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A Study on Health Status of Traffic Police Personnel in Kalaburagi City

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ABSTRACT

Traffic Police men are constantly exposed to fumes, exhaust of vehicles, dust, noise, heat, radiation etc during their work and they are at higher risk to develop the occupational diseases. To assess the health status among traffic policemen in Kalaburagi. A cross sectional was done among traffic police personnel in Kalaburagi city from January 2014 to December 2014. A predesigned and pre-tested proforma was used to collect the information. Majority of the study subjects belonged to 30-40 years (32.04%), 91 (88.35%) were Hindu by religion and 46 (44.66%) were graduate. Whereas 99 (96.12 %) were married and most of the study subjects belonged to nuclear family 94 (91.26%) while 98 (95.15%) belonged to class III, majority 47 (45.63%) had 11-20 years of working experience and 74 (71.84%) were working less than 8 hrs per day. Majority of the study subjects 57 (55.34%) were having increased waist hip ratio, 41 (39.81%) were pre hypertensive and 49 (47.57%) had mild hearing loss. Total prevalence of refractive error 63 (61.17%), diabetes mellitus 50 (48.54%) and psychiatric morbidity 42 (40.78%) respectively. The job of traffic police personnel is a tough job, which has a direct influence on their life as it is found that many traffic police personnel suffer from respiratory problems, reduced hearing, high blood pressure, varicose vein due to prolong standing during duty hours and increases body mass index and waist hip ratio due to irregular food habits.

INTRODUCTION

Health is not something that one possesses as a commodity but connotes rather a way of functioning within one's environment (work, recreation and living). The work environment constitutes an important part of man's total environment, so health to a large extent is affected by work conditions[1].

Worker's health, safety and well-being are vital concerns to hundreds of millions of working people worldwide. But the issue extends even further beyond individuals and their families. It is of paramount importance to the productivity, competitiveness and sustainability of enterprises, communities, and to national and regional economies[2]. A healthy workplace is one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well- being of all workers and the sustainability of the workplace[1]. Work environment constitutes an important part of individual's well-being. Health to a large extent is affected by work conditions[2]. Half of the world's people are economically active and spend at least one third of their time at the workplace[3]. Occupational hazards cause early deaths to millions of people worldwide and also result in avoidable morbidity that adversely affect the quality of life[4].

The World Health Organization estimates occupational health risks as the tenth leading cause of morbidity and mortality. The burden of disease from selected occupational risk factors amounts to 1.5% of the global burden in terms of DALY (Disability Adjusted Life Years). The World Health Report 2002 of WHO reports that occupational risk factors account globally for a number of morbid conditions, including 37% back pain, 16% hearing loss, 13% chronic obstructive lung disease, 11% asthma, 10% injuries, 9% cancer and 2% leukemia[5].

Currently, an estimated two million people die each year as a result of occupational accidents and work-related illnesses or injuries[6]. Another 268 million non-fatal workplace accidents result in an average of three lost workdays per casualty, as well as 160 million new cases of work-related illness each year[7]. Only one third of countries cover more than 30 percent of their workers with occupational health services. Policy and standard setting ministries lack capacity for enforcement and monitoring. One third of countries have no ministry of health staff dedicated to workers health[3].

With the increase in urbanization, many cities around the world are experiencing a very rapid growth in the number of vehicles which lead to serious traffic congestion problems[8]. To manage mobility within the city is a huge task on the administration that is grappling with traffic congestion and health hazards from pollution[9].

In India police services have always been one of the most challenging and stressful services and with changing times it is becoming even more so. The major brunt of this job is borne by traffic police as they are the one responsible for managing the chaos and ensuring smooth flow of traffic. They have to face potentially hazardous situations that can result in physical or mental trauma while they are discharging their duties[10]. Kalaburagi is one of the rapidly growing city of north eastern region of Karnataka. With rapid urbanization, numbers of vehicles are also increasing, this directly increasing the burden on traffic police men and affecting their health. The health status of these workers is least studied by any health sector, hence a modest attempt is made to study the health status of traffic police men working in Kalaburagi city.

MATERIALS AND METHODS

The present cross sectional study was carried out in Kalaburagi city. The study population comprised of all the traffic police men working in Kalaburagi city. This study is carried out from January 2014 to December 2014. Ethical clearance was obtained from M.R Medical College, Kalaburagi and also permission was taken from Superintendent of Police Kalaburagi City.

Inclusion criteria: All Traffic police men working in Kalaburagi city.

Exclusion criteria:

- Traffic police men who are not willing to participate in the study
- Traffic police men who got appointment after my study duration

Sample size: In Kalaburagi there are two traffic police stations. All Traffic Police Personnel from both stations will be taken as sample i.e., approximately 120

Pilot study: A pilot study was done initially among 10 traffic police men. After the pilot study was completed, minor changes in the initial questionnaire were done and a final proforma was designed and study was continued.

Method of data collection: All the subjects were personally contacted and interviewed using pre-designed and pre-tested proforma. This was followed by a detailed clinical examination, anthropometric measurements and investigations (Audiometry, Spirometry, Random Blood sugar, Urine test for sugar and protein).

Data analysis: The statistical tests used are percentages and chi-square test. The statistical

software SPSS 20 is used for the analysis of the data and Microsoft word and Microsoft Excel have been used to generate graph, tables etc.

RESULTS

Majority 33 (32.04%) of the study subjects were in the age group of 30-40 years followed by 25 (24.27%) were in the age group of 40-50 years, 24 (23.30%) were in the age group of 50-60 years and the least are in the age group of 20-30 years 21 (20.39%).The average age in the study subjects were 41.04±9.85 years (mean±SD).

Majority of the study subjects i.e.91 (88.35%) were Hindu by religion and 21 (11.65%) were Muslims. maximum i.e. 46 (44.66%) were graduate, followed by 45 (43.69%) Pre University, 11 (10.68%) SSLC and 1 (0.97%) postgraduate respectively. Majority of the study subjects i.e.99 (96.12%) were married and only 4 (3.88%) were unmarried. Majority of the study subjects i.e. 94 (91.26%) belonged to nuclear families while 9 (8.74%) belonged to joint families.

Majority of the study subjects belonged to socio-economic class III 98 (95.15%) and class IV 5 (4.85%) while none were belonged to class I, class II and class V. Among 103 study subjects majority 47 (45.63%) were in 11-20 years of service followed by 24 (23.30%) in 1-10 years, 21 (20.39%) in 21-30 year and only 11 (10.68%) were having more than 30 years of service. Majority of the study subjects i.e.74 (71.84%) were working less than 8 hrs per day and 29 (28.16%) were working more than 8 hrs per day.

Majority of the study subjects 44 (74.58%) were consuming alcohol followed by 31 (52.54%) were smokers, 26 (44.07) were using gutka/tobacco, 25 (42.37%) were consuming alcohol and smoking and 8 (13.56%) were having all three habits. The above table shows that majority of the study subjects i.e.55 (53.40%) were pre obese, followed by 40 (38.83%) were normal, 6(5.83%) were obese and 2 (1.94%) were under weight. Majority of the study subjects i.e.57 (55.34%) were had an abnormal waist-hip ratio and remaining 46 (44.66%) were normal.

The above table shows that majority of the study subjects i.e.41 (39.81%) were pre-hypertensive and least i.e. 23 (22.33%) were hypertensive and remaining 39 (37.86%) were normal. The above table shows that majority of the study subjects i.e. 65 (63.11%) were found negative and only 38 (36.89%) were found positive Trendelenburg's test. The above table shows that majority of the study subjects i.e.49 (47.57%) had mild degree of hearing loss and 17 (16.50%) had moderate degree of hearing loss. Whereas none of them had severe degree of hearing loss.

The above table shows that out of 103 study subjects majority 63 (61.17%) of them had refractive error, among 63 most of them were hypermetropic 53 (51.46%) followed by 38 (36.89%) were myopic and only 26 (25.24%) had a history of refractive error. The above show that out of 103 study subjects 50 (48.54%) were found to have diabetes milletus in which 47 (45.63%) were known diabetic and 3 (2.91%) were newly diagnosed with diabetes mellitus. The above table shows that out of the 103 study subjects, 42 (40.78%) were found having psychiatric morbidities and remaining 61 (59.22%) were normal.

DISCUSSIONS

In the present study majority 33 (32.04%) of the study subjects were in the age group of 30-40 years with mean age of 41.04±9.85 years (mean±SD). Similar results were observed in a study done by Girija.B among traffic police personnel in Bengaluru city showed that majority 16 (53.33%) were in the age group of 31-40 years with mean age of 37.38±8.16 years (mean±SD)[11]. In the present study majority of the study subjects i.e.91 (88.35%) were Hindu by religion and 12 (11.65%) were Muslims. Similar results were observed in a study done by Shradha *et al*.[12] in Udupi Karnataka which showed that 71 (93.42%) were Hindu by religion and 4 (5.26%) were Muslims.

In the present study majority of the study subjects i.e. 94 (91.26%) belonged to nuclear families while 9 (8.74%) belonged to joint families. Similar results were observed in a study done by Channabasvanna *et al*.[13] in Bengaluru city which revealed that 60% of the subjects belonged to nuclear family In the present study majority of the study subjects belonged to socio-economic class III 98 (95.15%) and class IV 5 (4.85%) while none were belonged to class I, class II and class V. Similar results were observed in a study done by Balaji Digamber Almale *et al*.[14] in Mumbai among traffic police personnel which found that majority 146 (53%) belonged to lower middle class

Table 1: Distribution of study subjects based on body mass index (BMI)

BMI	No.	Percentage
Underweight	2	1.94
Normal	40	38.83
Pre obese	55	53.40
Obese	6	5.83
Total	103	100.00

Table 2: Distribution of study subject according to their blood pressure

Blood Pressure	No.	Percentage
Normal	39	37.86
Pre hypertension	41	39.81
Hypertension	23	22.33
Total	103	100.00

Table 3: Distribution of study subjects based on results of trendelenburg's test

Trendelenburg's Test	No.	Percentage
Positive	38	36.89
Negative	65	63.11
Total	103	100.00

Table 4: Distribution of study subject according to their hearing level

Hearing Level	No.	Percentage
Normal	37	35.92
Mild	49	47.57
Moderate	17	16.50
Severe	0	0
Total	103	100

Table.5: Distribution of study subjects based on their refractive error

	Percentage		Absent			
Refractive error	Number	Percentage	Number	Percentage	Total	Percentage
Known cases	26	25.24	77	74.76	103	100.00
Hypermetropia	53	51.46	50	48.54	103	100.00
Myopia	38	36.89	65	63.11	103	100.00
Over all	63	61.17	40	38.83	103	100.00

Table.6: Distribution of study subjects based on their diabetes mellitus

	Present		Absent			
Diabetes mellitus	Number	Percentage	Number	Percentage	Total	Percentage
Old cases	47	45.63	56	54.37	103	100.00
New cases	3	2.91	53	94.64	56	100.00
Prevalence	50	48.54	53	51.46	103	100.00

Table 7: Distribution of study subjects according to their psychiatric morbidity

Psychiatric morbidity	No.	Percentage
Present	42	40.78
Absent	61	59.22
Total 103	100.00	

followed by 91 (33%) belonged to upper middle class and 39 (14%) belonged to upper class.

In the present study majority of the study subjects i.e.74 (71.84%) were working less than 8 hrs per day and 29 (28.16%) were working more than 8 hrs per day. Similar results were observed in a study done by Nandika Nagodawithana *et al*.[15] which revealed that majority 165 (58%) were working less than 8 hrs per day and 122 (42%) were working more than 8 hrs per day. In the present study majority of the study subjects 44 (74.58%) were consuming alcohol followed by 31 (52.54%) were smokers, 26 (44.07) were using gutka /tobacco, 25 (42.37%) were consuming alcohol and smoking and 8 (13.56%) were having all three habits.

Similar results were observed by a study done by Jahnavi *et al*.[16] in Chennai ,Tamil Nadu which showed that 136 (22%) were smokers and 148 (24%) were consuming alcohol. In the present study majority of the study subjects i.e.55 (53.40%) were pre obese, followed by 40 (38.83%) were normal, 6 (5.83%) were obese and 2 (1.94%) were under weight. Similar results were observed in a study done by Aggarwal Sumit *et al*.[17] in Akola city , Maharashtra which found that 331 (26.21%) were pre obese followed by 23 (1.82%) were obese and only 14 (1.17%) were under weight.

In the present study majority of the study subjects i.e.57 (55.34%) were had an abnormal waist-hip ratio and remaining 46 (44.66%) were normal. Similar results were observed in a study done by Shweta S Devare Phadke *et al*.[18] among traffic police personnel in Mumbai revealed that majority 212 (79.70%) were had an abnormal waist hip ratio and remaining 54 (20.30%) were normal.In the present study majority of the study subjects i.e.41 (39.81%) were pre- hypertensive and least i.e. 23 (22.33%) were hypertensive and remaining 39 (37.86%) were normal. Similar results were observed by a study done by Shafique Ahmed *et al*.[19] among the traffic personnel in Dhule city found that the prevalence of hypertension was *(*24.44%). In the present study shows that majority of the study subjects i.e.65 (63.11%) were found negative and only 38 (36.89%) were found positive for Trendelenburg's test. Similar results were observed by a study done by Punit Patel *et al*.[20] in Ahmedabad city which revealed that among 100 traffic police personnel 20% were having varicose vein.

A study done by Satapathy *et al*.[21] in Brahmapur city found that only 2 (4.16%) traffic police personnel among 48 were found positive for Trendlenburg's test. In the present study shows that majority of the study subjects i.e.49 (47.57%) had mild degree of hearing loss and 17 (16.50%) had moderate degree of hearing loss. Whereas none of them had severe degree of hearing loss. Similar observations were noted by a study done by Mrityunjay Gupta *et al*.[22] in Jammu among 150 traffic police personnel showed that majority (69.7%) were suffering from mild to moderate grades of hearing loss.

The present study shows that out of 103 study subjects majority 63 (61.17%) of them had refractive errors, among 63subjects with refractive errors, most 53 (51.46%) of them were hypermetropic followed by 38 (36.89%) were myopic and only 26 (25.24%) had a history of refractive errors. Similar results were observed in a study done by Almale *et al*.[14] in Mumbai which showed that 57(9.4%) were having refractive errors. Whereas a study done by O T Edema and Omoti in Nigeria showed that out of 140 police personnel only 10% were visually impaired[23].

The present study shows that out of 103 study subjects, 50 (48.54%) were found to have diabetes mellitus. Among the 50 subjects with diabetes mellitus, 47 (45.63%) were known diabetic and 3 (2.91%) were newly diagnosed with diabetes mellitus. In a study done by Chandramohan and V Mohan showed that the diabetic prevalence in their study was11.5% of which 10.4% were known diabetic and 1.1% were newly diagnosed. Another study done by Vijay Viswanathan in Chennai showed that prevalence of diabetes among police men was 32%[24]. The present study shows that out of the 103 study subjects, 42 (40.78%) were found having psychiatric morbidities and remaining 61

(59.22%) were normal. Similar results were observed in a study done by Ravneet Kaur *et al*.[25] in Andhra Pradesh and it was found that 53 (35.33%) were found to have psychological morbidity and 97 (64.66%) were normal.

CONCLUSION

To conclude the job of traffic police personnel is a tough job, which has a direct influence on their life as it is found that many traffic police personnel suffer from respiratory problems, reduced hearing, high blood pressure, varicose vein due to prolong standing during duty hours and increases body mass index and waist hip ratio due to irregular food habits. Physical health problems can become the barrier for discharging their duties efficiently. Nearly half of them were experiencing job stress, which was disturbing their sleep pattern, appetite and family life. Prevalence of hyper-tension and obesity was also high. Stress has a negative effect on the health of the traffic police personnel. Many of traffic police personnel were having habit of tobacco and alcohol consumption, eating of fast foods and lack of exercise which made their health situation worse. Moreover, they are not provided enough personal protective devices and health education. Few of traffic police personnel had become the victim of road traffic accidents and physical assaults by vehicle drivers.

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