

Putting Research to Work for Military Families



Focus:
Multiple
Branches

Infant Abusive Head Trauma in a Military Cohort

Gumbs, G. R., Keenan, H. T., Sevick, C. J., Conlin, A. M., Lloyd, D. W., Runyan, D. K., ... Ryan, M. A. K. (2013). Infant abusive head trauma in a military cohort. *Pediatrics*, 132(4), 668-676. doi:10.1542/peds.2013-0168

SUMMARY: Administrative data were used to examine rates of, and risk factors for, abusive head trauma, a type of physical child abuse, among military families with infants 12 months old or younger. The rates of infant abusive head trauma are similar to civilian rates. Higher risk of abusive head trauma is associated with lower military pay grade, having a military mother, infant being a boy, prematurity, or having a birth defect.

KEY FINDINGS:

- The estimated rate of substantiated abusive head trauma in the military population was 34 cases per 100,000 live births. Including probable cases increased the rate to 39 cases, rates very similar to civilian rates.
- Rates of substantiated abusive head trauma among military infants increased beginning in September 2001 and continued for several months.
- Male infant sex was associated with increased risk for substantiated abusive head trauma, as were premature birth and birth defects.
- Parental risk factors related to abusive head trauma included lower pay grade, young maternal age, and the presence of a military mother.

IMPLICATIONS FOR PROGRAMS:

Programs could:

- Provide support services to military families when a child is born prematurely or with a birth defect to reduce the risk of abusive head trauma
- Offer parenting classes to military families at high risk for abusive head trauma
- Disseminate information regarding how to report child maltreatment among military families

IMPLICATIONS FOR POLICIES:

Policies could:

- Continue to support programs that provide resources and services to young military families, particularly families of female Service members, to help reduce rates of abusive head trauma
- Recommend collaboration among DoD and community-based programs that help military families cope with the stressors associated with parenting
- Recommend education to service providers regarding the risk factors associated with abusive head trauma in military families

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METHODS

- The Department of Defense Birth and Infant Health Registry was searched to identify military-associated infants born between 1998 and 2005.
- International Classification of Diseases – 9th Edition (ICD-9) codes indicating traumatic brain injury were combined with the findings of the Family Advocacy Program (FAP) to identify cases of abusive head trauma for infants up to 12 months old.
- Infants with at least one head injury ICD-9-CM code or a code for shaken infant syndrome were included in the study if they had a FAP report that occurred one week prior to, or within 60 days of the child receiving a head trauma diagnosis.

PARTICIPANTS

- Participants included 676,827 infants born to military families; same-sex multiples were excluded from the sample.
- The majority of infants were White (66%), male (51%), full-term (93%), and born without birth defects (97%).
- Most mothers were 21 years of age or older (93%) and dependent spouses of a Service member (82%); 6% were military and single, 6% were military and married, and 6% were in a dual-military marriage.
- Thirty-seven percent of the sample were Army families, 26% were Navy and Coast Guard, 25% were Air Force, and 12% were Marine Corps.

LIMITATIONS

- The use of large administrative data sets leaves the data open to misclassification and coding errors, which could influence results.
- Cases may have been missed if infants were born before the parent's enlistment in the military or if the case occurred after the parent left the military.
- Only a small number of abusive head trauma cases had a parent deploy and results may not be applicable to military families with higher rates of parental deployment.

AVENUES FOR FUTURE RESEARCH

Future research could:

- Include information on care setting and perpetrators to understand the elevated risk associated with military mothers
- Qualitatively examine antecedents to abusive head trauma to inform prevention efforts.
- Explore the effectiveness of intervention programs aimed at reducing child maltreatment among military families

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