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## Lifestyle behaviours and the need for health promotion in police personnel

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### Abstract

Police work is a serious first responder occupation where physical fitness and mental well-being are essential for proper performance. This study brings to light the unhealthy lifestyle and highly stressful working environment of police personnel. The results of this study indicate that policemen lead a physically inactive life, have irregular diet, consume fast foods while on duty, do overtime and shift work, suffer from disrupted sleep patterns and stress and have high rates of smoking and alcohol consumption. The present study also suggests that policemen are at a high risk of developing non communicable diseases and the possible reasons are poor physical activity, distorted sleep cycle, faulty food habits and undue work pressure. Thus the study suggests that initiatives should be taken to promote good health in police personnel and reduce the risk of heart diseases. Preventive measures should be initiated to eliminate or arrest problems before they become issues of concern. Work site programs to enhance the health and fitness of police officers are generally lacking, but can be an effective means for reducing their health problems. Regular screening and health education programs need to be implemented. Lifestyle modification, smoking and alcohol control and stress alleviation should be an integral component of these health-related activities.

**Keywords:** police, special occupational group, worksite program, lifestyle modification.

### 1. Introduction

Police personnel constitute a special occupational group with exposure to violence and stress at work, which directly and indirectly affects their health (Thayyil *et al.*, 2012) [4]. A police officer's well-being and general fitness encompasses a large part of liability: both to the officer and to the department in general. According to a study completed in 2000 by the National Center for Health Statistics the average age that a male at birth can expect to live is 76.9 years. A female at birth can expect to live 79.5 years, but a police officer can only expect to live an average of 66 years (Violanti, 1996) [5]. The National Institute of Health and Occupational safety reports that law enforcement personnel have a higher incidence of stress induced injury and illness, particularly cardiovascular and lower back problems, than the average population. Police occupy an important position within the community as both enforcers of the law and as role models for appropriate behavior. Despite this interesting juxtaposition, research has shown that they may consume alcohol and tobacco at rates higher than the general population (Mayhew, 2001) [1]. A significant causal factor is occupational stress, and a fact that police are regularly exposed to stressors beyond the range of normal human experiences. Excess alcohol and tobacco consumption levels often relate to individual stress-coping mechanisms. Prevalence of overweight and obesity and other cardiovascular risk factors are higher in police officers. Fast food is a convenient and quick way to eat among the police officers. A contributing factor for heart disease and a wide variety of other illnesses is an improper diet. Police officers often follow a diet, which is high in fat. Consumption of energy-dense foods, saturated and trans fats, sugars and salt which are often found in snacks, processed foods and drinks can lead to weight gain. This type of diet is a contributing factor for the development of arteriosclerosis or hardening of the arteries due to the increase in LDL or "bad" cholesterol. This has a direct influence on high blood pressure, cardiovascular diseases such as strokes and heart attacks.

Law enforcement personnel face unique challenges due to the unpredictable nature of the job; demanding schedules and shift work don't equate to healthy food choices on the run. The desire to "protect and serve" the public translates to a cultural norm that leaves caring for one's

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own health low on the priority list. Therefore interventions to promote a healthy life style, promotion of physical activity reduction of body weight, improvement of the quality of diet and advocating stress relaxing techniques become very important to prevent in the light of the problems they face. It is hoped that this study would guide the implementation of interventions for addressing the health concerns of this high risk occupational group.

**2. Methods**

A total of 1000 police officers aged  $\geq 30$  years were studied. Sampling was done in three zones- North, East and central Chennai of the Chennai Police Commissionerate. A questionnaire was designed for the purpose of data collection and was pre- tested on 25 subjects. Necessary changes were made and the instrument was finalized. It was used to elicit information on demographic characteristics, anthropometry details, past medical history, dietary profile, smoking and alcohol status and levels of physical activity of the police personnel. Written consent was obtained from the participants before recruiting them in the study. The study protocol was approved by the ethics committee of the institution.

**2.1 Anthropometry and blood pressure measurements**

Height, weight and waist measurements were recorded. Waist circumference was measured in centimeters placing the tape on the navel after loosening the outer garments. The waist circumference was defined as the smallest girth between the costal margin and iliac crests. Body mass index (BMI) (weight in kg/height in  $m^2$ ) was later calculated. Blood pressure measurements were taken in resting state.

**2.2 Assessment of stress levels, eating habits and physical activity**

The police occupational stress scale was used to assess the stress levels of the participants. The scale focuses on the work situations which result in psychological strain. A healthy eating habits scale was framed to assess the eating habits of the police officers who participated in the study. Questions relating to breakfast consumption, intake of fruits and vegetables, variety of diet, choice of foods, high fat foods, snacking pattern and intake of healthy foods were asked and rated accordingly. The Physical Activity Index Score, a simple assessment tool developed by Sharkey and was used in the

study to understand the current activity level of the subjects.

**3. Results and Discussion**

This study is part of an ongoing intervention for primary prevention of non communicable diseases among policemen in the high risk category. One thousand police officers participated in the study. The age of the study population ranged from 30 to 55 years. More than 50% of the participants belonged to the age group of 30-45 years.

From the investigations carried out it has been found that police officers are expected to put in long working hours as most of them worked more than 15 hours a day. On an average policemen work twelve hours every day and often put in long hours at a stretch providing round the clock security to high profile leaders and top ranking officials during political meetings and festivals. There are psychological and social problems associated with shift work as well. There are innumerable problems a police officer has to face while on duty. In the current study the respondents reported that lack of access to drinking water and healthy food, irregular meal timings, extended duty hours and lack of time to relax are some of the problems faced by police officers while on duty.

On analyzing the stress levels of the police officers using the police occupational stress scale it was found that 35.2 percent of the police officers were severely stressed out. This shows that stress is an inevitable part of police life. As a consequence of high stress most of the officers experienced headache, acidity and fatigue and some officers reported of eating excessively under stress. Majority of them resort to smoking and drinking as a coping mechanism.

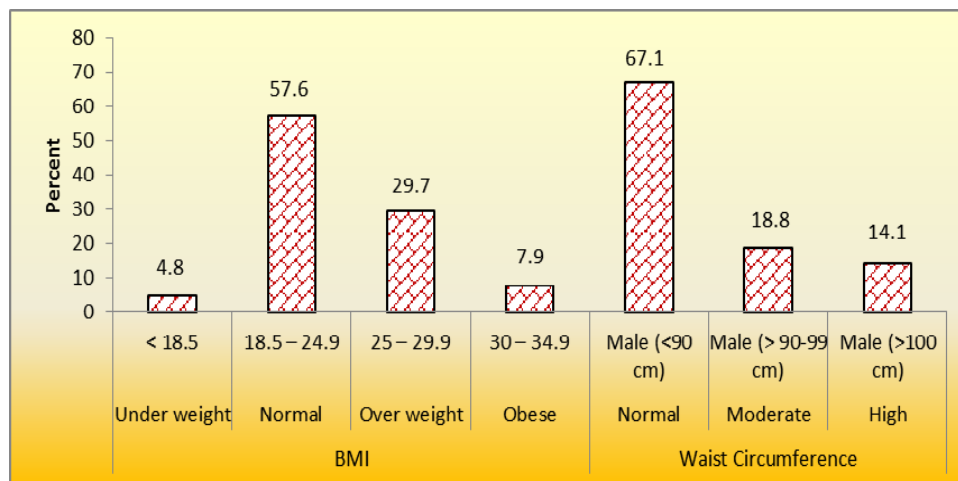
The results of the study showed a significant difference ( $p \leq 0.01$ ) between the stress levels of police officers and the length of time they were involved in night shifts. Police officers who were involved in night shifts for a longer period of time (almost two years) had higher stress levels. The combination of night shift, overtime work and curtailed sleep which is seen among the police is a combination of unhealthy factors that raise the risk of cardiovascular disease, primarily heart disease and stroke. A very important observation from the study was the lack of physical activity among the police. 92.9 percent of the police officers who participated in the current study exhibited a sedentary lifestyle. Tharkar *et al.*, 2008 [3] reports that police officers either sit or stand for long hours and walk less compared to the general population.

**Table 1:** Distribution of police officers based on physical activity and BMI

Physical activity pattern and scores		Body Mass Index (N=1000)			
		Underweight	Normal	Overweight	Obesity
Sedentary	Very poor (<20)	4.6	52.7	28.5	7.1
Not good enough	Poor (20-39)	0.2	4.8	1.1	0.8
Acceptable (could be better)	Fair (40-59)	0	.1	.1	0
Active	Good (60-80)	0	0	0	0

From the above table it is evident 28.5 percent of the officers were overweight and were found to be following a sedentary life style (<20 on the rating scale). The poor physical activity scores of the police officers indicate that the participants need to engage in regular exercise to avoid risk of developing cardiovascular diseases. It was also found that after the completion of the training period, the police officers had no regular training schedule or daily physical activity Self reported family history of disease conditions like obesity, heart diseases, hypertension, diabetes and hypercholesterolemia were

very high among the family members of police officers. Backache, obesity, hypertension and high cholesterol were some of the complaints reported by the police officers. The findings of this study reveal that this group has a very high risk for developing cardiovascular diseases and diabetes because they have significantly high BMI ( $26.1 \pm 4.1 \text{ kg/m}^2$ ) and waist circumference ( $92.9 \pm 11.8 \text{ cm}$ ) and elevated blood pressure (Systolic blood pressure  $128.8 \pm 19.1 \text{ mm/Hg}$ , Diastolic blood pressure  $86.1 \pm 11.4 \text{ mm/Hg}$ ).



**Fig 1:** Distribution of police officers based on BMI and waist circumference

Poor dietary practices like skipping meals and frequent consumption of junk foods was seen among all the respondents of the study irrespective of income and education. Majority of the police officers compensated for the meal skipped by drinking coffee / tea. In addition to drinking coffee/tea police officers ate baji/bonda/vada/samosa or other junk foods. Faulty dietary behaviors seem among the police officers in the current study include increased number of meals

eaten outside the home, larger portion sizes of meals at restaurants and fast-food takeaways, and increased consumption of soft drinks and these behaviours are directly linked to obesity (Savige *et al.*, 2007) [2]. Although increased levels of sedentary behavior are likely to be associated with increase in obesity, changes in food consumption patterns are also likely to play an important role.

**Table 2:** Association between the eating habits of the police officers and their Body Mass Index

Variable		BMI				Pearson Chi Square Value	Significance
		Under nourished	Normal	Overweight	Obese		
Eating habits score	Less than 19 (unhealthy diet)	25	196	89	34	18.427	.005
	19-26 (Moderate diet)	15	175	108	28		
	Above 26 (Healthy diet)	8	205	100	17		

Assessment of the eating habits of the police officers based on the scores obtained in the rating scale revealed that only one third of the police officers were making healthy and wise choices of foods. The study showed a significant association ( $p \leq 0.01$ ) between the eating habits of the police officers and their BMI (Table 2). The officers who scored poorly on the eating assessment scale were found to be obese and overweight. This shows that the officers were making wrong choices when it came to food selection. Hence nutritional counseling to help the police officers to make the right choice of foods to promote health and fitness and to prevent diseases becomes very essential in the light of the problems they face.

**4. Conclusion**

The results of the current study contradict the general conception that police personnel constitute a physically fit population. Police officers begin their careers in excellent physical health but it is not maintained subsequently and they fall a prey to lifestyle diseases which are preventable. Even though a police officer cannot be forced to exercise, eat properly and follow a healthy life style, if a wellness program is presented and maintained from the time a police recruit graduates from the academy and throughout his or her career, the likelihood that physical and mental well being of the officers can be maintained cannot be ruled out. Counseling related to lifestyle modifications, smoking and alcohol control and stress management should be an integral component of these health related wellness programs.

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