

Pain in veterans of the Gulf War of 1991: a systematic review.

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BACKGROUND: Veterans of the Persian Gulf War of 1991 have reported a range of adverse health symptoms. This systematic review aims to identify all studies that have compared the prevalence of symptoms of pain in veterans of the Gulf War to that in a non-Gulf military comparison group, and to determine whether Gulf War veterans are at increased risk of reporting pain. **METHODS:** Studies published between January 1990 and May 2004 were identified by searching a large number of electronic databases. Reference lists and websites were also searched and key researchers were contacted. Studies were included if they reported the prevalence of any symptom or condition that included the word "pain" in Gulf War veterans and in a comparison group of non-Gulf veterans. 2401 abstracts were independently reviewed by two authors. **RESULTS:** Twenty studies fulfilled the inclusion criteria. Five main sites of pain were identified (muscle, joint, chest/heart, back and abdominal pain) and separate meta-analyses were performed to summarise the results related to each site. A greater proportion of Gulf veterans reported symptoms at each site of pain when compared to a non-Gulf military group. Gulf deployment was most strongly associated with abdominal pain, with Gulf veterans being more than three times more likely to report such pain than a

comparison group (OR 3.23; 95% CI 2.31-4.51). Statistical heterogeneity between study estimates was significant, probably due to variation in measured periods of prevalence and symptom measurement methods. CONCLUSION: A higher proportion of veterans of the Persian Gulf War of 1991 reported symptoms of pain than military comparison groups. This is consistent with previously demonstrated increased reporting of more general symptoms (fatigue, multiple chemical sensitivity, post traumatic stress disorder) in these veterans compared with non-Gulf military groups. However, the primary studies were heterogeneous and varied greatly in quality. PMID: 16987407 [PubMed - indexed for MEDLINE]