conceptual frame work for smoke free legislation non-compliance level and factors associated in five federal government hospitals in city government of Addis Ababa developed from (32).

3. Objectives

3.1. General Objective:

To assess smoke free legislation non-compliance level and its associated factors among health care staffs in five federal government hospitals located in city government of Addis Ababa, Ethiopia, 2017.

3.2. Specific Objectives:

1. To estimate level of non-compliance with smoke-free legislation among health care staffs
2. To identify factors associated with non-compliance towards smoke free legislation among health care staffs in the selected hospitals

4. Materials and Methods

4.1. Study Areas

This assessment was conducted in five federal government hospitals located in city government of Addis Ababa. These federal government hospitals include Tikur Anbessa general specialized hospital, St. Paul's hospital millennium medical college, Amanuel mental specialized hospital, Alert hospital and St. Peter specialized hospital. These hospitals are the top government hospitals in Ethiopia which are located at the capital city of the country, Addis Ababa. These hospitals have started implementation of smoke-free legislation in hospital setting, banned smoking in the premises of the hospital. These selected hospitals are all Level III hospitals having approximately 700 beds each. They are multi-departmental hospitals that provide specialized high-level medical care and attract patients from multiple regions in the country. These hospitals are considered among the top hospitals and have different professional mix in the country. Currently about a total of 8480 health care staffs are working in these hospitals. We choose these hospitals because they have started implementation of smoke free legislation in their hospital premises. The later four hospitals are administered under federal ministry of health and the first is administered under Addis Ababa University.

4.2. Populations

4.2.1. Source population: All hospital health care staffs in five selected hospitals were the source population.

4.2.2. Study population: health care staffs who have been working in the selected five hospitals, willing to participate and present at the time of survey.

4.3. Study Design and Period

A hospital based quantitative Cross sectional study design triangulated with observational study was conducted from October 1 to December 30 of 2017 in five selected federal government hospitals located in city government of Addis Ababa, Ethiopia.

4.4. Inclusion and Exclusion Criteria

Inclusion criteria: all health care staffs who have been working in the selected five federal government hospitals were included

Exclusion criteria: par-time health care staffs were excluded.

4.5. Sample Size Determination

4.5.1. Hospital Sample

All five federal government hospitals located in city government of Addis Ababa which have started the implementation of smoke free legislation in their hospital premises were purposively included for this assessment. These hospitals were; Tikur Anbessa general specialized hospital, St. Paulo's hospital millennium medical college, Amanuel mental specialized hospital, Alert hospital and St.peter specialized hospital. We focused on these federal government hospitals, because such assessment has never been studied and data regarding non-compliance level and associated factors affecting non-compliance towards the legislation are not available.

While data collection, fifteen largest buildings (three largest from each) in all five selected hospitals were selected and observed for the noncompliance to the smoke free legislation according to the compliance guide (33) as indicated by Figure 2 below.

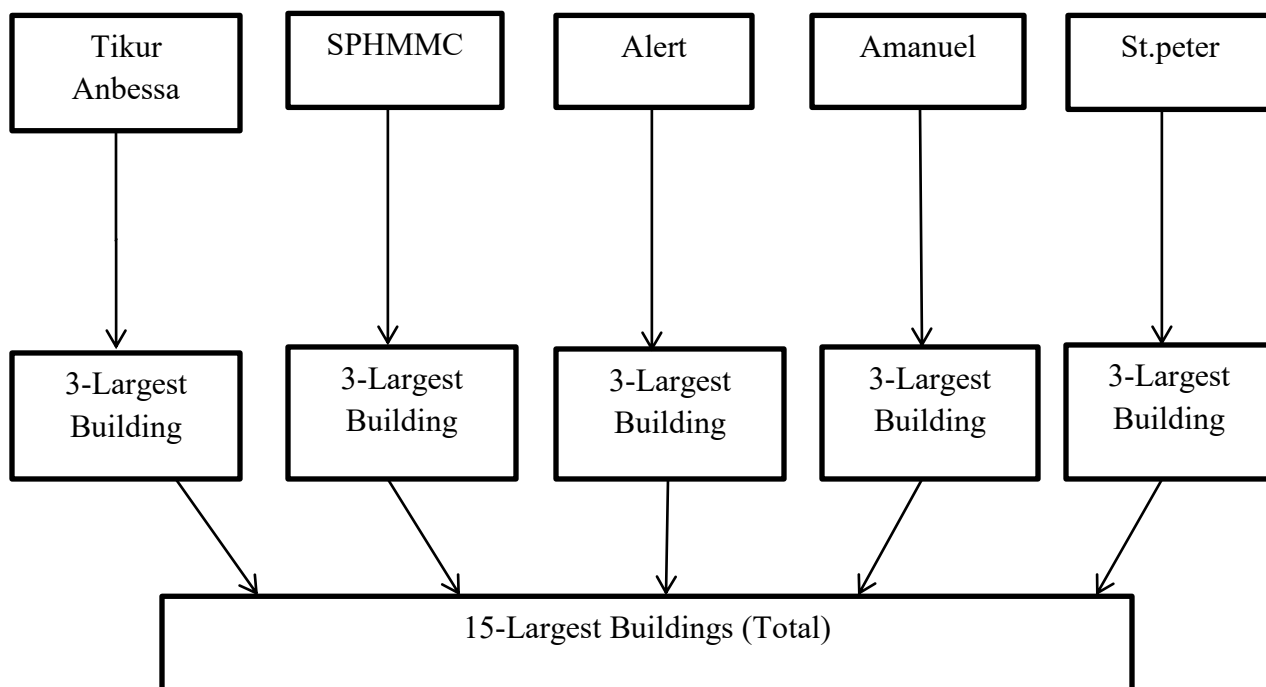


Figure 2: Sampled buildings from each hospital for observation

4.5.2. Hospital health care staff Sampling

Since it was unable to locate previous survey assessing the level of noncompliance with smoke free legislation in work places and public places like hospitals in Ethiopia, sample size was estimated based on study conducted in other countries as indicated below using standard formula.

For objective 1

Using standard formula ,based on the assumption of 73% (p) noncompliance level among hospital health care staffs(22), 95% confidence interval($Z\alpha/2 = 1.96$) and with 5% margin of error (d) the sample size was (n_o);

$$n_o = \frac{(Z\alpha/2)^2 P (1- P)}{d^2} = \frac{(1.96)^2 * 0.73(1-0.73)}{(0.05)^2} = 303$$

Since the study population (N) is less than 10000 (8480) using correction formulas;

$$n_f = \frac{n_o}{1 + \frac{n_o - 1}{N}} \text{ then } n_f \text{ was 333 with 10\% non-response rate.}$$

For objective 2

To identify the factors associated with noncompliance level StatCalc epi info 7 version was used to calculate the sample size with confidence interval of 95%, power of 80% and ratio of 1:1 between exposed and unexposed as indicated in table 1 .The final sample size for this objective was 177 in each group with 10% non-response rate and becomes a total of 354 participants.

Table 1: Sample size determination for the factor associated with noncompliance to smoke free legislation in hospitals

Factors	Category	non-compliant to smoke free policy	OR	Sample size in each group		Total sample size with 10% nonresponse rate	Reference
Attitude	Disagree(-ve)	89.8%	4.6	177	177	354	(20)
	Agree(+ve)	97.7%					
Smoking status	Non smokers	12.4%	4.29	53	53	106	(21)
	smokers	37.9%					

- Taking the largest sample size from the two objectives n_f will be 354

Table 2: Selection of hospital health care staffs for interview from each hospital

Sr No	Hospital Name	Existing number of staffs (Total)	Proportion (%)	Sampled number of health care staffs
1	Tikur Anbessa	2904	34	120
2	SPHMMC	2506	30	106
3	Alert	1307	15.4	55
4	Amanuel	1069	12.6	45
5	St. Peter	694	8	28
	Total	8480	100	354

4.6. Sampling and Sampling Procedure

Once hospitals were selected, hospital health care staffs were selected by simple random sampling technique using random digit table to select proportional representative samples from each category of professionals of each selected hospital using sampling frame (staffs list). Hospital professions were categorized according to their area of practice. The three largest buildings in each selected hospitals were also selected for observation and observed for non-compliance towards smoke free legislation.

4.7. Operational definition and Definition of terms

Second hand smoke (SHS) exposure: is secondary exposure of individuals to tobacco smoke as a result of others smoking tobacco.

Smoke-free legislation: Smoke-free legislation in this report refers to legislation or policies/law which makes all or almost all workplaces, including hospital settings, totally smoke-free; with no smoking at all allowed in any indoor area.

Noncompliance: presence of active smoking (smoking in the hospital premises), ash tray, cigarette butts, and absence of no smoking signs in the selected hospitals.

Four criteria were adopted from compliance guide(33) for direct observation;

1. Absence of no smoking signage: any pictorial, graphical or textual message displayed in hospital premises, which warns that smoking is prohibited in hospitals, was recorded as a signage.
2. Presence of active smoking :At the time of observation

3. Presence of smoking aids: smoking aids like ashtrays, matchboxes and lighters are a proxy indicator that smoking is permitted in that hospital; its presence indicates that smoking is encouraged
4. Presence of cigarette butts or bidi ends: an indicator suggesting that smoking has taken place in recent times.

Compliance: is the degree to which a smoke free legislation is being obeyed in the hospital premises by health care staffs.

Respondents were classified as current, former and never smokers based on WHO classifications (34).

Current smoker: is someone who had smoked cigarettes at least 6 months during their lifetime and was smoking tobacco products at the time of the survey

Former smoker: is someone who had smoked at least six months during their lifetime but no longer currently smoke

Never smokers: is someone who had never smoked cigarettes during their lifetime

Good Knowledge on smoke free legislation: health care staffs' knowledge was considered as good when they have scored greater or equal to the groups mean score on the knowledge questions.

Poor knowledge on smoke free legislation: health care staffs' knowledge was considered as poor when they have scored less than the groups mean score on the knowledge questions.

Favourable attitude to smoke free legislation: health care staffs' attitude was considered as favourable when they have scored greater or equal to groups mean score on the attitude questions.

Unfavourable attitude to smoke free legislation: health care staffs' attitude was considered as unfavourable when they have scored less than groups mean score on the attitude questions.

Health care staffs: all staffs working in hospitals; Administration staffs, health professionals, health related and supportive staffs.

Second-hand tobacco smoke: the smoke emitted from the burning end of a cigarette or from other tobacco products usually in combination with the smoke exhaled by the smoker.

Largest Building: hospital building which have the largest space and currently provide services in the selected hospital.

4.8. Data Collection Instruments

Data was collected using checklist and structured questionnaire. An observational checklist was adapted from compliance guide(33).A Structured face to face interview questionnaire was adopted from other similar setup(20). We also included pertinent questions from practical guide of establishing smoke free hospitals(35) and finally the questionnaire was administered in Amharic language.

Measures

Non-compliance measure

Hospital health care staffs were asked about their individual non-compliance status with the hospital smoke free legislation during working hours in the hospitals. Staffs that self-identified as smokers were asked to indicate where they smoked during their working hours in the hospitals. Based on this status they were categorized as compliant and non-compliant staffs to the legislation.

Measures of health care staffs' knowledge and attitudes

Knowledge and Attitudes of hospital staffs towards the legislation and exposure to the SHS was measured by using adopted questionnaire and added pertinent questions.

To assess knowledge of hospital health care staffs, eight specific questions (items) were asked. We created a scale using these items where 1 point was given for each correct answer with a possible score ranging from 0 to 8.A possible answer listed for each question were true or false (20)with high score indicating having good knowledge while less score indicated having poor knowledge towards the hospital smoke free legislation and exposure to SHS(31).

To assess attitudes of hospital health care staff, a series of 11 questions was asked using adopted questionnaire. A 5 point scale was created for the attitudes measure, with 0-4 point given for each question from “Strongly disagree to strongly agree”(0=strongly disagree;1=disagree 2=unsure;3=agree;4=strongly agree) (20)and a cumulative score were summed and yielded a possible range of 0-44 with higher score indicating favourable attitude while lower score indicated Unfavourable attitude(30,31) towards the hospital smoke free legislation and exposure to SHS.

Practice of health care staffs towards the smoke free legislation

To assess the practice of health care staffs, they were asked one question about their practice in enforcing the smoke free legislation when violation was observed in their hospital premises as per compliance guide(33). Staffs those choose the statement “I/my manager would ask persons violating the legislation to stop smoking” and “I/my manager would call inspection authority” were considered as staffs who were practicing the enforcement of the legislation. Health care staffs those choose the statement “No action would be taken” and “I don’t know/I’m not sure” were considered as staffs those who were not practicing the enforcement of the legislation.

4.9. Data Collection Procedures

Data was collected through direct observation as per compliance guide(33) and through interview. A face to face interview was applied to collect data from health care staffs using adopted questionnaire by nine degree holder health professionals, data collectors. The questionnaire consists of demographic characteristics, knowledge, attitudes and practice towards smoke free legislation. Eleven specific questions were also provided for the head of hospitals (CEO or provost or medical director) to see whether the smoke free legislation has been implemented or not. Site visits was also done to observe noncompliance towards smoke free legislation in the hospital premises during the peak visiting/busy hours as per compliance guide (33). The following specific areas was observed while entering to the largest buildings of the selected hospitals like entrance, reception area, patient waiting areas, patient wards, physicians’ room, nurses’ room, outpatient department, elevators, corridors, toilets, café and administration offices for observational non-compliance. Observation of active smoking, cigarette butts, ash tray and absence of no smoking signs was defined as non-compliance with the legislation in the selected hospitals.

4.10. Study Variables

Dependent variable: Non-compliance status (Yes=1, No=0)

Independent Variables: age, sex, marital status, profession, type of employment, job title, smoking status, income, working hours, awareness to the law, knowledge, attitude, practice.

4.11. Data Quality Management

Data collection tools were adopted from other literatures and prepared by principal investigator and checked by advisors. Structured questionnaire was translated in to Amharic language and back translated to English language to maintain its consistency. One day training was given for

the data collectors and field supervisors on the objective of the study, contents of the questionnaire and how to maintain confidentiality and privacy of the participants. Finally it was pre-tested at 5% of the sample size at AaBET hospital, which was not the part of the study area, before the actual data collection. The data collection tools were revised, edited and modified according to the results of the pretest. Principal investigator and field supervisor had checked collected data for their completeness on daily basis at field before the data was entered in to the software for analysis. In the case of the incompleteness and inconsistency, data collectors went back to respondent's to refill the questionnaire and if the respondents were not available data was discarded as incomplete.

4.12. Data Analysis

Interviewed data was cleaned and entered in to EPI info7 version software and SPSS window version 21 was used for analysis. Data collected through direct observation was analyzed by Microsoft excel. Univariate analysis was conducted to estimate level of non-compliance in the selected hospitals. Bivariate and Multivariable analysis were applied using binary logistic regression to identify factors associated with non-compliance towards smoke free legislation in the selected hospitals. Variables at P-value less than 0.05 at 95% CI were considered as significant factors for non-compliance towards smoke free legislation in the selected hospitals.

4.13. Ethical Issues

Approval and clearance for this study was received from the St Paul's hospital millennium medical college IRB before commencement of the study. Then formal letter was written to the selected five hospitals and official permission was also obtained from IRB of each hospital before administration of the questionnaires and the objective and importance of the study was explained as well. Oral consent was also obtained from each study participant and all information was kept confidential. Participation was voluntary and they were informed that all the data used was only for scientific purpose. Privacy and confidentiality was maintained at all times, all findings were portrayed in a confidential manner; no personal or identifiable information was recorded or printed in the study. All participants were reassured that they can withdraw from the research at any time.

The proposed study findings benefit and cause no harm to the participants and society. All findings and results presented were that of actual facts stated in the questionnaire and no false information or accusations were included in the final report.

4.14. Dissemination Plan

The result will be presented and submitted to SPHMMC, public health department and will also be published through journals. The findings will also be disseminated to the five hospitals, study areas and federal ministry of health, EFMHACA. It will also be kept at SPHMMC library as a reference for students.

5. Result

5.1. Observational non-compliance with smoke-free legislation and findings from hospital heads interview

Almost at all inspected places in five selected hospitals (entrances, reception, waiting areas, patient wards outpatient clinics, corridors, elevators, stairs, physicians' nurses' and employees rooms) presences of "anti-smoking sign" was nonexistent. Only 2.8% of the inspected places have "anti-smoking sign" and the majority, 97.2%, of "anti-smoking sign" was absent, nonexistence. The places where such signs were most likely absent were the physicians' room, Nurses' room, OPD, Elevators and toilets. However, the place where this sign was more existent was at entrances (23.8%) compared to other places (Table 3).

Cigarette butts were more prevalent at the entrances and toilets compared to other places. Our site visits indicated that evidence of smoking on the hospital premises was also observed in 3 (60%) of the selected hospitals. The three hospitals in which active smoking were observed during our site visits were; Tikur Anbessa general specialized hospital, Alert hospital and Amanuel mental specialized hospital. In the rest two hospitals we didn't observe active smoking to the best of our search. However, we had observed a cigarette butts in all selected hospitals, which indicate evidence of recent cigarette smoking in these hospitals, especially cigarettes butts were more prevalent at parking near the entrance and at the toilets areas (Table 3).

Furthermore, we explored the existence and enforcement of smoke-free legislation within the hospital premises by interviewing the heads of hospitals. Among interviewed head of hospitals, 4(80%) of them reported the presence of smoke free legislation in their hospitals premises. However, the enforcement, smoking bans in the hospital premises, was reported by all interviewed heads of the hospitals (Table 4). Three of the interviewed heads of hospitals mentioned that there were a cessation programs to aid staffs and patients in quitting smoking. Only 1(20%) of the interviewed heads reported as posting of "anti-smoking signs" at all appropriate places were fully implemented, 2(40%) of them reported as less than half implemented and 2(40%) them also reported as more than half of it was implemented on their hospital premises (Table 4).

Table 3: Distribution of anti-smoking signs and cigarette butts in five federal government hospitals, 2017

	Items inspected	Observed items in number				Total	Noncompliance *
		Yes		No			
		No.	%	No.	%		
Presence of anti-smoking sign at;		16	2.8	555	97.2	571	97.2%
	Entrance	5	23.8	16	76.2	21	
	Patient waiting area	1	1.9	51	98.1	52	
	Reception	1	12.5	7	87.5	8	
	Patient wards	2	2.4	79	97.6	81	
	Physicians’ room	0	0	48	100	48	
	Nurses’ room	0	0	56	100	56	
	OPD	0	0	87	100	87	
	Corridors	1	1.5	63	98.5	64	
	Elevators	0	0	2	100	2	
	Toilets	0	0	61	100	61	
	Café	3	20	12	80	15	
	Administration offices	3	3.9	73	96.1	76	
Presence of cigarette butts at;		21	3.7	550	96.3	571	3.7%
	Entrance	5	23.8	16	76.2	21	
	Patient waiting area	2	3.8	50	96.2	52	
	Reception	0	0	8	100	8	
	Patient wards	0	0	81	100	81	
	Physicians’ room	0	0	48	100	48	
	Nurses’ room	0	0	56	100	56	
	OPD	0	0	87	100	87	
	Corridors	2	3.1	62	96.9	64	
	Elevators	0	0	2	100	2	
	Toilets	9	14.8	52	85.2	61	
	Café	1	6.7	14	93.3	15	
	Administration offices	2	2.6	74	97.4	76	
Other indicators		Yes		No		Total	
		No.	%	No.	%	No.(%)	
Presence of active smoking		3	60	2	40	5(100)	60%
Presence of ash tray		0	0	5	100	5(100)	0%
Presence of lighter/match box		0	0	5	100	5(100)	0%
Presence designated smoking areas in the hospitals		0	0	5	100	5(100)	0%

* Observation of at least one of the following is defined as noncompliance to the legislation (1) smoking (2) presence of cigarette butts (3) presence of ash tray and (4) absence of anti-smoking sign

Table 4: Implementation of smoke free legislation in five federal government hospitals, 2017

Indicators		Number of hospitals (%)	Hospital name
Posting of “No smoking sign” at all appropriate places			
	Not implemented	2(40)	Alert, SPHMMC
	Less than half implemented	2(40)	Tikur Anbessa, Amanuel
	More than half implemented	1(20)	St.peter
	Fully implemented	0(0)	
Availability of cessation services in the hospitals			
	Not implemented	2(40)	Alert, St.peter
	Less than half implemented	0(0)	
	More than half implemented	3(60)	Tikur Anbessa, SPHMMC, Amanuel
	Fully implemented	0(0)	
Availability of designated committee and other resources for its implementation			
	Not implemented	2(40)	SPHMMC, Alert
	Less than half implemented	0(0)	
	More than half implemented	3(60)	Tikur Anbessa, St.peter, Amanuel
	Fully implemented	0(0)	
Existence of the legislation in the hospitals			
	Ye	4(80)	Tikur Anbessa, St.peter, Amanuel, Alert
	No	1(20)	SPHMMC
Smoking ban in the hospitals premises			
	Yes	5(100)	All of them
	No	0(00)	

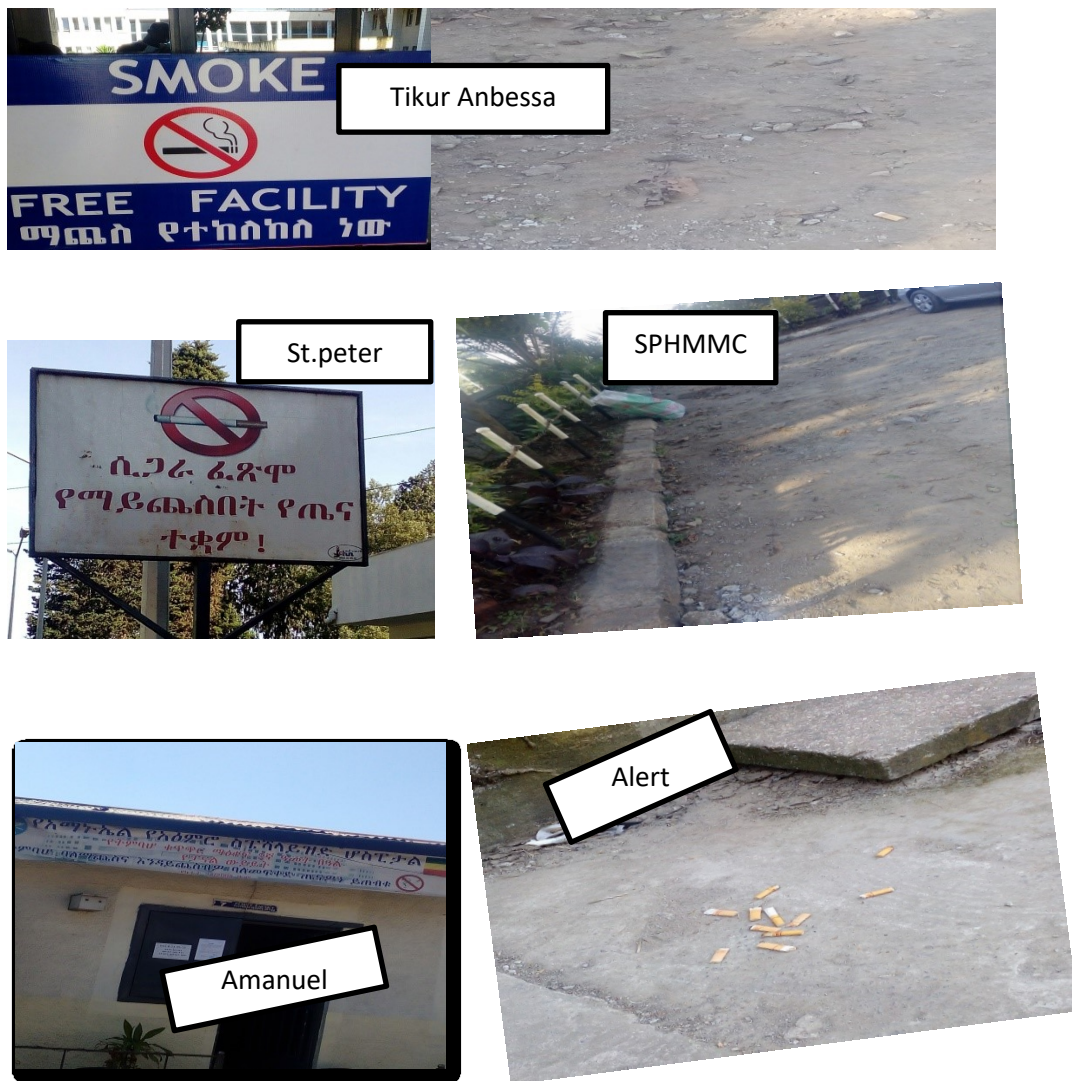


Figure 3: Site visits at five federal government hospitals

5.2. Socio-demographic characteristics of respondents

A sample of 354 health care staffs were drawn from a population of 8480 health care staffs who were working in five federal government hospitals located in the city government of Addis Ababa for the year 2017. Of these health care staffs, 4 were excluded due to incomplete filling of questionnaires during data collection and responses were received from 350 participants indicating a response rate of 98.8%. Respondents were classified as current, former and never smokers. Accordingly, 14.3% of the samples were current smokers, 3.4% were former smokers and 82.3% were never smokers (Table 5).

The median age of the respondents was 29 years (IQR 26 to 35 years) with the majority of the respondents (n=216 or 61.7%) were at less than 30 years old. Of the 350 participants, 190 (54.3%) were males. The majority of the study participants, 117 (30%), were from Tikur Anbessa General Specialized hospital. About 196 (56%) of the respondent had a monthly income of less than 4708 birr (mean monthly income). When considering the professional category of the study participants; the majority, (200; 57.1%) were health professionals (including physician, nurses and other health professionals), (9; 2.6%) were health related staffs, (39; 11.1%) were administration staffs and (102; 29.1%) were support staffs. Among 350 respondents the majority, (n=173; 49.4%) and (n=171; 48.9%) of them were married and single respectively. One hundred eighty two (52%) of the respondents worked less than or equal to 40 hours per week (Table 5).

Table 5: Socio-demographic characteristic of the respondents per hospital (n=350)

Demographic detail		Total Frequency (%)	Tikur Anbessa(No.)	SPHMMC (No.)	Alert (No.)	Amanuel (No.)	St.peter (No.)
Sex	Male	190(54.3)	74	53	21	25	17
	Female	160(45.7)	43	52	34	20	11
Age	<30yrs	216(61.7)	66	61	41	30	18
	30-39yrs	82(23.4)	27	34	6	9	6
	40-49yrs	36(10.3)	17	8	3	5	3
	50-59yrs	13(3.7)	5	2	4	1	1
	≥60yrs	3(0.9)	2	0	1	0	0
Marital status	Single	171(48.9)	60	44	29	26	12
	Married	173(49.4)	53	61	24	19	16
	Divorced/separate	4(1.1)	3	0	1	0	0
	Widow	2(0.6)	1	0	1	0	0
Profession	Health profession	200(57.1)	83	46	25	28	18
	Health related	9(2.6)	5	1	1	2	0
	Admin	39(11.1)	12	17	6	1	3
	Support	102(29.1)	17	41	23	14	7
Job title	Specialist/clinical	166(47.4)	55	42	25	28	16
	Researcher	3(0.9)	0	3	0	0	0
	Admin	42(12)	10	19	6	3	4
	Teaching	30(8.6)	29	0	1	0	0
	General services	109(31.1)	23	41	23	14	8
Type of employment	Contract	21(6)	8	8	1	4	0
	Permanent	329(94)	109	97	54	41	28
Smoking status	Never smoker	288(82.3)	89	93	47	38	21
	Current smoker	50(14.3)	20	12	8	4	6
	Former smoker	12(3.4)	8	0	0	3	1
Working hours/week	≤40 hours	182(52)	77	6	43	34	22
	> 40 hours	168(48)	40	99	12	11	6
Monthly income	<4708 birr	196(56)	48	69	40	24	15
	≥4708 birr	154(44)	69	36	15	21	13

5.3. Non-compliance level

Our study showed that, a total of 10.3% non-compliance level was observed in five selected federal government hospitals. The highest level of non-compliance towards the smoke free legislation was observed in Tikur Anbessa hospital while the least was recorded in SPHMMC and Amanuel hospital (fig.4).

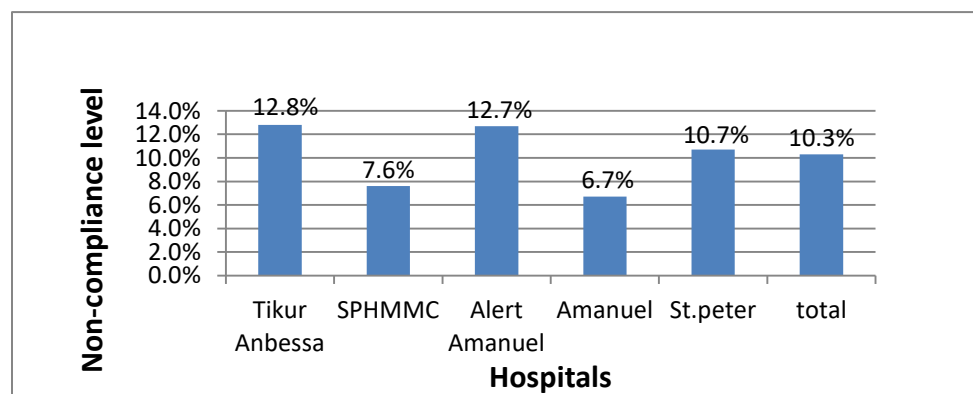


Figure 4: Distribution of non-compliance level per hospitals from jan.2016-oct.2017

5.3.1. Non-compliance status and smoking habits by professional group

The highest proportion of non-compliance level was observed among administration staffs compared to other professions while the least were observed among health related staffs. The second highest proportion of current smokers, 29 (14.5%), were observed among health professionals next to health related staffs, 2(22.2%), compared to other professions while the least proportion of current smokers were observed among administration staffs (Table 6).

Table 6: distribution of non-compliance level among health care staffs in five federal government hospitals (n=350)

Profession	Smoking status			Total	Noncompliance status		Total
	Never smoker	Current smoker	Former smoker		Compliant	Non-compliant	
Health profession	164(82)	29(14.5)	7(3.5)	200(100)	181(90.5)	19(9.5)	200(100)
Health related	7(77.8)	2(22.2)	0(0)	9(100)	9(100)	0(0)	9(100)
Admin staff	31(79.5)	5(12.8)	3(7.7)	39(100)	34(87.2)	5(12.8)	39(100)
Support staff	86(84.3)	14(13.7)	2(2)	102(100)	90(88.2)	12(11.8)	102(100)
Total	288(82.3)	50(14.3)	12(3.4)	350(100)	314(89.7)	36(10.3)	350(100)

5.3.2. Non-compliance status and attitudes by smoking status

In all, the majority, 314(89.7%), of the study participants were compliant to the smoke free legislation while 36(10.3%) of them were non-compliant to the legislation. When we see their attitudes with their smoking status, a more unfavourable attitude were observed among current smokers while a more favourable attitudes were observed among former smokers. Amongst those who smoked (n = 50), the majority, 36(72%), were non-compliant while 14(4.5%) of them were compliant to the smoke free legislation with a total of 10.3% non-compliance level in the selected five federal government hospital(Table7).

Table 7: Attitudes and non-compliance level of hospital health care staffs by their smoking status in 5 federal government hospitals (n=350)

Smoking status	Attitude		Total	Non-compliance status		Total
	Unfavourable attitude	Favourable attitude		Compliant	Non-compliant	
Never smoker	131(45.5)	157(54.5)	288(100)	288(91.7)	0(0)	288(82.3)
Current smoker	41(82)	9(18)	50(100)	14(4.5)	36(72)	50(14.3)
Former smoker	4(33.3)	8(66.7)	12(100)	12(3.8)	0(0)	12(3.4)
Total	176(50.3)	174(49.7)	350	314(89.7)	36(10.3)	350(100)

5.3.3. Non-compliance status by knowledge and attitudes of health care staffs

In all study participants, 182(58%) and 168(53.5%) of the compliant nonsmokers have respectively good knowledge and favourable attitude towards smoke free legislation and exposure to SHS. However, the majority of non-compliant smokers, 25(69.4%) and 30(83.3%) have respectively poor knowledge and unfavourable attitude towards smoke free legislation and exposure to SHS (Table 8).

Table 8: Non-compliance status by attitude and knowledge among health care staffs in five selected federal government hospitals, 2017 (n=350)

Non-compliance status	Knowledge status		Total	Attitude status		Total
	Good	Poor		Favourable	Unfavourable	
Compliant	182(58)	132(42)	314(100)	168(53.5)	146(46.5)	314(100)
Noncompliant	11(30.6)	25(69.4)	36(100)	6(16.7)	30(83.3)	36(100)
Total	193(55.1)	157(44.9)	350(100)	174(49.7)	176(50.3)	350(100)

5.4. Knowledge and attitudes by professional group

5.4.1. Knowledge by professional group

When all items were examined and classified as knowledge status (good and poor knowledge) the majority, 193(55.1%), of study participants had good knowledge while 157(44.9%) of the study group had poor knowledge towards smoke free legislation and exposure to SHS (Table 9). The group mean score for the knowledge items was 4.54(SD=1.85) with a range from 0-8 point. Indicating score greater or equal to group mean as having good knowledge and score less than group mean was as having poor knowledge. In relation to professional groups, different findings were observed on knowledge items examined. A more good knowledge and poor knowledge was respectively exhibited by health professional and support staffs (Table 9).

Table 9: knowledge status of health care staffs towards smoke free legislation and exposure to SHS in five federal government hospitals (n=350)

Professional category	Knowledge status		Total No. (%)
	Good knowledge No. (%)	Poor knowledge No. (%)	
Health professional	127(63.5)	73(36.5)	200(100)
Health related	5(55.6)	4(44.4)	9(100)
Admin staff	18(46.2)	21(53.8)	39(100)
Support staff	43(42.2)	59(57.8)	102(100)
Total	193(55.1)	157(44.9)	350(100)

5.4.2. Attitude by professional groups

Attitudes of hospital staff was measured by 11 questions with five point scale from (“strongly agree”= 4) to (“strongly disagree”=0). In the final analysis it was summed up to create a total score for the attitude with a group a mean score of 29.7(SD=5.7) and range from 16-44 point. Indicating score greater or equal to group mean score as having favourable attitude and less than group mean score as having unfavourable attitude. In relation to professional groups, different findings were observed among health care staffs towards smoke free legislation and exposure to SHS. A more favourable attitudes and unfavourable attitude was respectively exhibited by health professionals and administration staffs (Table 10).

Table 10: Attitude status of health care staffs towards smoke free legislation and exposure to SHS in five federal government hospitals (n=350)

Professional category	Attitude status		Total No. (%)
	favourable attitude No. (%)	unfavourable attitude No. (%)	
Health professional	117(58.5)	83(41.5)	200(100)
Health related	7(77.8)	2(22.2)	9(100)
Admin staff	13(33.3)	26(66.7)	39(100)
Support staff	37(36.3)	65(63.7)	102(100)
Total	174(49.7)	176(50.3)	350(100)

5.5. Awareness of health care staffs on the existence of smoke-free legislation

In all, 146(41.7 %) of study participants had heard of the hospital smoke free legislation, 119(34 %) had not heard of it and 85(24.3 %) were not sure of the existence of the smoke free legislation that prohibit smoking in the hospital premises. Among those aware of the hospital smoke-free legislation, 55(37%) of the participant had unfavourable attitude towards the smoke free hospital legislation (Table 11). However, among non-compliant smokers, 14(38.9%) were aware of the legislation, 13(36.1%) were unaware while 9(25%) were not sure of the legislation in the hospitals (data not shown).

Table 11: Findings of awareness on the existence of smoke free legislation in hospitals among health care staffs (n=350)

Attitude status	Awareness to the existence of smoke free legislation			Total No. (%)
	Aware No. (%)	Unaware No. (%)	Unsure No. (%)	
unfavourable attitude	55(37.7)	64(53.8)	57(67.1)	176(50.3)
favourable attitude	91(62.3)	55(46.2)	28(32.9)	174(49.7)
Total	146(41.7)	119(34)	85(24.3)	350(100)

5.6. Practice of the health care staffs in enforcing smoke free legislation

Only 98(28%) of the participants indicated they had asked patients/visitors/staffs to stop smoking when violation was observed .We classified these participants as enforcing smoke free legislation. While the majority, 252 (72%), of the study participants didn't asked patients/visitors/staffs to stop smoking when violation was observed. We classified these participants as those who were not enforcing smoke free legislation. According to their smoking profile; among smokers (n=50), only 10% of them were practicing the enforcement of the smoke free legislation and 45 (90%) them were not practicing when violation was

observed, even the majority of non-smokers, 69%, were also not practicing the enforcement of the legislation when violation was observed (Table 12).

Table 12: Practice of hospital health care staff per smoking status in five federal government hospital (n=350)

Practice	Smoking status		Total
	Non-smokers	Smokers	
Practice enforcement	93(31%)	5(10)	98(28)
Not practicing enforcement	207(69%)	45(90)	252(72)
Total	300(100)	50(100)	350(100)

5.7. Factors associated with non-compliance

Socio demographic, Knowledge, attitude and practice of the study participants in relation to non-compliance were analyzed by bivariate analysis using simple binary logistic regression model (Table 13). Possible associated factors identified from socio-demographic variables were; sex (being male; COR=4.81, p-value = 0.001), age in between 40-49years (COR=4.50, p-value =0.001) marital status (being married; OR=1.77, p-value = 0.120) and type of employment (being permanent worker; OR=0.33, p-value =0.044) while not enforcing the legislation (COR= 2.61, p-value =0.054) was identified from the practice of the participant. Similarly, having poor knowledge (COR=3.13, p-value =0.003) towards the legislation and exposure to SHS and having unfavourable attitude (COR=5.75, p-value =0.000) towards the legislation were identified from the knowledge and attitudes of the participants (Table 13).

5.8. Results of multi variable analysis

Binary logistic regression analysis was carried out by taking the conceptual framework (fig.1) into consideration to assess the relative effects of independent variables on the dependent variable. Those variables with P value less than or equal to 0.20 were entered to the model. Next we performed a multivariable logistic regression to assess associated risk factors to the non-compliance level within hospital settings and this logistic regression analysis depicted that being male, AOR: 5.89, 95%CI: (2.08-16.64), having poor knowledge, AOR: 2.71, 95%CI: (1.15-6.36) and having unfavourable attitude, AOR: 6.15, 95%CI: (2.26-16.69) were the three significant risk factors associated with non-compliance level of health care staffs towards smoke free legislation within the selected five federal government hospitals. Although the type of employment, practice, marital status (married) and age (40-49yrs) of the participants showed significant association in bivariate analysis, they did not show an association in the final step of the multivariable analysis (Table 13).

Table 13: Bivariate and Multivariable analysis for risk factors associated with non-compliance in five federal government hospitals, 2017

Risk factors	Category	Non-compliance status		Bivariate analysis			Multivariable analysis		
		Yes	No	COR	95% CI	p-value*	AOR	95% CI	p-value*
Sex	Female	6	154	1(Ref.)			1(Ref.)		
	Male	30	160	4.81	1.95-11.88	0.001	5.89	2.08-16.64	0.001
Age	<30yrs	17	199	1(Ref.)			1(Ref.)		
	30-39yrs	7	75	1.09	0.44-2.74	0.85	0.44	0.14-1.41	0.167
	40-49yrs	10	26	4.50	1.87-10.87	0.001	3.04	0.83-11.20	0.094
	50-59yrs	2	11	2.13	0.44-10.39	0.350	2.96	0.46-19.07	0.253
	>=60yrs	0	3	0	0.00	0.999	0.00	0.00	0.999
Marital status	Single	13	158	1(Ref.)			1(Ref.)		
	Married	22	151	1.77	0.86-3.64	0.120	1.45	0.51-4.11	0.488
	Separate/divorce	1	3	4.05	0.35-41.75	0.24	0.62	0.04-9.96	0.732
	Widow	0	2	0	0.00	0.99	0.00	0.00	0.999
Type of employment	Contract	5	16	1(Ref.)			1(Ref.)		
	Permanent	31	298	0.33	0.11-0.97	0.044	0.39	0.10-1.48	0.167
Practice	Enforcing	5	93	0.38	0.15-1.02	0.054	0.39	0.13-1.16	0.089
	Not enforcing	31	221	1(Ref.)			1(Ref.)		
Attitude status	Favourable attitude	6	168	1(Ref.)			1(Ref.)		
	Unfavourable attitude	30	146	5.75	2.33-14.21	0.000	6.15	2.26-16.69	0.000
Knowledge status	Good knowledge	11	182	1(Ref.)			1(Ref.)		
	Poor knowledge	25	132	3.13	1.49-6.59	0.003	2.71	1.15-6.36	0.022

* Binary logistic regression

6. Discussion

The purpose of this study was to estimate noncompliance level and associated factors towards smoke free legislation in hospital settings, by assessing knowledge of health care staffs, attitudes towards the smoke-free legislation, smoking habits, practice of health care staffs in enforcing the legislation and other socio-demographic factors. This study showed that non-compliance level among health care staffs working in five selected federal government hospitals was high(fig.4) and affected by their sex, knowledge and attitudes towards smoke free legislation. In February17, 2014, the Ethiopian government passed a new smoking legislation through house of parliament that banned smoking in public places and work places including health care facilities(16).Thus, the noncompliance level shown here may help the enforcement authority to strictly see implementation of smoke free legislation in health care facilities of Ethiopia.

The proportion of non-compliance level among health care staffs shown here was higher than findings reported in UK ,2009(22) and lower than findings reported in Portuguese,2011(21) and teaching hospital in Spain(36).The higher proportion may be due to the problem related to the attitudes of health care staffs towards the smoke free legislation, because in the current study above half of the health care staffs had Unfavourable attitude; even the majority of smokers had also Unfavourable attitude towards the smoke free legislation and exposure to SHS. The other reason may be because the implementation of smoke free legislation was lately started in hospital setting of our country than in the UK. This result indicate that non-compliance level of health care staffs can be minimized by creating awareness on smoke free legislation using different mechanisms like training. Among smokers, the majority of them were non-compliant while least of them were compliant to the hospital smoke free legislation. This proportion of non-compliant smokers were admitted smoking on hospital premises during working hours ;which was almost consistence with the findings reported in Portuguese teaching hospitals in 2011(21).Moreover, our current finding on non-compliance level among health care staffs' of hospitals indicates smoke free legislation in such setting has not been fully implemented as per WHO FCTC (37,38).

When we see the smoking prevalence among health professional groups, the highest smoking prevalence was observed among health related staffs while the lowest was observed among administration staffs. But, the second highest prevalence was observed among health professionals category in which physicians and nurses were included in this category; which is not consistent with similar research done in Egypt teaching hospital in 2015,that show low smoking prevalence among physicians(20)compared to other groups. The high prevalence among health related staffs may be because the interviewed samples of health related staffs was very small compared to others group. Moreover, the current study indicated proportion of current smokers were higher than findings reported in Ethiopia in different studies (14,39,40). This proportion of current smokers may be

due the sample size difference; sample size in our current study was lower than the above three studies. However, it was lower than findings reported in Egypt teaching hospital in 2015(20) which may be due to cultural influence that most of the time tobacco smoking was considered as bad/forbidden habit in our country than in Egypt.

When we see the knowledge and attitudes of interviewed staffs towards the smoke free legislation, good knowledge and less level of agreement (unfavourable attitude) were observed in all items examined. This less level of agreement towards the smoking legislation was not consistent with the findings reported in Portuguese teaching hospital in 2011(21) and in china(24). In the current study, the majority of hospital staffs, including smokers had unfavourable attitude towards the smoke free legislation. This may be due to lack of awareness on the legislation and because the implementation of this legislation was also lately entered in to enforce compared to the Portuguese and china. In relation to professional group, health professionals exhibited more good knowledge while more favourable and more Unfavourable attitude were respectively exhibited by health related staffs and administration staffs towards the legislation. This finding was in not line with the findings from the survey of staff attitude towards smoking related policy in psychiatric and general health care settings of England in 2006,in which doctors exhibited more positive attitude in which doctors are category of health profession in this study(30). But, in this study separate analysis was not done among those who have been working in psychiatric setting and other hospitals. The high proportion of health professionals' knowledge may be due their profession because most of the time health professionals' courses are related to tobacco related diseases. The other reason may also be because of the educational level of health professions; that health professionals have mostly higher educational level than others professional groups (support, admin, health related).However, having good knowledge may not necessary implies as having favourable attitude which further confirms that health related staffs' attitude was more favourable than health professionals groups which may be solved by awareness creation on the legislation

In our current study, site visits indicated that non-compliance level was high on the premises of the hospitals as per WHO FCTC guideline and indicator of success(37,38).This was affirmed by the presence of cigarette butts, active smoking and absence of anti-smoking sign in all appropriate places. This findings was not in line with findings reported in acute care hospitals of US in 2017(41) in which non-compliance of surveyed hospitals with the JCAHO national smoke-free policy was low compared to the current findings. This site visits further implies observational non-compliance level was high compared to the individual non-compliance level. The high level of observational non-compliance shown here on the above indicators was not consistent with different research findings reported in different countries (6,17,20).The reason for high proportion of

observational non-compliance in the hospital premises on the above indicators is may be due to the fact that Ethiopia has adapted WHO FCTC and lately entered into enforcement than the above two counties(16).However, the reason for low proportion of the existence of cigarette butts in the current study is may be due to the low proportion of cigarette smoking staffs than the above three studies(6,17,20). Other reason may be related to the issues of hospital floor cleaning at the morning time by janitors that can't be observed while data collection at the peak time of hospital observation. Even-though, hospitals observed with the presence of persons smoking cigarette were not in all five selected hospitals, there was a cigarette butts observed in all five selected hospitals which further indicates there was an evidence of recent cigarette smoking in all observed hospitals. The proportion of hospitals that actually observed with active smoking was higher in current study than the proportion reported in Turkey in 2016 (17).This may be due to the problems related to the staffs attitude and awareness towards the existence of smoke free legislation in the hospitals.

Logistic regression analysis indicated three factors were positively associated with non-compliance level of health care staffs towards smoke free legislation in five selected hospitals. These identified factors were sex, knowledge and attitudes of the health care staffs. Being a male is almost six times more likely to be non-compliant than being a female, having a unfavourable attitudes is also six times more likely to be non-compliant than having a favourable attitude while having poor knowledge towards the legislation is almost three times more likely to be non-compliant than having good knowledge.

The significant association of health care staffs' sex with their non-compliance level in the current study was not consistent with research done in United Kingdom in 2009(22); in which sex of hospital employee was not significantly associated with smoke free policy. In our current study, it may be because the prevalence of cigarette smoking was high among male than female which is also high among male than female in the STEPS survey of 2015(14) and EDHS 2011(39).

Different studies (23–27) pointed that non-compliance of individuals with smoking ban was affected by their knowledge which is in line with our current study findings that health care staffs' knowledge has positive association with their non-compliance towards smoke free legislation. Peoples who were better informed with the harms of smoking and passive smoking and aware of policy were more likely to be compliant with the smoking bans in public places than those with lower level of knowledge. This association may be due to the fact that implementation of smoke free legislation was lately started and may be lack of awareness creation on the smoke free legislation for hospital staffs.Additionally, other studies (23,25,26) conducted in different countries on smoke free policy also supported with our current findings. In these studies knowledge of the surveyed staffs was positively associated with the smoke free policy of the study areas. Similarly, it was also

consistence with research done in Australia in 2010(27) and in china in 2010 and 2014(24,28) in which knowledge of the surveyed staffs has also positive association with the smoke free policy.

Regarding the significance of hospitals health care staffs' attitude with their non-compliance, different studies(23,42) pointed that unfavourable attitude towards smoking bans and exposure to SHS were also identified as a key factors affecting to non-compliance of individuals with the smoking bans; people who had Unfavourable attitudes towards smoking bans in public places and exposure to SHS were less likely to be compliant with the smoking bans, smoke free legislation, which is in line with our current findings. Thus, the findings shown here indicate a more effort is needed by enforcement authority and hospital administrators in implementing smoke free legislation especially, in addressing attitude of hospital staffs.

7. Conclusion

In conclusion, findings of this study showed non-compliance level among health care staffs was high, which implies the legislation has not been fully implemented as per WHO FCTC guideline. Especially, observational non-compliance level towards the legislation was high compared to the individual non-compliance level. The factors associated with the non-compliance level of health care staffs were; being male, having poor knowledge and unfavourable attitudes of the health care staffs towards the smoke free legislation.

8. Limitations

Our current study has some limitations related to its cross-sectional design including issues of recall bias and the reliance on self-reported data, especially regarding to their non-compliance status during working hours which may make over or under report. An additional limitation is related to the focus on the federal government hospitals; due to budget limitations; which might not reflect the status of the non-compliance level towards smoke-free legislation in other health care facilities (such as other government hospitals and private hospitals). Being the first study in hospital setting of our country is also other limitation which we are unable to compare and contrast current findings with others.

9. Recommendations

- ❖ Federal ministry of health especially, EFMHACA should carefully see the enforcement of smoke free legislation in the hospital setting especially, in addressing the knowledge and attitudes of hospital health care staffs like awareness creation through training and different mechanism.
- ❖ Hospital administrators were also recommended to fully implement smoke free legislation in their hospital premises as per WHO FCTC guideline.
- ❖ Finally, other interested researchers can also assess non-compliance level of other health care settings of the country.

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Annex 1: English version questionnaire

Questionnaire Code: _____

Date: _____

Participant's Informed Consent Form

Good morning/afternoon, my name is _____. I am collecting data for a study being conducted by Tamiru Tadesse [FE, resident @SPHMMC]. The purpose of this study is to assess level of noncompliance and factors associated to non-compliance with Smoke free legislation among health care staffs in Hospital setting. I am NOT an enforcement officer enforcing the law. I am a researcher checking to see the level of noncompliance with the law. This venue has been randomly selected for assessment and your involvement is completely voluntary. I guarantee that your identity will be kept confidential. I will not be asking for your name or other information that directly identify about you. There is no any risks anticipated for this study and no benefit or compensation will be awarded for participating in the study but the results of your response will be essential for policy makers in regards to the enforcements of the smoke free legislation. You have the right to participate or not to respond to the question partially or fully and you have also the right to withdraw your participation at any time during the interview. This interview will last at most 5 -10 minutes. If you agree to participate, I will start the interview. Before we start, I need you to indicate that I have read you this consent and that you understand and freely agree to be interviewed.

Are you Volunteer? 1. Yes 2. No

If yes, please continue.

If there are inquiries please contact: [*Tamiru Tadesse, 0921-347503*]

Name of data collector: _____ Signature: _____

Result

1. Completed
2. The study subject is not available
3. The study subject is not volunteer
4. Incomplete

Name of supervisor: _____ Signature: _____

Part I. Socio-demography

No	Variables /Questions	Coding classification	
101	Name of hospital	1 Tikur Anbessa 2. SPHMMC 3. St.peter	4. Alert hospital 5.Amanuel
102	Sex	1.Male	2.Female
103	Age	_____	
104	Marital Status	1.Single 2.Married	3.Divorced/Separated 4 Widow
105	Profession	1.Health profession 2.Health related	3.Admin staffs 4.Support staffs
106	Job Title or position	1. Specialist/clinical 2. Researcher 3.Adminstration 7.Others(specify)_____	4. Teaching 5. General service 6.Director/provost/VP
107	Type of employment	1. Contract	2.Permanent
108	Total working hrs. per week	_____Hrs.	
109	Monthly income	_____ETB	
110	Smoking Status (If 1 and 3 skip To Q 204)	1. Never smoker 2. Current smoker 3. Former smoker	

Part II. Non-compliance related questions

No	Variables/ Questions	Coding classification
201	Have you smoked cigarette in this hospital premises in the last one year /January 2016 to October 2017	1. Yes 2. No
202	Frequency of smoking cigarette when you were at hospital? I smoke on the site:	1. More than twice a day 2. Once or twice a day 3. Once a week 4. Once a month 5. Never
203	If you are currently smoking cigarette where did you smoke while you were at hospital?	1.In the toilet 2.In the office 3.In the bathrooms 4. Outside hospital premises 5. I never smoke 6.Others(specify)_____
204	Are you aware that there is a law prohibiting smoking indoors in this hospital?	1. Yes 2. No 3.unsure
205	If you see someone smoking indoors in this hospital premises, what action would you take?	1. I/ my manager would ask them to either put out their cigarette or go outside 2. I / my manager would call the inspection authority 3. No action would be taken 4. I don't know/I'm not sure 5.Others(specify)_____
205	Noncompliance status	1. Yes 2. No

Part III. Knowledge question about Second hand smoke and smoke free legislation

Please tell me whether you choose True or False with each of the following statements

No	Variables /Questions	Response	
301	Exposure to tobacco smoke in the workplace is not a significant cause of tobacco-related diseases	1. False	2. True
302	Designated smoking areas in the same room are effective in protecting non-smokers and workers from the hazards of tobacco smoke	1. False	2. True
303	Separate rooms with separate ventilation offer almost the same amount of protection as smoking bans and are a good alternative to bans	1. False	2. True
304	Tobacco product advertising has no effect on consumption	1. False	2. True
305	Because of all the publicity about how harmful tobacco use is, anyone who starts using tobacco these days is fully aware of the risks	1. False	2. True
306	Warnings/messages on tobacco product packages, while attention getting, are not effective in motivating users to quit	1. False	2. True
307	Only smokers have to worry about health risks from tobacco smoke.	1. False	2. True
308	Smoke free legislation in hospital protects your health and/or the health of other visitors and patients	1. False	2. True

Part IV Attitudes question towards smoke free legislation and exposure to second hand smoke

Please tell me how much you agree with each of the following statements

No	Variables /Questions	Response				
		4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
401	A smoke-free hospital would improve the quality of care the patient receives	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
402	Smoke from someone else's cigarette is unhealthy for nonsmokers	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
403	The smoking habits of health professionals influence others	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
404	Cessation programs should be offered to employees	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
405	Hospital should be a smoke-free environment	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
406	Hospital employees who work in offices or areas removed from direct patient care should be allowed to smoke	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
407	A smoke-free policy is hard to enforce	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
408	Having a smoke-free policy is unfair to smokers	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
409	Hospitals with smoke-free policies are likely to lose patients	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
410	Smoking bans at hospitals would positively influence job performance	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree
411	Smoking bans at hospitals would positively affect the public image of the hospital	4.Strongly agree	3.Agree	2.Unsure	1.Disagree	0.Strongly disagree

Part V. Questions related to challenges with smoke free legislation

501	Are you aware of any challenges in keeping people from smoking where they are not allowed to smoke?	1. Yes 2. No 3.Unsure
502	If Q 501 is “ Yes ” what are the most common challenges? please circle to your answer	1.Lack of smoke-free legislation/law 2.Lack of penalties for violators 3.Lack of management support /commitment 4.Insufficiency of tobacco-related knowledge 5.Negative attitudes towards smoking bans 6.Nicotine dependence of individuals 7.Fear of patient aggression 8.Staff will continue to smoke 9.Lack of resources 10.Lack of smoking cessation counseling service 11.others (specify)_____

Part VI. For Senior Staffs Only [Provost, V/provost, Directorate]

Based on current practice in your hospital answer the following question and assign each answer an appropriate score using the marking system outlined below. All questions must be scored by using “√” symbol under score.

Scoring 0=No/Not implemented 1= less than half implemented 2= more than half implemented 3= Yes/fully implemented NA= non- applicable

NO	Variables /Questions	0	1	2	3	NA
601	Does your hospital have implemented smoking ban in the hospital premises?					
602	Does your hospital have smoke free law/legislation that prohibits smoking in hospital premises?					
603	Does designated committee been assigned to coordinate the development and monitoring of smoke free law/legislation?					
604	Does financial and human resource be allocated in the hospital's activity plan?					
605	Does the member of staff know that they have responsibility to take action in implementing and enforcing the smoke free law/legislation?					
606	Does all staff, patients and visitors been informed of hospital's smoke free law/legislation?					
607	Does brief training have been given for all staffs on the hospital smoke free law/legislation?					
608	Do all staffs have been instructed on how to approach and inform smokers in accordance with the hospital smoke free law/legislation?					
609	Does “No smoking sign” posted in all appropriate areas for staffs, patients and visitors?					
610	Does smoking cessation services available for all staffs and patients in your hospital?					

On behalf of investigator I represent, I would like to thank you very much for your time and kind reception in sharing with us what you know about the above topic.

Thanks!

Part VI. Observational check list form

Name of hospital: _____

Name or number of building: _____

Total number of building in the hospital _____

Sr.No	Observation indoor	Response	
101	Is anyone smoking cigarette in hospital premises?	1. Yes	2. No
102	Is there any ashtray or ashbin visible in hospital premises?	1. Yes	2. No
103	Is there any lighter/matchboxes visible in hospital premises?	1. Yes	2. No
104	Is there designated smoking areas	1. Yes	2. No

Sr.No	Items inspected	Observed items in number	
		Yes	No
105	Presence of anti-smoking sign at;		
	Entrance		
	Patient waiting area		
	Reception		
	Patients wards		
	Physicians' room		
	Nurses 'room		
	OPD		
	Corridors		
	Elevators		
	Toilets		
	Cafe		
	Administration offices		
105	Presence of cigarette butts at;		
	Entrance		
	Patient waiting area		
	Reception		
	Patients wards		
	Physicians' room		
	Nurses 'room		
	OPD		
	Corridors		
	Elevators		
	Toilets		
	Cafe		
	Administration offices		

Annex 2: Amharic version questionnaire

የመጠየቅያ መለያ ቁጥር: _____

ቀን : _____

የተሳተፈ ማስማምያ መረጃ ቅጽ

እንደት አደሩ/ዋሉ ስሜ _____.ይባላል።እኔ በአቶ ታምሩ ተደሰ በምደረገው የጥናት ምርምር የምያገለግለውን መረጃ እየሰበሰብኩ እገኛለው። የጥናቱ ዓላማ ከማስ ነጻ የምል ህግ አለማክበር መጠን ማየትና ህጉን አለማክበር ጋር ተያዝዞ ያለው ችግሮችን በሆስፒታል ውስጥ ዳሰሳ ማካሄድ ነው። እኔ ህጉን የምያስከብሩት ሰራተኛ አይደለሁም፤እኔ የህጉን አተገባበር የምያይ ተመራማሪ ነኝ። ይህ ሆስፒታል በዘፈቀደ የተመረጠ በመሆኑ የእርሶ ተሳተፊነት በፍቃደኝነት ላይ የተመረከዜ ነው። እርግጠኛ የማደርጋቸው ነገር የእርሶ ምስጥር እንደተጠበቀ ነው።.መጠየቁን በምጠይቃቸው ጊዜ የእርሶን ስም እንደማልጠይቅና ጥናቱም በእርሶ ላይ ምንም ዓይነት ጉዳት እንደሌለውና ለሳይንሳዊ ጥቅም ብቻ እንደምውል አረጋግጥሎታለው።በተመሳሳይም በዚህ ጥናት ላይ ስለተሳተፉ የምያገኙት ጥቅምም እንደሌለና የእርሶ ተሳትፎ ግን ለህግ አውጭ አካላት ህጉን ከማስፈጸም አንኳያ በጣም ወሳኝ እንደሆነ እገልጽሎታለው።በጥያቄና መልሳችን ወቅትም በፈለጉበት ሥዓት መጠየቁን ማቋረጥ እንደምችሉም ጭምር አረጋግጥሎታለው። ይህ ጥያቄ ከ 5 እስከ 10 ደቂቃ በላይ አይወስድም። ፍቃደኛ ከሆኑ ቃሉ መጠየቁን እጀምራለሁ።

ፍቃደኛ ኖት? 1. አዎ 2. አይደለም

ፍቃደኛ ከሆኑ, እባክዎ ይቀጥሉ።

እባክዎ ጥያቄ ካሎት በዚህ መረጃ ያገኙ: [ታምሩ ታደሰ 0921-347503]

መረጃ የምሰበስብ ስም: _____ ፊርማ: _____

ውጤት

1. ተሞልቶዋል
2. ተሳተፊው አልተገኘም
3. ተሳተፊው ፍቃደኛ አይደለም
4. መረጃው ሙሉ አይደለም

የሱፐርፋይዘር ስም: _____ ፊርማ _____

ክፍል አንድ. መረጃ

ተ.ቁ	ጥያቄ	ኮድ
101	የሆስፒታል ስም	1 ጥቁር አንበሳ 2. ቅ/ጳውሎስ 3. ቅ/ጳጥሮስ 4. አላርት 5. አማኑኤል
102	ጾታ	1. ወንድ 2. ሴት
103	ዕድሜ	_____
104	የጋብቻ ሁኔታ	1. ያላገባ 2. ያገባ 3. የፈታ 4. የሞተበት/ችበት
105	ሞያ	1. ጤና ባለሙያ 2. ጤና ነክ 3. አስተዳደር 4. ድጋፍ ሰጪ
106	የስራ ድርሻ	1. ስፔሻልስት 2. ተመራማሪ 3. አስተዳደር 4. ማስተማር 5. ጠቅላላ አገልግሎት 6. ዳይሬክቶሬት/ፕሮሽንት/ቫ- ፕሮሽንት/ ስርዓት/ካጅ 7. ሌላ(ጥቀስ) _____
107	የቅጥር ሁኔታ	1. ኮንትራት 2. ቋሚ
108	በሰውነት የምሰሩት ጠቅላላ ስዓት	_____ ስዓት
109	ወራዊ ገቢ	_____ በብር
110	የማጫስ ሁኔታ	1. ጭራሽ አላጫስም 2. አሁንም እያጫስኩ ነው (እያጫሱ ከሆኑ, ወደ ጥያቄ ቁ.201 ካልሆኑ ወደ ጥያቄ ቁ.204) 3. በፊት እያጫስኩ ነበር

ክፍል ሁለት. ህጉን ካለማክበር ጋር የሚያያዝ ጥያቄ

ተ.ቁ	ጥያቄ	ኮድ
201	በለፈው ዓመት በዚህ ሆስፒታል ግቢ ውስጥ ስጋራ አጭሶ ያቃሉ?	1. አዎ 2. አይደለም
202	ሆስፒታል ውስጥ እያለክ ምን ያህል ጊዜ ስጋራ ታጭሰዋለህ/ሽ	1. በቀን ከሁለት ጊዜ በላይ 2. በቀን አንድ ወይም ሁለት ጊዜ 3. በሳሚነት አንድ ጊዜ 4. በወር አንድ ጊዜ 5. ጭራሽ አላጭስም
203	በአሁኑ ወቅት ስጋራ የምያጭሱ ከሆኑ በሆስፒታል ውስጥ እያሉ የት የት ቦታ ያጭሳሉ	1. ሽንት ቤት ውስጥ 2. ቢሮ ውስጥ 3. ሻወር ቤት ውስጥ 4. ከሆስፒታል ግቢ ውጪ 5. ጭራሽ አላጭስም 6. ሌላ(ጥቀስ) _____
204	በሆስፒታል ግቢ ውስጥ ማጭስ የምከለክል ህግ መኖሩን ያቃሉ	1. አዎ አውቃለው 2. አላቅም 3. እርግጠኛ አይደለሁም
205	በሆስፒታል ግቢ ውስጥ እያጭሰ ያለ ሰው ብያገኙ/ብያዩ ምን እርምጃ ይወስዳሉ	1. እኔ /ሀላፊዬ ማጭሱን እንድንቆሙ/ወደ ውጪ እንድንወጡ እጠይቃለው 2. እኔ /ሀላፊዬ ተቆጣጣሪ አካልን እጠራለው 3. ምንም ዓይነት እርምጃ አልወስድም 4. እርግጠኛ አይደለሁም 5. ሌላ(ጥቀስ) _____
205	ህጉን ያለማክበር ደረጃ	1. አዎ 2. አይደለም

ክፍል ሶስት. የእውቀት ጥያቄዎች

እባክዎ የምክተሉት ጥያቄዎችን ውሸት ወይም እዉነት በማለት ይመልሱ

ተ.ቁ	ጥያቄ	ምርጫ	
301	በስራ ቦታ በትንባሆ ማጨስ መጋለጥ ከትንባሆ ጋር ተዛይነት ያላቸውን በሽታ አያመጣም	1. ውሸት	2. እዉነት
302	የማጨሻ ቦታ ለብቻ በአንድ ክፍል ውስጥ ማዘጋጀት የማያጨሱትን ና ሰራተኞችን በትንባሆ ማጨስ የምመጣውን ጉዳት/ጠንቅ በመከላከል ረገድ አዋጭ ነው	1. ውሸት	2. እዉነት
303	ለብቻ በሽንትሎሽን የታገዘ ክፍል ለማጨሻ ቦታ ማዘጋጀትና በሆስፒታል ግቢ ውስጥ ጭራሽ ማጨስ ከመከላከል ጋር ተመሳሳይ /እኩል የትንባሆ ጠንቅን/ጉዳትን ይከላከላል	1. ውሸት	2. እዉነት
304	የስጋራ ምርት ማስተዋወቅ በመጨስ ላይ ምንም ዓይነት ተጽኖ የለውም	1. ውሸት	2. እዉነት
305	በአሁኑ ዘመን በተለያዩ ሚዲያ ሚክኒያት ማንኛውም ሰው ትንባሆ ማጨስ ስጀምሮ የትንባሆ ጠንቅን ጠንቅቆ ያውቀዋል	1. ውሸት	2. እዉነት
306	ማስጠንቀቂያ በመትንባሆ ማሸጊያ ላይ መጻፉ ተጠቃሚዎች/አጫሾች እንድያቆሙ አያበረታታም	1. ውሸት	2. እዉነት
307	አጫሾቹ ብቻ በስጋራ ማጨስ የምመጣውን ጠንቅ/ጉዳት መጨነቅ/መስጋት አለባቸው	1. ውሸት	2. እዉነት
308	ማጨስ የምከላከል ህግ በሆስፒታል ውስጥ መኖሩ የእርሶንና የታካሚዎችን ጤና ይከላከላል	1. ውሸት	2. እዉነት

ክፍል አራት፡ የአመለካከት ጥያቄ

እባክዎ ለምክትሉት ጥያቄዎች ምን ያህል እንደምስማሙ ይገልጹኝ

ተ.ቁ	ጥያቄ	ምርጫ				
401	ከማጩክ ነጻ የሆነው ሆስፒታል ታካሚዎች የምያገኙትን የአገልግሎት ጥራት ያሻሽላል	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም
402	ከአንድ ሰው ስጋራ ማጩክ የምወጣው ጭስ ለማያጩሱት ሰዎች ጠንቅ ነው	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም
403	የጤና ባለሙያዎች የማጩክ ልምዳቸው ሌሎች ላይ ተጽኖ ያሳድርባቸዋል	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም
404	ማጩክ ለማቆም የምረዳ የምክር አገልግሎት ለሰራተኞች መሰጠት አለበት	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም
405	ሆስፒታል ከትነባሆ ማጩክ ነጻ መሆን አለበት	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም
406	በሆስፒታል ውስጥ የምሰሩ ሰራተኞች ማለትም በቢሮና ከታካሚዎች ረቆ ያሉ እንድያጩሱ ይፈቀድላቸዋል	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም
407	በሆስፒታል ውስጥ ስጋራ እንዳይጩክ የምክለክል ህግ ተግባራዊ ለማድረግ ከባድ ነው	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም
408	ስጋራ እንዳይጩክ የምክለክል ህግ መኖሩ ለምያጩሱት ሰዎች ትክክል አይደለም	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም
409	ስጋራ እንዳይጩክ የምክለክል ህግ ያላቸው ሆስፒታሎች ታካሚዎችን ያጣሉ	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም
410	ማጩክ በሆስፒታል ውስጥ መከልከል የስራ አፈጻጸምን በአውንታዊ መልኩ ይለውጣል	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም
411	ማጩክ በሆስፒታል ግቢ ውስጥ መከልከል የህብረተሰብ አመለካከት በአውንታዊ መልኩ ይለውጣል	4. በጣም ስማማለው	3. ስማማለው	2. እርግጠኛ አይደለሁም	1. አልስማማም	0. በጣም አልስማማም

ክፍል አምስት. ከህጉ ጋር ተያዝዞ ያለው ተግዳራቶች

501	ሰዎች ማጨስ በሌለባቸው ቦታ እንዳያጨሱ ከመከላከል ጋር ተያዝዞ ያጋጠመው ተግዳራቶች አሉ?	1. አዎ አሉ 2. የለም 3. እርግጠኛ አይደለሁም
502	ጥያቄ ተራ ቁጥር 501 አዎ ከሆኑ ዋና ዋና ተግዳራቶች ናቸው ብሎ የምገምቱትን ይገነዘብኝ	1. ማጨስ የምከላከል ህግ አለመኖር 2. ህጉን ለምጥሱት ሰዎች ቅጣት አለመኖር 3. የአመራር ቁርጠኝነት/ድጋፍ አለመኖር 4. ከትንባሆ ጋር ተያዝዞ ያለው እውቀት አናሳ መሆን 5. ከትንባሆ ማጨስ ክልከላ ላይ ዝቅተኛ አመለካከት መኖር 6. ግለሰቦች የኒኮቲን ጥገኛ መሆን 7. ታካሚዎች ይቆጣሉ ብሎ መፍራት 8. ሰራተኞች ማጨስን ይቀጥላሉ ብሎ መገመት 9. በቂ ግብዓት አለመኖር 10. ማጨስ እንድያቆሙ የምረዳ የምክር አገልግሎት አለመኖር 11. ሌላ (ጥቀስ) _____