PIII-51: The Effect of Combat Exercises on Cardiovascular Response: An Exploratory Study

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Abstract Categories:
Research Interest Groups (RIGs): Health Promotion/Self-care
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Abstract:
Introduction: Hypertension affects one in every three adults in the United States. Although there are many risk factors for this silent killer, the psychologic and physiologic stressors surrounding repeated deployments may be the most salient in a young military population. This coupled with long intervals between blood pressure (BP) assessments and the absence of cardiovascular (CV) measures during the pre and post deployment health screenings may put soldiers at higher risk for hypertension. The purpose of this study is to provide evidence that exposure to combat stressors could negatively impact CV health as well as to assess which factors play the most significant role.

Method(s): Using the Allostasis/Allostatic Load theoretical framework as a guide, this repeated measures design will assess continuous CV measures of a convenient sample of 60 Army Reserve Officer Training Corps (ROTC) cadets. Five CV indices (BP, mean arterial pressure, CV recovery, morning BP surge, and evening BP decline) will be monitored before, during, and after exposure to a simulated combat stressor in order to assess the extent in which the stressor impacts CV response. A forward multiple regression analysis will be conducted to assess which factors (e.g., individual differences, perceived stress, or health behaviors) play the most significant role in that response.

Results: Studies have shown that certain CV indices are predictors of hypertension risk. By assessing these indices under a combat stressor, soldiers at higher risk could be identified early in order to instill preventative measures.
**Discussion & Conclusions:** Most CV studies involving the military have been retrospective in nature often using single blood pressure measures and self-reported information extracted from questionnaires and databases. In addition, very few CV studies have been conducted on younger soldiers with the use of instruments capable of obtaining continuous real time CV measures while actively engaged in their combat environment. The presenter will discuss how this study will provide rich quantitative evidence to support the need for policy change regarding CV health assessments during the pre and post deployment health screenings.

**Abstract History:**
This abstract has not been presented or accepted for presentation in whole or in part at the SNRS or other scientific meeting.

**Financial Disclosure:**
No, I (or a member of my immediate family) have not received something of value* from or own stock (or stock options) in a commercial company or institution related directly or indirectly to the subject of my presentation.

**FDA Disclosure:**
The FDA has cleared all pharmaceuticals and/or medical devices for the use described in this presentation.

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