

WAR ACROSS THE LIFE COURSE: EXAMINING THE IMPACT OF EARLY WAR EXPOSURE ON LATER LIFE HEALTH IN AN OLDER VIETNAMESE POPULATION

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OBJECTIVES

Examine the long-term impacts of earlier-life exposure to war experiences on an inventory of health outcomes, including physical and mental health, among older men and women, veterans and civilians, in Vietnam.

BACKGROUND

- The long-term impacts of past war-related trauma are under-researched in developing country settings where combat takes place in the community.
- The American (Vietnam) War exposed military personnel and civilians to intense trauma, stress, and suffering (1).
- Vietnam is undergoing population aging; those in early adulthood during the war are now rapidly aging. With the exception of few studies on PTSD and chemical exposure (2-7), little research has explored war-related trauma and later-life health status among older persons in Vietnam.
- Scattered evidence suggests early-life traumatic experiences can influence a wide range of later life health outcomes (8-9).
- This study uses data from the Vietnam Health and Aging Study (VHAS), with 2,447 individuals who lived through the American War (1965-1975), aged 60+, in four districts in Vietnam.

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METHODS

- Sixteen health outcomes assessing mental and physical health (see Figure 1).
- Four measures of war exposure generated with factor analysis, from 13 survey items asked of both veterans and civilians (see Figure 2).
- Multivariate models adjust for age, gender, military service, district, education, marital status, number of household members, main lifetime occupation, and current employment status.

Figure 1. Four measures of war exposure resulting from factor analysis

Death and Injury	Experiencing personal injury, and/or the death or injury of soldiers and civilians.
Stressful Environment	Experiencing food and/or water shortages, inability to sleep, and/or exposure to chemicals.
Displacement	Having to move due to bombing or evacuation.
Fearing Death	Experiencing fear of being injured or killed.

Figure 2. Summary of sixteen health outcomes in Vietnamese population

Self-Rated Health	Severe Pain	Comorbidity Index	Somatic Symptoms
Poor vs. Fair or better (0-1)	Severe vs. Non-severe pain (0-1)	Number of diagnoses (0-9)	Number of health complaints (0-9)
Functional Limitations	Activities of Daily Living (ADLs)	Instrumental Activities of Daily Living (IADLs)	Grip Strength
Number of limitations (0-7)	Number of limitations (0-5)	Number of limitations (0-3)	Less than median grip strength vs. not (0-1)
Cardiovascular Risk	Mental Distress	Cognitive Score	Post-Traumatic Stress Symptoms
Framingham Risk Score (0-28)	Number of symptoms (0-7)	Number of incorrect responses (0-12)	Current PTSS score (0-27)
Hypertension	High Pulse	Peak Expiratory Flow (PEF)	HbA1C
High blood pressure vs. not (0-1)	>100bpm vs. not (0-1)	< one SD below the mean vs. not (0-1)	> one SD above the mean vs. not (0-1)

RESULTS

- Three types of war exposure (death and injury, stressful environments and fearing death) are related to worse health outcomes across a number of health dimensions (See Figure 3).
- Exposure associates with significantly worse self-assessed health, greater number of diagnosed health conditions, greater number of health complaints, more severe pain, greater mental distress, more functional limitations, decreased cognitive ability, and more symptoms of current post-traumatic stress.

Figure 3. Summary of multivariate analyses of sixteen health outcomes with four war exposures

	Death and Injury	Stressful Living Conditions	Displacement	Fearing Death
Self-Rated Health	Worse health	Non-Significant	Non-Significant	Non-Significant
Severe Pain	Worse health	Worse health	Non-Significant	Worse health
Comorbidity	Worse health	Worse health	Non-Significant	Non-Significant
Somatic	Worse health	Worse health	Non-Significant	Worse health
Cardiovascular Risk	Non-Significant	Non-Significant	Non-Significant	Non-Significant
Functional Limitations	Non-Significant	Non-Significant	Non-Significant	Worse health
ADLs	Worse health	Non-Significant	Non-Significant	Non-Significant
IADLs	Non-Significant	Worse health	Non-Significant	Non-Significant
Grip Strength	Non-Significant	Non-Significant	Non-Significant	Non-Significant
Mental Distress	Worse health	Worse health	Non-Significant	Worse health
Cognitive Score	Worse health	Non-Significant	Non-Significant	Non-Significant
PTSS	Worse health	Worse health	Non-Significant	Worse health
Hypertension	Non-Significant	Non-Significant	Non-Significant	Non-Significant
High Pulse	Non-Significant	Non-Significant	Non-Significant	Non-Significant
PEF	Non-Significant	Non-Significant	Non-Significant	Non-Significant
HbA1C	Non-Significant	Non-Significant	Non-Significant	Non-Significant

■ Worse health with greater exposure
 ■ Better health with greater exposure
 ■ Non-significant, p<0.05

CONCLUSION

- Exposure to war experiences, like other traumatic events, may be an inciting factor in a multifactorial process that predisposes individuals to poor health via complex physiological mechanisms.
- Accumulating data, including the results of this research, continue to support the assertion that exposure to traumatic experiences in the past directly contributes to worse long-term health (9).