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Knowledge and practice on prevention of respiratory health problems among traffic polices of Kathmandu, Nepal

Kabita kandel¹, Shobha Parajuli², Sirjana Tiwari³

¹Bsc. Nursing Student, ²Lecturer, ³MPH Faculty, School of Health and Allied Sciences, Pokhara University, Pokhara-30, Kaski, Nepal



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Abstract

Introduction: Air pollution is a significant public health issue in Kathmandu and Kathmandu is the most polluted metropolitan city in Southeast Asia. The study aimed to assess the level of knowledge and practice on the prevention of respiratory health problems among selected traffic polices in Kathmandu, Nepal.

Method: A cross-sectional study was conducted in workplace setting, among traffic police of Kathmandu, Nepal. A non-probability purposive sampling technique was applied for the data collection using a self-administered questionnaire during 23 Apr to 04 May 2021. Ethical approval was taken from the Institutional Review Committee of Pokhara University. Those who refuse to participate and absent during data collection were excluded from the study. Informed consent was obtained from all respondents Data were entered in MS Excel and exported to SPSS version 25 for descriptive and inferential analysis using mean, frequency, percentage, and standard deviation. The chi-square test was used to find out the association between dependent and independent variables.

Result: Out of 160 traffic police surveyed, 98(61.3%) had average knowledge on respiratory health problems. Similarly, 123(76.9%) had an average level of practice for the prevention of respiratory health problems. A statistically significant association was found between level of knowledge and level of education ($p=0.000$) and between the level of practice and level of education ($p=0.02$).

Conclusion: The study found that the majority of the traffic police had an average level of knowledge and an average level of practice on the prevention of respiratory health problems.

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Correspondence

Kabita kandel, School of Health and Allied Sciences, Pokhara University, Nepal. Email: kabita1kandel@gmail.com, Telephone: +977 9866883327

Introduction

Air pollution is a significant public health issue in Kathmandu, Nepal, and turning out to be a major environmental issue.¹ Traffic police workforce are continuously exposed to pollution and face multiple occupational hazards.² They are affected by numerous health risks, such as skin irritations, hearing issues, photo-sensitivity, respiratory conditions, cardiovascular illnesses, and cancers, etc.^{3,4,5}

Expansion of motor vehicles is the main cause of the traffic problem in Kathmandu Valley.^{6,7} Nepal's air quality was ranked 177th out of 180 nations in the Environmental Performance Index (EPI) of 2016, and Kathmandu was included as one of the worst polluted towns in Asia.⁸ The World Health Organization (WHO) reported that the maximum level of fine particulate matter (PM_{2.5}) in Nepal's metropolitan regions was 140 µg/m³, that's ten times more than the recommended levels. Respiratory problems are caused by particles smaller than 10 microns that are released from the vehicle and deposited in the lungs.^{9,10,11} The work nature of traffic police officers require them to stand on the road and face automobile smoke and air pollution.⁴ They suffer from fumes, vehicle exhaust, and dust in the air while managing traffics.¹⁰ Respiratory problems are preventable illnesses, and the majority of traffic police are at high risk.^{12,13}

The government should address air pollution issue.¹⁴ Traffic police have greater respiratory morbidity.¹⁵ They are exposed to pollution and suffer respiratory problems.¹⁶ The objective of this study was to assess the level of knowledge and practice on the prevention of respiratory health problems among traffic police in Kathmandu, Nepal.

Method

A cross-sectional study was carried out among traffic police currently working in Kathmandu Metropolitan Traffic Police Head Office, Ramshahpath, Kathmandu Nepal. The traffic police who had work experience of 6 months or more, available at the time of data collection were included in the study. The sample size was

calculated by using Cochran's formula (1977) with a 10% non-response rate, considering the prevalence as 12.05%.⁹ A non-probability convenience sampling technique was used.

A self-administered questionnaire was used for the data collection. The validity of the instrument was maintained by incorporating expert's opinions and an extensive literature review. Pre-testing of instruments was conducted among 16 traffic policies in similar settings. The reliability of the instrument was calculated by using Karl Pearson's correlation coefficient test by adopting the Split-half technique for both knowledge and practice which was found to be 0.82 and 0.74 for knowledge and practice respectively which indicates the instrument was reliable.

Ethical approval was taken from the Institutional Review Committee (IRC) of Pokhara University. Informed consent was obtained from all respondents. Data were collected from 23 Mar to 04 Apr 2021. Anonymity was maintained throughout the study. Any queries related to the prevention of respiratory health problems were clarified after the collection of data. The collected data were coded and entered in MS Excel and exported to SPSS version 25 for further analysis. Descriptive analysis using mean, frequency, percentage, and standard deviation were performed. The chi-square test was used to find out the association between dependent and independent variables. The level of significance was considered at 5% and a 95% confidence interval.

Result

Among 160 respondents, 96(60%) were in 20-29 years, 96(60%) were male, 92(57.5%) had completed intermediate level of education, 109(68.1%) ranked as police constable and 81(50.6%) had work experience up to 5 years. More than 70(43.8%) worked for 10 hours per day, 140(87.5%) worked for 7 days a week and 115(71.9%) had not attended any conferences or training related to respiratory health problems. Nearly half 75(46.9%) had respiratory morbidities within a year, cough and sore throat were most common, Table 1.

Table 1. Socio-demographics of traffic police surveyed for knowledge and practice on prevention of respiratory health problems, n=160

Variables	n(%)
Age year	
≤19	8(5)
20-29	96(60.0)
30-39	51(31.9)
40-49	5(3.1)
Sex	
Male	96(60.0)
Female	64(40.0)
Permanent residence	
Urban	105(65.6)
Rural	55(34.4)
Education level	
SLC	46(28.7)
Intermediate level	92(57.5)
Bachelor degree	20(12.5)
Master's degree	2(1.3)
Ranking as traffic police	
Police inspector	3(1.9)
Sub inspector of police	11(6.9)
Assistance inspector of police	10(6.3)
Head police constable	27(16.8)
Police constable	109(68.1)
Duration of experience	
up to 5	81(50.6)
6-10	52(32.5)
11-15	14(8.7)
16-20	10(6.3)
21-25	3(1.9)
Duty hour per day h	
8	12(7.5)
10	70(43.8)
12	53(33.1)
14	25(15.6)
Working days in a week	
6	20(12.5)
7	140(87.5)
Any conference/training attended	
Yes	45(28.1)
No	115(71.9)
Past respiratory health problems within a year(n=75)	
Difficulty in breathing	18(24)
Cough and sore throat	29(38.67)
Common cold	23(30.66)
Asthma	5(6.67)
Present respiratory health problems within a month (n=63)	
Difficulty in breathing	18(28.6)
Cough and sore throat	23(36.5)
Common cold	18(28.6)
Asthma	4(6.3)

Out of 160 respondents, 111(69.5%) of the respondents gave correct response on the meaning of respiratory health problems and 125(78.1%) had knowledge on respiratory diseases caused by air pollution. Most of the respondents 134(83.3%) answered cough and sore throat are the common signs and symptoms followed by difficulty in breathing 133(83.1%). Majority 127(79.4%) responded correctly to the meaning of prevention of respiratory health problems and 123(76.9%) responded that the

effective use of protective devices can protect from respiratory health problems, Table 2.

There were 140(87.5%) who traffic polices answered mask as a most effective protective device and 122(76.3%) answered N95 mask is a most protective mask. Only 72(45%) answered correctly regarding the function of N95 mask, 125(78.5%) answered that N95 mask filters (95%) of the pollutant, virus, and bacteria and 87(54.4%) had knowledge on the correct way to use the mask, Table 3.

Table 2. Knowledge on respiratory health problems among traffic police, n=160

Items	n(%)
Meaning	111(69.5)
Respiratory diseases caused by air pollution	125(78.1)
Causes (among traffic polices) *	
Continuous exposure in polluted working environment	114(71.4)
High level of dust, unpaved road with ongoing infrastructure project	102(63.7)
Insufficient and improper use of protective device	95(59.4)
Unhealthy lifestyle and behavior	101(63.1)
Common signs and symptoms*	
Cough and sore throat	134(83.3)
Sneezing and runny nose	59(36.9)
Difficulty in breathing	133(83.1)
Abdominal pain	23(14.4)
Prevention (meaning)	127(79.4)
Preventive measures*	
Effective use of protective devices	123(76.9)
Regular health checkup	98(61.3)
Decrease duty hour	110(68.8)
Health promotional campaign related to respiratory health	75(46.9)

*Multiple responses

Table 3. Mask related knowledge among traffic police, n=160

Correct responses*	n(%)
Mask as a most effective protective device	140(87.5)
N95 mask as a most protective mask	122(76.3)
Function of N95 mask	72(45)
Percentage N95 mask filters	125(78.5)
Correct way to use mask	87(54.4)

*Multiple responses

Table 4. Practice on prevention of respiratory health problems among traffic police, n=160

Items	n(%)
Preventive measures*	
Regular use of mask	160(100.0)
Rotation of duty hour	27(16.9)
Regular health checkup	31(19.4)
Implement rules in vehicles regarding air pollution	50(31.3)
Regular use of sanitizer	43(26.9)
Protective devices used during duty hour*	
Mask	160(100.0)
Goggles	61(38.1)
Gloves	79(49.4)
Jacket	49(29.4)
Boot	88(55.0)
Face shield	13(8.1)
Pattern of using protective devices during duty hour	
Every day at duty hour	140(87.5)
Sometime if desire	11(6.9)
When heavy smoke	8(5.0)
When it became compulsion by government	1(0.6)
Type of mask use during duty hour	
N95	57(35.6)
Surgical	94(58.8)
Cloth	9(5.6)
Regular health checkup times/year	
0	129(80.6)
1	22(13.8)
2	9(5.6)
Habit of smoking/tobacco consumption	
Yes	24(15.0)
No	136(85.0)

*Multiple responses

Table 5. Government facilities on prevention of respiratory health problems among traffic polices and their satisfaction, n=160

Variables	n(%)
Strategies/facilities*	
Provision of mask	0(0)
Increase number of traffic police	68(42.5)
Decrease duty hour	72(44.4)
Rotation on duty areas	18(11.3)
Implement various health campaign	11(6.9)
Provision of health checkup	5(3.1)
Satisfaction on the strategies /facilities implemented by government for traffic polices	
Satisfied	67(41.9)
Not satisfied	93(58.8)

*Multiple responses

All of the traffic polices use mask regularly as a protective device during duty hours to prevent respiratory health problems. Likewise, 140(87.6%) uses protective devices every day at duty hour, 94(58.8%) uses surgical mask and only 57(35.6%) uses N95 mask. Only 22(13.8%)

perform regular health checkup annually and 24(15%) had habit of smoking/ tobacco consumption, Table 4.

All of the traffic polices responded that there is no provision of the mask from government; they

should use on their own. Only 67(41.9%) were satisfied with strategies and facilities provided by the government to prevent respiratory health problems among them, Table 5. There was statistically significant association between the level of knowledge on prevention of respiratory

health problems and education level ($p=0.00$) and ranking of traffic polices ($p=0.049$). and there was statistically significant association between the level of practice on prevention of respiratory health problems and education level of the traffic polices ($p=0.002$), Table 6, Table 7.

Table 6. Association between level of knowledge on prevention of respiratory health problems and selected variables of the respondents, n=160

Variables	Level of Knowledge n(%)			χ^2	df	p-value
	Above average	Average	Below average			
Age in years						
Up to 29	33(31.7)	66(63.5)	5(4.8)	0.530	1	0.682
30-49	20(35.7)	32(57.1)	4(7.1)			
Sex						
Male	31(32.3)	60(62.5)	5(5.2)	0.186	2	0.911
Female	22(34.4)	38(59.4)	4(6.3)			
Education level						
SLC	11(23.9)	28(60.9)	7(15.2)	12.228	2	0.002
Above SLC	42(36.8)	70(61.4)	2(1.8)			
Duration of Experience						
6 month -10 years	22(16.5)	102(76.2)	9(6.3)	0.392	2	0.822
11-25 years	5(18.5)	21(77.8)	1(3.7)			
Working days in a week						
6 days	7(35)	12(60)	1(5)	0.046	2	0.977
7 days	46(32.9)	86(61.4)	8(5.7)			
Conference/Training						
Attended	24(21.1)	84(73.4)	6(5.3)	5.244	2	0.073
Not attained	3(6.3)	39(84.3)	4(8.7)			
Past Respiratory Health Problems within a year						
Absent	28(32.9)	51(60)	6(7.1)	0.711	2	0.701
Present	25(33.3)	47(62.7)	3(4)			
Present Respiratory Health problems within a month						
Absent	32(33)	61(62.9)	4(4.1)	1.096	2	0.578
Present	21(33.3)	37(58.7)	5(7.9)			

Table 7. Association between level of practice on prevention of respiratory health problems and selected variables of the respondents, n=160

Variables	Level of practice n(%)			χ^2	df	p
	Above average	Average	Below average			
Age in years						
Up to 29	19(18.3)	77(74)	8(7.7)	2.031	2	0.873
30-49	8(14.8)	46(82.6)	2(3.2)			
Sex						
Male	15(15.6)	75(78.1)	6(6.3)	0.271	2	0.862
Female	12(18.8)	48(75)	4(6.3)			
Residence						
Urban	22(21)	76(72.6)	7(6.7)	3.897	2	0.143
Rural	5(9.1)	47(85.5)	3(5.5)			
Education level						
SLC	4(8.7)	37(80.4)	5(10.9)	17.490	4	0.002
Intermediate level	13(14.1)	75(81.5)	4(4.3)			
Above intermediate level	10(45.5)	11(50)	1(4.5)			
Duration of experience						
6 month-10 years	43(32.3%)	84(63.2)	6(4.5)	2.523	2	0.308
11-25 years	10(87)	14(51.9)	3(11.1)			
Working days						
6 days	6(30.0)	13(65)	1(5)	2.810	2	0.245
7 days	21(15)	110(78.6)	9(6.4)			
Conference/training						
Attended	13(28.3)	31(67.4)	2(4.3)	0.332	2	0.977
Not attended	40(35.1)	67(58.8)	7(6.1)			
Past respiratory health problems within a year						
Absent	16(18.8)	65(76.5)	4(4.7)	1.104	2	0.516
Present	11(14.4)	58(77.3)	6(8.0)			
Present respiratory health problems within a month						
Absent	16(16.5)	76(76.5)	5(5.2)	0.564	2	0.754
Present	11(17.5)	47(74.6)	5(7.9)			

Discussion

The present study revealed that the majority of the traffic policies had an average level of knowledge and practice on the prevention of respiratory health problems. This finding is similar to the study done in Punjab, India, Bangladesh, and Saudi Arabia¹⁷⁻¹⁹ where nearly half participants have accurate knowledge and more than half participants have positive attitudes and frequent practice. This might be due to the recent Covid-19 pandemic.

The present study showed that the majority of the traffic policies know about the component of air pollution that causes respiratory problems. This finding is supported by the study conducted in Kathmandu, Lucknow city, and Uganda which reported that the majority of the traffic police were aware of the source of air pollution and its

effects such as lung cancer, asthma, and pneumonia.^{2,20,21}

This study illustrated that one-fourth of the traffic police were suffering from various respiratory problems. Consistent findings were reported by the studies conducted in Bangalore and Patiala India, which found the prevalence of respiratory morbidities among those who were continuously exposed to automobile fumes.^{22,23} This might be due to long-term continuously working in a polluted working environment.

This study shows that the majority of the traffic police hadn't attended any training and conferences regarding respiratory health problems prevention and promotion which finding was similar to the study conducted in Thailand, India showed 74.4 percent of traffic policies had not been trained and attended any training on respiratory health.^{24,25} In contrast

with this findings, regular on the job training, conference and seminar regarding pollution from vehicle emission and its adverse effect will help to reduce respiratory morbidity and mortality.

The present study depicted that more than 80 percent have symptoms like cough, runny nose, and difficulty in breathing. This finding is similar to the study done in Kolkata which found that there is a positive association between respiratory health issues and air pollution.²⁶ The further study conducted in Gwalior City, Lucknow India, and China found that twenty-two types of health effects including irreversible eye irritation and long-term exposure increase the risk of cancer and damaged DNA.^{20,25,27} So risk monitoring and hazard analysis is needed in the exposure area and it is recommended for the replacement of traffic lights and road signs to reduce the exposure.

Regarding the practice, nearly one-fourth of traffic police did regular health checkups and a cent percent used personnel protective devices (masks) which was similar to the findings in Kathmandu. In contrast with the findings from the study done in Kochi district and Jalgaon City, India, where the majority of traffic police did regular health checkups.^{28,29}

The findings of this study showed there are statistically significant association between the level of knowledge and level of education with ($p=0.000$) and the level of practice and level of education with ($p=0.02$) which is consistent with the other studies which show the association between level of knowledge and level of education.^{2,30,31}

Study was conducted among the limited traffic policies in the specific area. So the findings cannot be generalized in a large population and the Non-probability convenience sampling technique was used according to the convenience of the researcher and limited time.

Conclusion

The study found that the majority of the traffic police had an average level of knowledge and an average level of practice on the prevention of

respiratory health problems. Most of them knew that air pollution causes respiratory problems. Majority of them suffered from various respiratory symptoms. Only one-fourth did regular health checkups. All used personnel protective devices. Almost all of them hadn't attended any training and conferences regarding respiratory health problems prevention and promotion. There was significant association between the level of knowledge and level of education with and the level of practice and level of education.

Author contribution

Concept and design: KK and SP; Literature search: KK, ST, Data collection: KK; Data analysis: All; Draft manuscript: All; Final manuscript and accountability: all. All author read and agreed to the final version of the manuscript.

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Conflict of interest

None

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Supplementary material

The data and supplementary material that support the findings of this study are available from the corresponding author upon reasonable request.

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Questionnaire/tools

Research instrument in English version

Semi-structured self-administered questionnaire

Research title—Assessment of knowledge and practice on prevention of respiratory health problem among traffic polices of Kathmandu valley

Identification details

Participant code no.	
Date and time.	

Part i: socio demographic and background information

Direction: Read the following items carefully and put tick mark (v) with multiple responses or single correct response wherever applicable as directed in the question and fill the information in the spaces provided as per the answer. More than one option can be chosen in multiple response questions. (*)

A. Socio- demographic characteristics

1. Age (in completed years) _____
2. Sex
 - a) Male
 - b) Female
3. Ethnicity
 - a) Brahmin
 - b) Chhetri
 - c) Dalit
 - d) Janajati
 - e) Other (please specify.....)
4. Religion
 - a) Hinduism
 - b) Buddhism
 - c) Christian
 - d) Muslim
 - e) Other (please specify.....)
5. Permanent residence
 - a) Rural
 - b) Urban
6. Marital status
 - a) Unmarried
 - b) Married
 - c) Separated
7. Type of family
 - a) Nuclear
 - b) Joint
 - c) Extended
8. Level of education
 - a) SLC/ SEE
 - b) Intermediate level
 - c) Bachelor's degree
 - d) Master's degree

B. Background information

1. What is your ranking as traffic police?
 - a) Senior superintendent of police
 - b) Superintendent of police
 - c) Deputy superintendent of police
 - d) Police inspector
 - e) Sub inspector of police
 - f) Assistant sub-inspector of police
 - g) Police head constable
 - h) Police constable
2. Duration of work as traffic police.....month/years
3. Duty hours per dayHours
4. Number of working days in a weekdays
5. Did you have any past respiratory health problems during your working period as a traffic police?
 - a) Yes
 - b) Noif yes, please specify.....
6. Do you have any respiratory health problem recently within a month?
 - a) Yes
 - b) NoIf yes, please specify.....

7. Have you ever attended any conference or training on air pollution and safety measures?
- Yes
 - No

Part II: Questions related to Knowledge on Prevention of Respiratory Health Problems among Traffic Polices

1. What is the meaning of air pollution?
- The condition in which air is contaminated by;
- Gaseous matter like oxide of carbon, Sulphur, nitrogen etc.
 - Particles like dust, smoke, shoot, liquid droplets, waste product, mist, ash form industries etc.
 - Mixture of both particulate matter and gaseous particles.
 - Free of contamination.
2. What are the major causes of outdoor air pollution in Nepal? (*Multiple response)
- Haphazard Urbanization
 - Uncontrolled motorization with old vehicles
 - Proper disposal of waste product
 - Exhaust from industries and factories
3. Which of the following component may cause more air pollution?
- Solid Particulate matter (Dust particle, garbage, waste tire)
 - Liquid particulate matter (liquid droplet, mist, fumes, condensing vapour)
 - Gases (Carbon monoxide, ozone, sulphur)
 - Biological matter (animal waste particles, pollen, shoot)
4. What are the preventive measures for controlling outdoor air pollution in Nepal? (*Multiple response)
- Air quality monitoring across the country
 - Proper disposal of waste products.
 - Public awareness, empowerment and acknowledgement
 - Monitoring quality of fuel at distribution point
 - Any other, please specify.....
5. What is the exact meaning for respiratory health problems?
- Diseases of respiratory system that affect
- Only upper respiratory tract which include nasal passage, pharynx and upper portion of larynx.
 - Only the lower respiratory tract that include trachea, bronchi and bronchioles, alveoli and lungs.
 - Both upper and lower respiratory tract.
 - Only lungs.
6. Which is the correct option for respiratory diseases caused by air pollution?
- Pneumonia, Diabetes, Lung cancer, Bronchial Asthma
 - Common cold, Pneumonia, Bronchial Asthma, Lung cancer
 - Gastritis, Pneumonia, Bronchial asthma, Common cold
 - Lung cancer, Pneumonia, Common cold, Jaundice
7. What are the common causes of respiratory health problems in traffic polices of Nepal? (*Multiple response)
- Continuous exposure to polluted working environment.
 - High dust levels due to unpaved dirt roads and ongoing governmental infrastructure projects.
 - Insufficient and improper use of protective devices
 - Healthy lifestyle and behaviour
8. What are the common signs and symptoms of respiratory health problems? (*Multiple response)
- Cough /Sore throat
 - Sneezing and running nose
 - Difficulty in breathing
 - Abdominal Pain
9. What is the exact meaning for prevention of respiratory health problems?
- Approach to maintain proper respiratory health before onset of diseases.
 - Approach done after having sign and symptoms and then being self-aware.
 - Approach done by treatment of diseases through detection and management.
 - Approach done after having serious illness and having treatment in Hospital.
11. What are the preventive measures for avoiding respiratory health problems in traffic polices? (*Multiple response)
- Regular health check-up

- b) Appropriate use of protective devices
 - c) Decrease duty hour
 - d) Health promotional campaign related to respiratory health
 - e) Any other, please specify.....
 - f)
12. In your opinion, which is most effective protective device during duty hour to prevent respiratory health diseases?
- a) Mask
 - b) Jacket
 - c) Gloves
 - d) Googles
12. Which mask is suitable to protect air pollution?
- a) Cloth mask
 - b) Surgical mask
 - c) N95 mask
 - d) Gas mask
13. Have you heard about N95 mask?
- a) Yes
 - b) No
14. If yes, what is the major function of N95 mask?
- a) Filtrates air borne particles, gases and vapours, bacteria and viruses.
 - b) Filtrates air borne particles, viruses and bacteria but not much effective against gases and vapours.
 - c) Filtrates air borne particles but doesn't protect against bacteria, viruses, gases and vapour.
 - d) Filtrates viruses and bacteria but don't protect form air particles, gases and vapours.
15. What is the percentage does N95 mask filters?
- a) 5%
 - b) 10%
 - c) 95%
 - d) 100%
16. For how many days, can we reuse the N95 mask?
- a) 1-2 day
 - b) 3-4 days
 - c) 6-7 days
 - d) 10-15 days
17. Which of the following way is incorrect to use mask?
- a) We should dispose the mask to the dustbin or biomedical waste disposal unit immediately.
 - b) We should wash hand properly before and after using mask
 - c) We can touch the inside part of mask.
 - d) We should make sure it covers nose, mouth and chin while wearing mask.

Part III: Questions related to Practice regarding Prevention of Respiratory Health Problems among Traffic Polices

1. Do you follow preventive measures to avoid respiratory problems?
- a) Yes
 - b) No
2. If yes, what are the preventive measures do you follow to avoid respiratory health problem? (*Multiple response)
- a) Use of mask
 - b) Regular health check-up
 - c) Implement rules in vehicles regarding air pollution
 - d) Rotation of duty area
 - e) Any other, please specify.....
3. Do you use protective device in your duty hour?
- a) Yes
 - b) No
4. If yes, which of the protective devices do you use your during duty hour? (*Multiple response)

- a) Mask
 - b) Goggles
 - c) Gloves
 - d) Jacket
 - e) Boots
 - f) Any other, please specify.....
5. How often do you use protective device during working hour?
- a) Every day at duty
 - b) Sometime if desire
 - c) When heavy smoke
 - d) When it becomes compulsory by Government
6. Which mask do you use the most during working hour to avoid air pollution?
- a) N95 mask
 - b) Surgical mask
 - c) Clothes mask
 - d) Gas mask
7. How often do you wash\ change a mask after wearing it once?
- a) 1-3 days
 - b) 3-5 days
 - c) 5-7 days
 - d) More than 7 days
8. Who provides you mask for duty hour? (*Multiple response)
- a) Self
 - b) Government
 - c) Traffic polices office Department
 - d) Any other, specify.....
8. Is there any provision for health check-up in your working area?
- a) Yes
 - b) No
- If yes, how many times per year, do you have your health check-up..... Times
9. Do you have habit of smoking or tobacco consumption?
- a) Yes
 - b) No
- If yes, how many times a day.....
10. What are the strategies and facilities implemented for traffic polices by the government to prevent respiratory health problems? (*Multiple response)
- a) Adequate provision of protective devices.
 - b) Increasing number of traffic polices personnel
 - c) Decreasing duty hour
 - d) Rotation on duty areas
 - e) Implementation of various health campaign
 - f) Provision of regular health check-up services
 - g) Any other specify.....
11. Are you satisfied with the facilities, services and strategies implemented by Government to prevent respiratory health problems for traffic polices?
- a) Yes
 - b) No
12. If no, do you have any recommendation to the government for respiratory health promotion and diseases prevention for traffic polices?

Thank you for your participation!!!