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Research Article

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Assess Knowledge Gap on Morbidities, its Preventive, Control Measures and Practice of Using Preventive Measures Related to Air Pollution among Traffic Police in W.B (Kolkata)

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ABSTRACT

Background: Air pollution is a major problem of present scenario, which has serious toxicological impact on human health and environment Air pollution is considered as the major environmental risk factor in the incidence and progression of some diseases such as asthma, lung cancer. Traffic police by their profession doing well for our society. They are vulnerable people to developed morbidities related air pollution. **Aims and objectives**: To assess Knowledge gap of the traffic regarding morbidities, its preventive, control measures and practice of preventive and control measures related to air pollution among Traffic police in W.B (Kolkata) and to examine the association of knowledge gap with practice measures. **Materials & Methods**: A descriptive study was conducted "Assess knowledge gap on morbidities, its preventive, control measures and practice of using preventive measures related to air pollution among Traffic police in W.B (Kolkata).Conceptual frame work of the study was based on Pender's health promotional model. Study was done with 200 Traffic Police under different Kolkata traffic guard, W.B. sample selection was done by probability sampling technique through lottery method. Data regarding knowledge were collected through structured questionnaire. **Results**: Descriptive and inferential statistics were used for data analysis. Study findings revealed that Maximum 47.5 % traffic police have good knowledge regarding morbidities, its preventive, control measures related to air pollution. Mean of the knowledge score is 6.5, median 7, mode 15.375, SD 3. There is significant association between Knowledge level of traffic police & practice of using preventive measures for prevention of morbidities regarding Air pollution among traffic police as at one degree of freedom calculated chi-square value (8.8551),yates correction (7.7944)is greater than p value at level 0.05. **Conclusion**: It has implication on control and prevention of occupational health hazards. Based on the study findings information booklet to be developed for increase their knowledge and practice of preventive measures during their working period.

Key Words: *Traffic Police, Knowledge, Morbidities, Prevent, Control, Air pollution, Information booklet.*

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INTRODUCTION:

Air pollution is a major problem of present scenario, which has serious toxicological impact on human health and environment. Large volumes of emission from motor engines of automobiles and industrial activities causes air pollution. Air pollution is considered as the major environmental risk factor in the incidence and progression of some diseases such as asthma, lung cancer, ventricular hypertrophy, Alzheimer's and Parkinson's diseases, psychological complication, autism, retinopathy, Foetal growth and low birth weight. Traffic control systems are the very much important to control the road vehicular mobility. Traffic police by their profession doing well for our society. They are vulnerable people to developed morbidities related air pollution. So it is very much necessary for traffic police to look after their health and maintain safety and preventive and control measures so that they can safe their health and gives us productive services through their service period[1].

An emission inventory of Kolkata control board[2] checked Air quality in Kolkata through Air quality Index, 2019 . Kolkata was shown to have a PM 2.5 reading of 59.8 as recorded in2019, as a yearly average. This is shown directly in to unhealthy bracket rating, which requires a PM 2.5 reading of anywhere between 55.5 to 150.4 µg/m^3 to be classified. This reading got position of 61st most polluted city worldwide in 2019 and coming in at 28th place out of all cities ranked in India. This shows that Kolkata is very polluted and for certain months it was seen that was hazardous

levels of pollution. In January,176.1µg/m3rating seen which may have a very large risk of adverse health effects, and few months are recorded in Kolkata was 19.7µg/m3,it is nearly 9 times lower than the highest months reading.

Dey A, Mishra T, sahu s. sahaA[3] studied on Evaluation of impact of ambient air pollution on respiratory health of traffic police in Kolkata, Air pollution is associated with a broad spectrum of an environmental health problem, caused by increased urbanization and population, globally. Emission of pollutants was strongly implicated in acute morbidity and mortality associated with severe pollution. Traffic cops are most vulnerable due to the nature of their job, continuously exposed to toxic pollutants. The study aimed to assess the physical and respiratory morbidities of traffic cops due to the effect of environmental pollutants.The result of this study shows that outdoor environmental exposure creates harmful effects on lung function parameters of traffic police among the three zones of Kolkata.

GiriyannaGowda, R thenambigal[4] studied on A study on respiratory morbidities and pulmonary functions among traffic policemen in Bengaluru city. Air pollution is a major public health problem in the present Indian cities. It more prone to develop respiratory problems such as asthma, chronic obstructive pulmonary disease, rhinitis, recurrent respiratory tract infections and others. A total of 217 traffic policemen were included in the study.

Statement of Study: "Assess knowledge gap on morbidities, its preventive, control measures and practice of using preventive measures related to air pollution among Traffic police in W.B (Kolkata).

OBJECTIVES

1. To assess Knowledge gap on morbidities, its preventive, control measures related to air pollution among Traffic police in W.B (Kolkata).
2. To assess practice of using preventive measures related to air pollution among Traffic police in W.B (Kolkata)
3. To examine the association of knowledge gap on morbidities, its preventive & control measures with practice of using preventive measures related to air pollution among traffic police, Kolkata.

NULL HYPOTHESIS (H0)

$H0_1$ There is no association of knowledge gap on morbidities, its preventive & control measures with practice of using preventive measures of air pollution among traffic police at the 0.05 level of significance.

RESEARCH METHODOLOGY

Study type – Descriptive study
Study design- Descriptive survey design
Study area- selected Traffic guard for study
Study population- Traffic police those who are having occupational exposure of 2 years or more and they are working under road traffic control department of Govt. of west Bengal.
Target Population- Traffic police of west Bengal, Kolkata.
Accessible Population – Traffic Police of selected traffic Guard of West Bengal (Kolkata)
Sample /Sample size- 200 samples from traffic police of West Bengal Govt. Traffic control Department
Sampling technique – Cluster sampling technique

Operational Definition-

Traffic police-In this study word means an official people working in road traffic control department of Govt. of west Bengal and having exposure in vehicular emission.

Knowledge-In this study it means gained information on morbidities and its prevention related to air pollution are measure in terms of response given to the Knowledge questionnaire.

Morbidities – Disease arises in the body due to exposure in air pollution.

Prevent - stop the occurrence of morbidities related air pollution.

Control- Restriction of occurrence or limit the disease progression.

Air pollution- Pollutant present in the air which causes morbidities related air pollution among the traffic police.

Information booklet – Materiel prepared by the researcher to provide information regarding morbidities related air pollution and its preventive and control measures.

Tool for data collection-
Tool 1 – Structure questionnaire to assess demographic data
Tool II –Structured questionnaire to assess knowledge on morbidities and its preventive measures related to air pollution.
Tool III- Checklist to assess practice of using preventive measures related to air pollution.

Study tools
Questionnaire development: questionnaire develops as a booklet in Bengali and English language with instructions was prepared based on WHO guidelines and research study result.

Validity- After initial preparation the questionnaire to be judged by a group of experts in the Department of Community Medicine of different Govt. Medical college, Kolkata who will make necessary correction. This final corrected version was used for pre testing.

Reliability of the tool – Appropriate statistical methods used to check the reliability of the tools. Tool II Knowledge questionnaire the reliability was computed usingKuder Richardson formula. The reliability of the Knowledge questionnaire was r = .83, hence the questionnaire found to be reliable.

Plan for data collection procedure-

- Ethical permission has been taken from Institutional Ethical committee.
- Formal administration permission obtained from the concerned authority.
- Sample had been selected as cluster sampling technique.
- Talked to each traffic guard Officer in-charge those who are selected for study.
- Self introduction had been given to the participants and rapport had been established.
- Purpose of the study had been explained to each participant. And they have right to decide to be a participant in the study.
- Informed consent had been taken from each participant and they had given assurance of their confidentiality of their responses
- Data will be collected with structured questionnaire on demographic variables
- Knowledge questionnaire regarding morbidities and its prevention related air pollution
- Assess practice of using preventive measures related air pollution through checklist.

RESULTS
Section-1
Knowledge of Traffic Police on morbidities & its preventive measures regarding air pollution.

Table – 1: Frequency percentage distribution of knowledge scores of traffic police

n=200

Obtained knowledge score range	Frequency (f)	Percentage (%)
1-4 (Fair)	34	17
5-8(Average)	68	34
9-12(good)	85	47.5
13-16(very good)	13	6.5
Total	200	100

Maximum Score 16 Minimum score – 0

Table -1 shows that 68(34%)of the Traffic Police had average Knowledge Score and 85(47.5%) having good knowledge score.

Table -2: Mean, Median and standard deviation of knowledge scores among Traffic Police

Variable	**Maximum possible score**	**Range**	**Mean**	**Median**	**Mode**	**S.D**
Knowledge	16	1-16	6.5	7	15.375	3

Table 2 - shows that Knowledge scores of Traffic Police ranged from (1-16) where maximum possible Score was 16. The mean knowledge score was (6.5), median (7), mode is 15.375 & SD is 3.

Total 200 sample was taken for study, data has collected through questionnaire, data has compiled and analysed. Result shown (34/200) 17 % traffic Police have fair knowledge(Score1-4/16), (68/200) 34 % traffic police have average

knowledge level(score, 5-8/16), (85/200) 47.5% traffic police have good knowledge level(score-9-12/16), (13/200) 6.5% traffic police have very good knowledge level (score13-16/16). . The mean knowledge score was (6.5), median (7), mode is 15.375 & SD is 3.

Section II

Assess practice of using preventive measures related to air pollution

Table – 3: Frequency percentage of different preventive measures for prevention of morbidities regarding air pollution among traffic police

n=200

SL No	Using Preventive measures	Frequency (Out of Total sample 200)	Percentage%
1	Mask	**136**	**68**
2	Goggles	**124**	**62**
3	Umbrella	**68**	**34**
4	Drinking Plenty of water	**93**	**46.5**
5	Deep breathing exercise	**28**	**14**
6	Adequate rest & sleep	**42**	**26**
7	Meditation	**12**	**6**
8	Taking Balanced diet	**24**	**12**
9	Changing duty place most polluted area to less polluted area	**10**	**5**
10	Receiving update knowledge regarding harmful pollutant at own working area	**nil**	**nil**

Table -3 showsthat Maximum Traffic Police(136/200) 68% using Mask , Goggles (124/200) 62%,Umbrella(68/200) 34%, drinking plenty of water (93/200)46.5%, Deep Breathing exercise (28/200) 14%,Adequate rest &sleep(42/200) 26%,meditation (12/200) 6%,taking balanced diet (24/200)12%, Changing duty place most polluted area to less polluted area (10/200) 5%, and no one receiving update knowledge regarding harmful pollutant at working area.

Section – III

Table- 4: Association between Knowledge of the Traffic police and Practice of using preventive and control measures

n= 200

SL NO	Median	Variables		Chi-square	df	t-value	At 0.05 level of significant
1.	Median &Below median	Using preventive measures	Not using preventive measures	8.8551 Yates correction is7.7944	1	3.84	significant
		62	24				
	Above median	101	13				

According to Table 3, At 1 degree of freedom, the table value of chi-square at 0.05 level of significant is3.84 and calculated chi-square value of knowledge level is 8.8551 and yates correction is 7.7944. so here null hypothesis is rejected research hypothesis is accepted. So there is association between Knowledge level of traffic police and practice of using preventive and control measures regarding air pollution.

DISCUSSION

KshitijKarki, Susmita K.C[5], studied on Prevention of respiratory problems among traffic police: A cross sectional study in Kathmandu valley exploring knowledge and practice. The objective of the study was to identify the knowledge and practice regarding prevention of respiratory problems among traffic police. The study result interpreted that one fourth participant traffic polices had knowledge but very few were practicing the preventive measures for

respiratory problems. It is recommended to conduct awareness campaign to the traffic police and advocate the government to provide the protective measures.

This current studies also shows that 47.5 % traffic police have good Knowledge, but 68% traffic police are using Mask, 62%traffic police using goggles, 46.5% are taking plenty of water,34 % taking adequate rest and sleep. According to Table 3, At 1 degree of freedom, the table value of chi-square at 0.05 level of significant is3.84 and calculated chi-square value of knowledge level is 8.8551 and Yates correction is 7.7944. so here null hypothesis is rejected research hypothesis is accepted. So there is association between Knowledge level of traffic police and practice of using preventive and control measures regarding air pollution. If traffic police gain their knowledge through, information booklet or periodically awareness programme so that they may increase their Knowledge as wellas their practice to use preventive measures related to air pollution.As traffic polices are working in pollutant area, they must maintain always protective measures to prevent different morbidities related to air pollution.

CONCLUSION

Study results shown (34/200) 17 % traffic Police have fair knowledge(Score1-4/16), (68/200) 34 % traffic police have average knowledge level(score, 5-8/16), (85/200) 47.5% traffic police have good knowledge level(score-9-12/16), (13/200) 6.5% traffic police have very good knowledge level (score13-16/16). Maximum Traffic Polices(136/200) 68% using Mask , Goggles (124/200) 62%,Umbrella(68/200) 34%, drinking plenty of water (93/200)46.5%, Deep Breathing exercise (28/200) 14%,Adequate rest &sleep(42/200) 26%,meditation (12/200) 6%,taking balanced diet (24/200)12%, Changing duty place most polluted area to less polluted area (10/200) 5%, and no one receiving update knowledge regarding harmful pollutant at working area. As a health care personnel, our aim to motivate for practice to use different preventive measures to prevent different morbidities related air pollution. According to knowledge gap information booklet to be prepared and distribute to traffic polices increase their knowledge and to Motivate for practice to use preventive measures to prevent different morbidities.

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