

Prevalence of Substance Abuse, Hypertension and Obesity among Security Men working in a Teaching Hospital in Delhi: A Cross Sectional Survey

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Abstract

Introduction: Security men are subjected to a considerable degree of stress related problems due to their changing duty hours and difficult working environment. Chronic stress in them may lead to increased propensity to develop addiction for tobacco, alcohol and other psychoactive agents. In addition to this, certain other behavioral factors also make them prone to develop non- communicable diseases in future. Thus, it is important to find these lifestyle factors and associated morbidities at the earliest to take early interventions for their prevention and timely management.

Objectives: The study aims to assess the prevalence of hypertension, obesity, and tobacco and alcohol use among security men.

Methods: A total of 50 private security men working in a tertiary care teaching hospital in New Delhi were selected using convenient sampling method. Data was collected using a pre tested semi structured questionnaire consisted of items on socio- demographic profile, behavioral factors like substance abuse after taking informed consent. Anthropometric measurements like weight, height and blood pressure were also recorded. Data was analyzed using SPSS 17. Chi square/ Fisher's exact test was used to find significance of association between qualitative variables. P value less than 0.05 was considered significant.

Results: Mean age of security men was 52 years. The prevalence of smoking, chewing tobacco and alcohol consumption was 48%, 30% and 54% respectively. Alcohol consumption ($p = 0.041$) and smoking ($p = 0.044$) was significantly associated with migration. BMI was calculated which showed that 42% ($n=21$) were overweight and 6% ($n=3$) were obese. 16% ($n=8$) were found to be hypertensive.

Conclusion: Looking at the high prevalence of lifestyle disorders like tobacco and alcohol abuse, obesity and hypertension, it is recommended that innovative Behavior Change Communication (BCC) strategies should be undertaken for prevention, early diagnosis and management of non communicable diseases and its risk factors.

Keywords: Security men, Alcohol, Tobacco, Obesity, Hypertension, India.

Introduction

As defined by World Health Organization, Occupational Health deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards.¹ The goal of occupational health and safety is to foster a safe and healthy work environment. Health workforce

consists of team comprising of medical, paramedical, administrative and support staff. For a team to work together efficiently, it is important that all members of the team are in sound physical and mental health. In this regard, health concerns of security staff, which is one of the important but neglected aspect that needs to be studied.

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Studies have shown that hospital employees are subjected to considerable stress and burnout.² Security men are subjected to a considerable degree of stress related problems due to their changing duty hours and difficult working environment. Chronic stress in them may lead to increased propensity to develop addiction for tobacco, alcohol and other psychoactive agents. Staying away from their families also adds to the burden. In addition to this, certain other behavioral factors also make them prone to develop non-communicable diseases in future. Thus it is important to identify these lifestyle factors and associated morbidities at the earliest to take early interventions for their prevention and timely management.

Though there are a lot of research articles related to occupational health, very little knowledge is available on workplace hazards and lifestyle factors among security guards. Given their stressful working conditions, there is a need to study the high risk behavioral factors and the burden of non communicable diseases in security guards. Keeping in view of above facts, present study was planned with the objective to estimate the prevalence of substance use, hypertension and obesity among security men working in a medical college in Delhi.

Materials and Methods

A cross- sectional study was conducted over a period of two months from July to August 2014 among security men working in a medical college in Delhi. All security men working in the institution constituted the study population. There were three private security units working in the medical college campus. Due to time constraints, one security unit was randomly selected for the study and a convenience sample of 50 security men were included in the study.

Data Collection and Study Tool

Data was collected from the security men by direct interview during their working hours after getting written informed consent. A pre tested semi-structured questionnaire was used to collect information on socio- demographic profile, working environment, lifestyle factors like smoking, tobacco chewing, alcohol use and dietary habits. Data was also collected on the type, duration and amount of tobacco and alcohol consumed.

Anthropometric measurements like height, weight,

waist circumference, hip circumference were measured. Weight was measured using a digital weighing machine after removing the shoes with minimal clothing. A standard inelastic tape was used to measure the height, waist and hip circumferences. According to WHO protocol, the waist circumference should be measured at the midpoint between the lower margin of the last palpable rib and the top of the iliac crest, using a stretch- resistant tape and the hip circumference should be measured around the widest portion of the hip, with the tape parallel to the floor³. WHO STEPS states that abdominal obesity is defined as a waist- hip ratio above 0.90 for males or a Body Mass Index (BMI) above 30.⁴ BMI was calculated with the measured height and weight and the study subjects were classified into normal weight (18.5 – 24.9), overweight (25-30) and obese (>30).⁵ Waist hip ratio (WHR) was calculated from the measured waist and hip circumferences. Blood pressure was measured using an aneroid manometer with standard cuff size. Two readings were taken in sitting position with an interval of five minutes and the average of the two values was taken. A systolic blood pressure of >140 mmHg and a diastolic blood pressure of > 90 mm Hg was diagnosed as hypertension.⁶ Also, data on history of treatment of hypertension and compliance was collected. Privacy was maintained during all anthropometric measurements.

Data was analyzed using SPSS 17 and expressed in mean \pm SD and proportion wherever applicable. Chi square/ Fisher's exact test was used to find the significance of association between qualitative variables. P value less than 0.05 was considered significant. Approval was obtained from the Institutional Ethics Committee (IEC). Purpose of study was explained to all the study subjects and written informed consent was obtained before enrollment.

Results

Socio demographic Profile

The mean age of the security men was 52 ± 5.6 years. As shown in table 1, 92% (n=46) of them were recruited after their service in the army, with their mean years of service being 30 ± 5.8 years. All of them were posted on an 8 hour shift basis, with their duty areas changing periodically. 96% (n=48) of the security men were married, 68% (n=34) used to stay with their family and 32% (n=16) stayed away from their family in the security guard quarters provided to them.

Characteristics	Frequency	Percentage
Age		
More than 50	29	58%
Less than 50	21	42%
Marital status		
Married	48	96%
Unmarried	02	4%
Residence		
Staying away from family	16	32%
Staying with the family	34	68%
Previous occupation		
Ex Army Men	46	92%
Other	04	08%

Table 1.Socio demographic profile of study subjects

Non Communicable Disease Risk Profile

The prevalence of smoking, chewing tobacco and alcohol consumption was 48%, 30% and 54% respectively. 20% (n=10) of them used to consume pure vegetarian diet and remaining 80% (n=40) had mixed diet.

As shown in fig. 1, the prevalence of tobacco smoking was 48% (n=24), out of which 67% smoked bidis, 4% smoked cigarettes and 29% smoked both. Majority of the smokers had been smoking for >30 years (75%) and half of the smokers smoked >5 times a day.

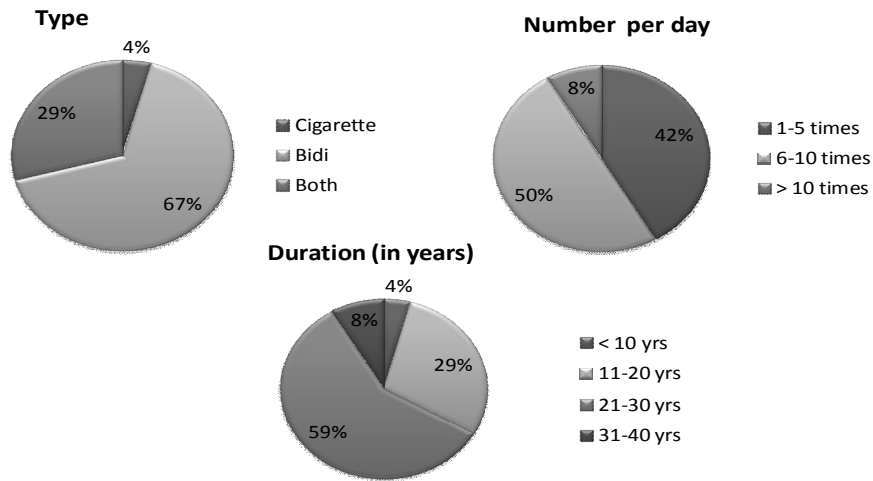


Figure 1.Characteristics of tobacco smoking among study subjects

As shown in fig. 2, the prevalence of tobacco chewing was 30% (n=15). Khaini was the most common type of tobacco chewed (73%) and nearly

half of them had the habit of chewing more than thrice a day. Majority of them had been chewing tobacco for >20 years (53%).

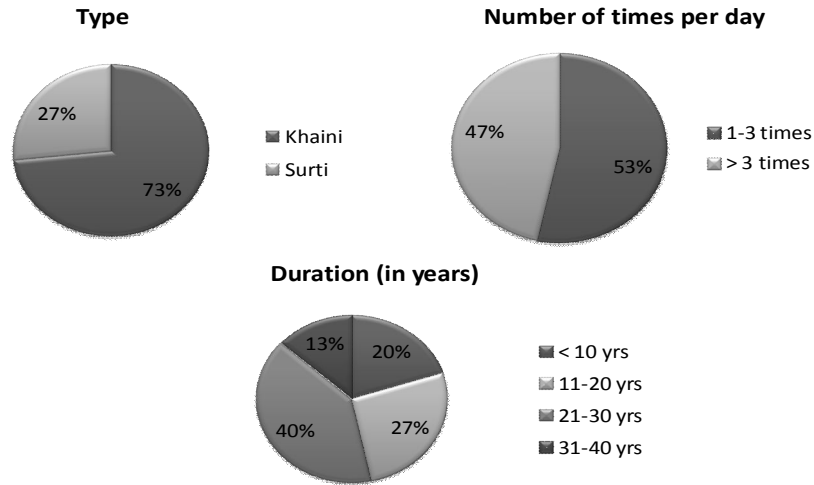


Figure 2. Characteristics of tobacco chewing among study subjects

As shown in fig. 3, the prevalence of alcohol intake was 54% (n=27), of which 7% reported

daily consumption. 9% of the alcoholics were consuming alcohol for more than 20 years.

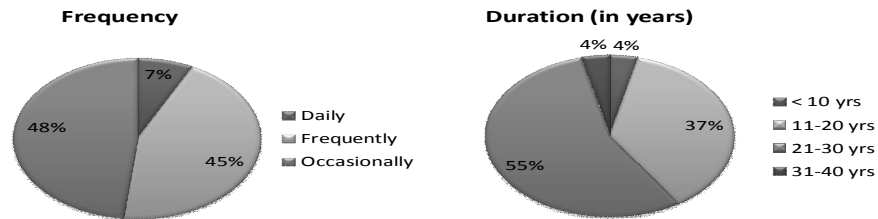


Figure 3. Characteristics of alcohol intake among study subjects

Anthropometry

The mean height and weight of the security men were 169.4 ± 6.3 cm and 71.5 ± 8.5 kg respectively. 54% (n=27) had Waist Hip Ratio (WHR) less than 0.90, 36% (n=18) had WHR of 0.90 to 1.0 and 10% (n=5) had WHR more than 1. BMI value of 18.5 to 25 was labeled as normal weight, 25 to 30 as overweight and >30 as obese. 42% (n=21) of the security men were overweight and 6% (n=3) were obese.

Hypertension

The prevalence of hypertension was found to be 16% (n=8) as shown in table 2, of which 3 security men were diagnosed as hypertensive during the study. Out of the 5 security men who were already known to be hypertensive, only 3 of them were compliant to anti- hypertensive treatment. All hypertensives were counseled for salt- restricted diet and lifestyle modifications and were referred for treatment.

Disease	Frequency	Percentage
Hypertension	8	16%
Overweight	21	42%
Obesity	3	06%

Table 2. Non communicable diseases profile among study subjects

Table 3 shows that staying away from the family was significantly associated with smoking ($\chi^2 = 4.06$, $df=1$, $p = 0.04$), tobacco chewing ($\chi^2 = 7.72$, $df=1$, $p = 0.01$), alcohol use ($\chi^2 = 4.17$, $df=1$, $p = 0.04$) and obesity ($\chi^2 = 4.98$, $df=1$, $p = 0.02$).

Smoking was found to be significantly associated with alcohol consumption ($p = 0.01$). Hypertension was significantly associated with being obese ($p = 0.04$) and alcohol consumption ($p = 0.04$).

	Smoking N (%)	Tobacco chewing N (%)	Alcohol N (%)	Hypertension N (%)	Overweight & Obesity N (%)
Age<50 yrs	7 (33.3)	7 (33.3)	9 (42.9)	2 (9.5)	9 (42.9)
Age>50 yrs	17 (58.6)	8 (27.6)	18 (62.1)	6 (20.7)	17 (58.6)
Married	22 (45.8)	14 (29.2)	25 (52.1)	7 (14.6)	24 (50)
Unmarried	2 (100)	1 (50)	2 (100)	1 (50)	2 (100)
Staying with family	13 (38.2)	6 (17.6)	15 (44.1)	4 (11.7)	14 (41.2)
Staying away from family	*11 (68.8)	*9 (56.3)	*12 (75)	4 (25)	*12 (75)

* $p \leq 0.05$ (significant)

Table 3. Socio demographic determinants of non communicable diseases among study subjects

Discussion

In the present study, prevalence of hypertension came out to be 16% which was consistent with the results of a similar study published by Jain A et al. in a private medical college in Jaipur.⁷ Although few studies^{9,10,11} done on hospital support staff reported a higher prevalence of hypertension, the lower prevalence in our study could be attributed to the physical fitness and non-sedentary lifestyle in security men along with the fact that most of them were from Army background.

Prevalence of both smoking and tobacco chewing were higher than the prevalence reported in the other studies.^{7,8} Prevalence of alcohol use (54%) was also higher than the other studies,⁷ which may be due to the early exposure to alcohol during their service in the army.

An important aspect of drug compliance was found among security men with already diagnosed cases, that even some of them were not compliant to treatment. Significant association was found with staying away from family and substance abuse. Possible reasons could be lack of sources of entertainment and difficult working conditions.

This study was possibly limited by a couple of factors. First, blood pressure was analyzed only once. Therefore, hypertension prevalence based on the criterion of blood pressure increase at the moment of the measurement may be overestimated. However, most of the studies of this nature do not take blood pressure

measurements on numerous occasions. A second limitation was small sample size and purposive sampling method.

Conclusion and Recommendations

Looking at the high prevalence of lifestyle disorders like tobacco and alcohol abuse, obesity and hypertension, it is recommended that innovative Behavior Change Communication (BCC) strategies should be undertaken for prevention, early diagnosis and management of non communicable diseases and its risk factors.

References

1. World Health Organization. Occupational health. Available from: http://www.wpro.who.int/topics/occupational_health/en/. Accessed on: Mar 2, 2013.
2. Mosadeghrad AM, Ferlie E, Rosenberg D. A study of relationship between job stress, quality of working life and turnover intention among hospital employees. *Health Serv Manage Res* Nov 2011; 24(4): 170-81.
3. World Health Organization. STEPwise approach to surveillance (STEPS). Accessed on: March 21, 2012.
4. World Health Organization. Available from: <http://whqlibdoc.who.int/publications/2011/9789241501491>. Accessed on: Jan 2, 2014.
5. World Health Organization. Global Database on Body Mass Index. 2006. Retrieved on: July 27, 2012.

6. Martin J. Hypertension Guidelines: Revisiting the JNC 7 Recommendations. *J Lancaster Gen Hosp* 2008; 3(3): 91-97.
7. Jain A, Agarwal L, Pankaj JP et al. A study of risk factor score of life-style diseases among the staff of a private medical college of Jaipur. *J Evol Med Dent Sci* 2014; 48(3):11499-504.
8. Yunus M, Khan Z. A baseline study of tobacco use among the staff of Aligarh Muslim University, Aligarh, India. *J R Soc Health* 1997; 117(6): 359-65.
9. Mion D, Pierin A, Bambirra AP et al. Hypertension in employees of a University General Hospital. *Rev Hosp Clin* 2004; 59(6): 329-36.
10. Shakya S, Bhattarai J, Rawal K et al. Socio-economic Analysis and the Study of Prevalence, Awareness, Treatment, Control and Risk Factors of Hypertension in Hospital Staff. *Nepalese Heart J* Nov 2010; 1(7): 15-19.
11. Giurgiu DI, Bardac DI, Răulea CI. Study on hypertension prevalence in medical staff from a Romanian academic emergency county hospital. *Acta Medica Transilvanica* 2013; 3(2): 282-88.