

Research Study on: Stress Levels and Associated Disease in Bangalore City Police Personnel

EXECUTIVE SUMMARY

Modern life style induces stress. It is more prominent in Police due to the nature of work. They are prone to physical and psychological problems which can affect their professional and personal life. Exposure to chronic stress leads to early on-set of metabolic diseases and hence early mortality and morbidity. The objective of the present research was to identify the operational and organisational stressors in Bangalore City police, investigate effect of stress on physiological parameters and correlate the changes to the stress induced diseases in them.

Operational and organisational stressors in Civil, Traffic and Armed police were estimated using Questionnaire. Based on the severity of stress, police personnel belonging to Armed and Unarmed were selected for clinical, biochemistry, Heart Rate Variability and hormonal analysis. In the first phase 950 respondents aged 25 to 55 years were administered the questionnaire. Further, 605 respondents of age 30 to 45 years were studied for the stressors.

Operational stresses were of high incidence in Bangalore East Division of civil police followed by North East Division and incidences of these stresses were high in both Traffic and Civil police. Causative factors were overtime demands and irregular food habits. Organisational stresses were of high incidence in Bangalore East Division followed by Bangalore South. The causative factors were prolonged working hours, inadequate pay scales and promotional policies.

Mean operational and organisational stresses were greater in 30 to 34 years and lower in 45 to 50 years of age. Organisational stresses were lower in 45 to 50 years than that in 30 to 35 years. No significant difference was found in operational stresses between the two age groups. Operational stresses were lower in women police than that in the male, because of less overtime demands in women police. While promotional policies equally caused stresses in both male and female police, inadequate pay scales, problems related to coping with superiors and prolonged working hours were of greater concern in men police.

Police of 30 to 45 years of age (with high stress) who form the major working force were focused for further investigation by clinical, biochemistry and hormonal studies. Stresses were correlated with physiological parameters as indicators of health with its associated diseases. Body Mass Index, three months average blood sugar levels, FBS, Total Cholesterol

and Low Density Lipoproteins were higher in Unarmed Police, suggesting Metabolic Syndrome and associated complications. ECG for HRV were lower in unarmed, suggesting changes in Autonomic Nervous System. The results were analysed for both Traffic and Civil police. Biochemistry parameters were suggestive of Traffic police at higher risk levels than the Civil police for metabolic syndrome.

Results were analysed for men and women in Civil Police, as the number of women police respondents were less in Traffic. Number of women respondents provided by Bangalore City Police were limited due to administrative issues. Men police were at higher risk for increase in cholesterol, obesity, gastritis, heart diseases based on biochemistry investigation.

Women respondents are more prone to CVD when HRV is considered as an independent risk factor for CVD. Around 57 % of unarmed police were found to be at high risk for CVD as compared to 6.8 % in armed police. The study indicated that BMI is statistically significant for HRV parameters and is a major risk factor for CVD.

Causative factors for operational stresses are found to be overtime demands and irregular food habits. It is recommended to evaluate the adequacy of police staff. Causative factors for organisational stresses were prolonged working hours, inadequate pay scales and promotional policies. It is recommended to regularise working hours, revise pay scales and promotional policies commensurate to the nature of police job. The police in the age group 30 to 35 years are subjected to prolonged working hours due to inadequate staff. It is recommended to investigate the entry level staffing and pay scales. Inadequate pay scales, problems related to coping with superiors and prolonged working hours are of greater concern in Men police than that in the Women. As these are the stressors for Organisational stresses, it calls for behavioural corrections. As most of the biochemistry and clinical evaluations indicated predominance towards the onset of metabolic syndrome due to the stressors identified, it is recommended to institute regular health check-up including the health parameters studied in the present research.

It is recommended to include additional parameters as part of regular health check up, such as diurnal variations of salivary cortisol levels, interleukins and study of HRV by long term recording using Holvers, for determining physiological variations due to stresses. Periodic psychological evaluation is recommended to assess stresses. The effect of stresses on the performance of the police has to be further investigated.