

The relationship between smoking status and smoking cessation practice for health workers in Surabaya

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Abstract

Background. Indonesia is one of the countries that have a high smoker prevalence globally. Therefore, a smoking cessation pro-

gram is key to reducing the smoking prevalence in Indonesia. The role of health workers is necessary for smoking cessation programs. However, smoking behavior among health workers could limit smoking cessation practices for patients.

Objective. This study aims to analyze smoking behavior and 5A smoking cessation (Ask, Advice, Assess, Assist, and Arrange) practices among health workers.

Materials and Methods. This study design is cross-sectional with a simple random sampling from the population of health workers in Surabaya. The total sample of this study counted 60 health workers. The data were analyzed in univariate and bivariate using SPSS 18 application. Bivariate analysis using a chi-square or Fisher exact test was conducted to analyze the relationship between smoking status and 5A smoking cessation practice.

Results. Report of main outcomes or findings, including (where relevant) levels of statistical significance and confidence intervals. The result of this study shows that the asking practice was the most practiced item in the 5A model among health workers (98.3%). There was no significant association between smoking behavior and 5A implementation among health workers (PR=0.40; 95%CI: 0.52-5.30; P=1.67).

Conclusions. There was no significant association between respondents' characteristics, smoking cessation training, and professional roles with 5A implementation.

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Introduction

Smoking is a global public health concern. The number of smokers over 15 is 1.1 billion people from 1990 to 2019.¹ Although smoking prevalence has decreased in some developed countries, it is still high in developing countries. According to data from 1998 to 2019, smoking is the world's second leading cause of death. A study in the United States shows that smoking could be an additional cause of death, about 14.8% for woman and 14.4% for man.² In addition, previous study in Indonesia shows that high percentage of smokers was associated with high prevalence of smoking attributable morbidity (diabetes, hypertension, and TBC).³

There are numerous ways to overcome smoking growth, and one of which is smoking cessation. Even though about 68% of adult smokers intend to stop smoking,⁴ the smoking cessation facility still inadequate. Only 30% of smoking cessation facilities were globally sufficient.⁵ Health workers are needed to support the smoking cessation program. Health workers are role models of smoking cessation for patients.⁶

Health workers might have influenced smoking cessation progress among patients. A Study in Shanghai shows that advice from health workers was more likely to influence the patient's intention to stop smoking than the increase in cigarette price.⁷ The

other European study also shows that patients who had a doctor visit were 1.63 more likely to try to stop smoking than the patients who had not.⁸ From those studies, health workers might be necessary for patient smoking cessation. In contrast, the smoking cessation practice among health workers is still poor. A study in Gaza suggests that 81% of health workers thought there was no intention to stop smoking among the patients; thus, only half of health workers counseled patients.⁹ On the other hand, most patients perceive that they initiate smoking cessation counseling with health workers.¹⁰

Smoking cessation practice could be implemented using a 5A smoking cessation model designed by World Health Organization. This model guides health workers to deliver the smoking cessation program, structured by asking the tobacco use, advising them to stop smoking, assessing their willingness to stop smoking, assisting the smoking quit attempt, and arranging follow-up for the smoking quit attempt.¹¹

Indonesia is a country with a high prevalence of smoking. In 2018, smoking prevalence in Indonesia was about 28.8%.¹² One of the most significant tobacco industries was located in East Java; thus, East Java became a province with a high smoker prevalence.¹³ Smoking cessation in Indonesia is urgently needed to reduce the high prevalence of smoking, yet smoking behavior among health workers could be a barrier to implementing smoking cessation. Globally, the tobacco used prevalence among health worker was counted 21% based on a meta-analysis.¹⁴ A qualitative study in Indonesia shows that health workers who smoke feel embarrassed to give smoking cessation program.¹⁵ It could lead to a gap in fulfilling the smoking cessation demand among patients. This study aims to analyze the relationship between smoking status and 5A smoking cessation practice among health workers in Surabaya, the capital city of East Java.

Materials and Methods

This study is an observational analytic using cross-sectional as a study design. This study was conducted between August 2019 and December 2019 at Haji General Hospital in Surabaya, Indonesia. This study consists of five variables, including characteristics of the respondents, smoking status, smoking cessation training, professional's role, and 5A smoking cessation practice. Practices of 5A smoking cessation is a dependent variable in this study.

The population of this study is 200 health workers in a hospital in Surabaya. A simple random sampling is used as a sampling technique with a 95% confidence interval and 80% power. The total sample of this study counted 60 health workers.

The 5A smoking cessation model consists of five questions about smoking cessation practices. All of the "yes" responses scored "1", and all of the "no" responses scored "0". The maximum score in this questionnaire is 5. The 5A smoking cessation practices will be divided into two groups based on the total score, 0-2 were grouped as poor practice, and 3-5 were grouped as good practice.

The data were analyzed in univariate and bivariate using SPSS 18 application. Bivariate analysis using a chi-square or Fisher exact test was conducted to analyze the relationship between smoking status and 5A smoking cessation practice.

This study was reviewed and approved by the Ethics Committee of the Faculty of Medicine University of Indonesia (No: KET-239/UN2.F1/ETIK/PPM.00.02/2019).

Results

According to Table 1, most of the participants were female (63.3%), married (85.0%), and graduated with a bachelor's degree (40.0%). Both doctors and nurses have the same number of participants. The majority of participants in this study were non-smokers (81.7%). Only 5% of participants received smoking cessation training. About 85% of participants believe they have two professional roles: a curative role (curing the patients) and a preventive role (maintaining the patient's wellness).

Table 2 shows that among five items in the 5A smoking cessation model, the most practiced item was "ask" (98.3%). Most participants were less likely to practice "arrange" for the patients

Table 1. Social demography characteristics.

Characteristics	Sample = 60	
	n	%
Profession		
Doctor	30	50.0
Nurse	30	50.0
Gender		
Male	22	37.7
Female	38	63.3
Marital status		
Single	9	15.0
Married	51	85.0
Education		
Associate degree	16	26.7
Bachelor	24	40.0
Post graduate	20	33.3
Smoking status		
Smokers	11	18.3
Non-smokers	49	81.7
Smoking cessation training		
Trained	3	5.0
Not trained	57	95.0
Professional's Role		
Curative role	3	5.0
Preventive role	6	10.0
Both	51	85.0

Table 2. 5A smoking cessation practice.

5A Practices	n	%
Ask		
Yes	59	98.3
No	1	1.7
Advice		
Yes	57	95.0
No	3	5.0
Assess		
Yes	48	80.0
No	12	20.0
Assist		
Yes	32	53.3
No	28	46.7
Arrange		
Yes	25	41.7
No	35	58.3

(42.7%).

Table 3 shows that there was no significant relationship between smoking status and the practices of each item in 5A smoking cessation among health workers: ask (p-value 1.00), advice (p-value 0.08), assess (p-value 0.67), assist (p-value 0.92), and arrange (p-value 0.33).

Table 4 shows that there was no significant relationship between the independent variables and 5A smoking cessation practice: smoking status (p-value 0.40), profession (p-value 0.31), gender (p-value 0.51), marital status (p-value 1.00), education (p-value 0.70 and 0.43), smoking cessation training (p-value 0.46),

and professional's role (p-value 0.47 and 1.00). In this study, asking about the smoking history is the most practiced item in 5A smoking cessation (98.3%).

Discussion

Many people already know that many diseases are caused by smoking. However, Someone often has been exposed to smoking attributable disease, health workers rarely provide education related to smoking cessation. As in this study, there was no significant

Table 3. Bivariate analysis between smoking status and 5A practice.

5A practice	Smoking status				P	Prevalence ratio
	Smokers		Non-smokers			
	n	%	n	%		
Ask						
Yes	11	100.0	48	98.0	1.00	1.02 (0.98>PR>1.06)
No	0	0.0	1	2.0		
Advice						
Yes	9	81.8	48	98.0	0.08	0.83 (0.63>PR>1.10)
No	2	18.2	1	2.0		
Assess						
Yes	8	72.7	40	81.6	0.67	0.89 (0.60>PR>1.31)
No	3	27.3	9	18.4		
Assist						
Yes	6	54.5	26	53.0	0.92	1.02 (0.56>PR>1.87)
No	5	45.5	23	47.0		
Arrange						
Yes	3	27.3	22	44.9	0.33	0.60 (0.22<PR<1.67)
No	8	72.7	27	55.1		

Table 4. Bivariate analysis between 5A practice and independent variables.

Independent variables	5A practice				P	Prevalence ratio
	Poor 5A practice		Good 5A practice			
	n	%	n	%		
Smoking status						
Smokers	3	27.3	8	16.3	0.40	1.67 (0.52<PR<5.30)
Non-smokers	8	72.7	41	83.7		
Profession						
Doctor	7	63.6	23	46.9	0.31	1.75 (0.57>PR>5.36)
Nurse	4	36.4	26	53.1		
Gender						
Male	5	45.5	17	34.7	0.51	1.43 (0.49>PR>4.17)
Female	6	54.5	32	65.3		
Marital Status						
Single	1	9.1	8	16.3	1.00	0.56(0.08>PR>3.90)
Married	10	90.9	41	83.7		
Education						
Diploma**	5	45.5	15	30.6	0.70	0.75 (0.21>PR>2.67)
Undergraduate Degree	3	27.3	13	26.5		
Master	3	27.3	21	42.9	0.43	0.5(0.13>PR>1.83)
Smoking Cessation Training						
Not Trained	10	90.9	47	95.9	0.46	0.52 (0.09>PR>2.87)
Trained	1	9.1	2	4.1		
Professional's Role						
Both**	9	81.8	42	0.46	0.47	1.88 (0.34<PR<10.40)
Curative role	1	9.1	2	4.1		
Preventive role	1	9.1	5	10.3	1.00	0.94 (1.14<PR<6.22)

**group reference.

relationship between the independent variables and 5A smoking cessation practice. This result is similar to a previous study in Southern Ethiopia which asking is practiced usually (28%) and sometimes (68.5%).¹⁶ Ask the patient about smoking history almost done by all health workers because it might be essential for the health assessment. In contrast, arranging follow-ups with the patient was less likely to do. Previous studies in India¹⁷ and in European countries¹⁸ also show that arranging follow-up with patients was less likely among health care professionals. The difference in practices on each item in 5A smoking cessation might happen due to the follow-up period. During smoking cessation, patients must firm themselves to reduce or stop smoking. The previous study in European countries indicates that patient compliance is the first barrier to smoking cessation.¹⁸ At the same time, the health workers are challenged to track the patient progress. According to McIvor,¹⁹ there were four myths regarding to smoking among physicians: patients do not like to be asked about their smoking behavior, only reducing smoking could reduce the outcome risk, most smokers do not want to quit, and discussion about smoking cessation was not effective. Others study in the Netherlands²⁰ and Taiwan²¹ show that insufficient time was the most significant barrier to delivering the smoking cessation program in hospital settings. In this research, smoking cessation training might be a barrier for health workers to delivering the smoking cessation for the patients. Health workers who smoke 1.67 more likely to deliver a poor 5A practice for the patients. Previous study shows some of factors that effects tobacco cessation counseling, there were lack of time and reimbursement, patient negativity, lack of confident among health workers, inadequate training, staff turnover, lack of education material, smoking behavior among health workers,²² policy and procedures, and lack of health worker's commitment.²³

The analysis of gender and 5A practices in this study had no significant relationship. This result was inconsistent with the previous study in Malta, which shows that female health worker were less likely to advise patients, although they had more time.²⁴ Marital status had no significant relationship with 5A practice in this study. This result was similar to the study in Turkey with a p-value of 0.19.²⁵ Health workers' education also had no significant relationship with 5A practices. This result was different from the previous study in Turkey which shows that the assistant professor had the highest score in 5A practice.²⁵

In this study, profession and 5A smoking cessation practiced had no significant relationship, yet doctor was more likely to give a poor 5A practice 1.75 times than nurse. In contrast, another study in Turkey shows that doctor was more likely practice asking and advice than nurse.²⁶ Previous research in Spain also shows a significant relationship between the profession and the practice of assisting and arranging.²⁷ This research also pointed out that 54.9% of doctor were more confident with their knowledge of smoking cessation care. Study in Cyprus also indicates that health workers who more confident about their knowledge in smoking cessation did more counseling to their patients.²⁸ The knowledge about smoking cessation could be obtained with training. On the other hand, the knowledge about smoking cessation might be different from each health profession based on its specialty. Previous research pointed out that doctor specializing in cardiology, lung disease, and thoracic surgery was more committed to prevent smoking among their patients.²⁹

Study in Spain reported that there is no significant relationship between smoking cessation training and 5A practice.²⁷ On the contrary, a study in Southern Ethiopia shows that smoking cessation training and 5A practice was significantly associated.¹⁶ In addition, a previous study pointed out that doctor had a higher score of 5A

practice than other health professional.³⁰ The difference in this study might be caused by the small number of participants who had received smoking cessation training (5%), yet 81.6% had a good practice in 5A smoking cessation. This result also might relate to the perception of the professional role. About 85% of participant believe they had roles in preventive and curative. However, previous study in Jogjakarta shows that doctor who perceive that they have role in patient's smoking cessation 1.34 more likely to give advices to the patient than the other who don't.³¹

The bivariate analysis shows no significant relationship between 5A smoking cessation practice and smoking status among health workers. The results of advice and arrange were similar to the previous study in Catalonia.³² On the other hand, this result was nonlinear with a study in the United States which shows that health workers who smoke were more likely to have a lower score of 5A smoking cessation.³³ Although the participants in this study mostly did not receive smoking cessation training, approximately 72.7% of the smoker participant had a good practice of the 5A smoking cessation.

Conclusions

There was no significant relationship between smoking status and 5A smoking cessation practice among health workers in Surabaya. Also, there was no significant relationship between participants' characteristics, smoking cessation training, and professional role with 5A smoking cessation practice. The difference in practice in each item on 5A smoking cessation model might be caused by barriers among health workers and patients. Mostly Health worker not yet ever smoking cessation training.

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