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Using salivary cortisol measures and self-evaluation to assess the stress of police work in urban police officers: Results from the Buffalo Cardio-Metabolic Occupational Police Stress (BCOPS) study

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Abstract:

Police officers (PO) suffer greater morbidity and mortality from many diseases including cardiovascular disease (CVD). As police work is an occupation that includes exposures to both conventional and unconventional workplace stressors the increased susceptibility to CVD in POs may be linked to their exposure to the stressors associated with police work. Stressor exposures activate the hypothalamic-pituitary-adrenal (HPA) axis and its repeated activation can result in dysfunction. Salivary cortisol (CORT) response evoked by a variety of conditions (e.g., awakening, time of day, etc.) and challenges (e.g., high protein meal, blood draw, etc.) was used to evaluate the status of the HPA axis in 317 male and female POs participating in the BCOPS study. The BCOPS study is a population-based study designed to integrate physiological, psychological, and subclinical measures of stress, mental dysfunction and disease to aid in understanding the health consequences of police work. Exposure to police work stressors over the past year was measured with the Spielberger Police Stress Survey (S-PSS), a self-report instrument that provides an index of exposure based on the product of the frequency of occurrence of each police stressor and its perceived intensity as evaluated by each PO. The S-PSS evaluates general administrative stressors; physical & psychological danger; and supervisor and co-worker support. Significant positive associations were found between the following: the area under the curve for CORT in samples collected across a single day and physical & psychological danger-related stressor exposure ($p = 0.0124$); bedtime CORT and general administrative stressors ($p = 0.012$) as well as bedtime CORT and physical & psychological danger-related stressors ($p = 0.003$). In summary, exposure to physical and psychological danger, related to police work, over the past year is associated with increased diurnal CORT secretion in a one day sample and also with elevated bedtime CORT. General administrative stressors were also associated with elevated bedtime CORT. Results suggest both conventional and unconventional police work stressors may result in HPA axis dysfunction. Future work will determine the possible associations between elevated CORT levels and preclinical indicators of CVD in the BCOPS population.

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