Evaluation of the respiratory health among the police personal in the Bhuj, Kutch

Gordhanbhai L. Gondalia[1], Kalpesh Patel[2,*]

[1]Ex Associate Professor, Dept. of Tuberculosis and Reparatory Medicine, Institute of Medical Science and Research & Dr Bidhan Chandra Roy Hospital, Haldia, West Bengal, [2]Assistant Professor, Dept. of Tuberculosis and Reparatory Medicine, Gujarat Adani Institute of Medical Science, Bhuj, Kutch, Gujarat, India

***Corresponding Author:**
Email: researchguide86@gmail.com

Abstract:

Background: There are very less studies that have evaluated the respiratory health troubles with the police employees in India. The aim of present study is to measure the occurrence of the respiratory morbidities in the police personnel in Bhuj district and also to evaluate the factors which are associated with the respiratory problems among them.

Methodology: The present study was performed at four traffic police stations in Kutch district, which were selected randomly and incorporated in the research. The individuals with the previous history of asthma, TB, COPD, surgeries, cardiac failure and chest injuries were debarred as of the research. All the persons satisfying the addition protocols were incorporated in the study.

Results: Chronic cough was observed among 6% of the personnel. Chief problem with the participants originates to be phlegm. Frequent wheezing was reported in 10% and chronic wheezing in 4%. Grade 1 dyspnoea was found in 18% of total subject and grade 2 was reported in 9% of total individuals.

Conclusions: Frequency of the respiratory illness in police personnel in the Kutch district was elevated contrast to the common inhabitants.

Keywords: COPD; Phlegm; Respiratory; TB.

Introduction:

The superiority of existence is unfavourably exaggerated by the work-related risk that causes the premature demises of lots of persons universally. In the nations like India additional 85% of the load of the professional illness is bear by the citizens [1]. The risk assessment carried out by WHO and ILO at 2002, in which they highlighted that there are more burdens of occupational risk factors resulting into morbidity and mortality rate [2]. Among the exposed occupational labours considered for on nine percentage of lung cancer, 16% had audible defeat, thirty seven percent having back pain, 13% had obstructive lung disease and 2% had leukaemia. These are the data which are in accounted with the limited data availability and underreporting [3]. Due to the factors like work over load, absence or weak framework, use of cheaper and hazardous production process, more of migrations in search of work and very low education and awareness have led to the rate of workers in developing country affected more as compared to those in developed country. Among all the occupational hazardous diseases the lung diseases rate as one of the most common work related diseases [4].

The works in which the persons are induced to broad series of filth sand other hazardous chemicals are workers in textiles, asbestos, steel factories, construction workers, farmers, painters and fire fighters [5]. Bronchial asthma, chronic bronchitis, byssinosis, pneumoconiosis are largely widespread occupational respiratory morbidities observed in induced workers. Most of the occupational studies done till now were on those exposed to the industrial dusts. However there are very few studies on the other groups of people endlessly exposing to the atmosphere contamination, which is approximate to cause around fifteen percent of the COPD [6].

The major traffic pollution is due to existence of impurities in the atmosphere that includes nitrogen dioxides, sulphur dioxide, hydrocarbons, carbon monoxide, lead etc. The vehicles that lack the maintenance are responsible for the majority of the air pollution. Limited studies have been done into the lung diseases among the police personnel in India, so present study was undertaken to evaluate the frequency of lung diseases in the police personnel in Kutch District and to discover causes connected with respiratory diseases with them.

Materials and Methods:

The present stud was carried out in all traffic police stations and certain law and command police stations in Bhuj, Kutch, Gujarat, India. Ethical clearance taken from institutional ethical committee of the institute and written informed consent was taken from the participants. Four police stations were arbitrarily decided from total twenty one stations in the town. Age criteria for inclusion of the study were 24-55 years. The individuals with the previous history of asthma, TB, COPD, surgeries, cardiac failure and chest injuries were debarred as of the research.

All the persons satisfying the addition protocols were incorporated in the study. Those were incorporated in the research although not consulted were make contact with phone for the meeting and re appointment were taken for the interview. The validated questioner was used to assemble the information through consultation. The procedure was explained to

all the individuals and then they had to put the peak flow meter in oral cavity and perform the process. The finest of the 3 efforts was engaged as the acme flow value for analysis.

Results:

Total of 150 police personnel were included in the study. Care was taken that they meet the inclusion criteria for the study. The average age of the individuals included in the study was 40.45 ± 6.30 years. It was noticed that majority of the population did belonged to the age group of 35-44 years.

With the range of period of service of at least 1 year to 30 years, the mean number of years of service was found to be 8.09± 6.25. Of the total respondents included in the study, majority of them that is 90% were civil police officers and rest 10% were assistant sub inspectors and sub inspectors. Seeing to the male and female ratio; 90% were male and 10% were females. On viewing the education; graduates were 49.7% and remaining were having higher secondary education.

Current smokers were found in 14% of the individuals. Most of the individuals almost 100% said that they had separate house hold kitchen with ventilation. Passive smoking was found in 50% of the cases.

From the study, 7% reported to have frequent cough and 6% reported to have chronic cough. Phlegm was reported to be a major problem among the respondents. Nearly 15% of them reported frequent phlegm and 13% of them reported to have chronic phlegm. 10% reported the problem of frequent wheezing and 4% had chronic wheezing. 18% of the respondents reported Grade 1 dyspnoea while 9% reported to have Grade 2 dyspnoea. 25% of the respondents presented with peak flow restriction, which meant their peak flow readings are less than the Normal range according to one's age, sex and height. In the study, chronic respiratory morbidity is considered as the presence of any one of the chronic symptoms which are chronic cough, chronic phlegm or chronic wheeze. The prevalence of chronic respiratory morbidity among police personnel was found to be 18%.

Table 1: Prevalence of respiratory morbidities

Variables	Frequency
Frequent cough	20
Frequent phlegm	45
Frequent wheeze	18
Grade 1 dyspnoea	55
Grade 2 dyspnoea	27
Chronic cough	19
Chronic phlegm	37
Chronic wheeze	12
Any of the chronic respiratory morbidities	55
Peak flow restriction	76

Discussion:

Morbidity due to occupation is mostly studied among the worker working in the industry. Nevertheless the employees who are endlessly in touch with the air pollution are considered very rarely [7]. The chronic morbidity rate prevalence was found to be in the present study was 18%. In the studies done in various countries related to the morbidity rate among the chronic respiratory problems, the prevalence in Bangok Qa found to be 7.1%, in Iran it was 4.65% [8]. Maximum was found in Korea, were in the adults the proportion originates to be 17% [9].

Incidence data of chronic cough from various studies varies from 2.2 percent, 2.4 percent in rustic regions and 1.7 percent in town areas in contrast the importance for chronic cough and phlegm used by the different studies differ from "cough at night", "cough in the morning" and "phlegm in the morning" etc. [10]. The incidence of chronic phlegm in the present study was twelve point three percentages. On the whole occurrence was elevated contrast to the common people and similar to industrialized labour of country. As regards around 25% had acme pour constraint representing various Lung damage requires additional investigation. Women and longer period of service were established to have superior lung disease.

Conclusions:

Frequency of the respiratory illness in police personnel in the Kutch district was elevated in contrast to the common inhabitants.

Conflicts of Interest: None declared

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