

Putting Research to Work for Military Families



Focus:
Multiple
Branches

Health Outcomes Among Infants Born to Women Deployed to United States Military Operations During Pregnancy

Ryan, M. A. K., Jacobson, I. G., Sevick, C. J., Smith, T. C., Gumbs, G. R., & Conlin, A. M. S. (2011). Health outcomes among infants born to women deployed to United States military operations during pregnancy. *Birth Defects Research*, 91(2), 117-124. doi:10.1002/bdra.20746

SUMMARY: Department of Defense (DoD) Birth and Infant Health Registry data were used to examine whether maternal deployment during pregnancy was associated with adverse health outcomes at birth and in the first year of life. Infants born to women who were deployed some time in their first trimester of pregnancy were not more likely to experience adverse health outcomes.

KEY FINDINGS:

- Infants born to military women who were deployed in early pregnancy were not at increased risk for being born preterm, being diagnosed with a major birth defect, or being diagnosed with a malignancy in the first year of life.
- Non-singleton infants, male infants, and infants born to a mother aged 35 years or older were significantly more likely to have birth defects.
- The prevalence of hydrocephalus without spina bifida was higher among infants in the deployment group, but the difference was not statistically significant.

IMPLICATIONS FOR PROGRAMS:

Programs could:

- Provide workshops for Service members and their families that offer research-based information about the absence of documented adverse outcomes for children born to mothers who were pregnant during deployment
- Educate female Service members about health-promoting behaviors which will benefit both the mother and unborn child
- Distribute information regarding environmental impact of infant health outcomes and ways to reduce negative exposure and stress during pregnancy

IMPLICATIONS FOR POLICIES:

Policies could:

- Continue to provide support to female Service members who discover they are pregnant during deployment and consider instituting safeguards to minimize health risks during deployment
- Minimize exposure to potential hazards by female Service members during pregnancy
- Encourage collaboration among DoD and community-based services to provide streamlined and cohesive care for pregnant Service members

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METHODS

- The Department of Defense Birth and Infant Health Registry was used to capture birth and infant health outcomes in the first year of life.
- Military personnel rosters were used to assess maternal characteristics.
- Infants born between 2002-2005 were included in the study.

PARTICIPANTS

- Sixty-three thousand fifty-six infants were born to military mothers from 2002-2005.
- A total of 22,596 infants were born to women who deployed; 64% were born to mothers who never deployed, 18% deployed post-pregnancy, 13% deployed pre-pregnancy, 5% deployed during the first trimester, and 0.2% deployed in late pregnancy.
- The majority of mothers were White (48%), and under the age of 35 years (93%).
- Service members were 33% Army, 32% Air Force, 29% Navy, and 6% Marines; 88% were enlisted and 87% were active duty.

LIMITATIONS

- This study was unable to evaluate pregnancy losses; therefore, no conclusions about how deployment is related to pregnancy losses can be drawn.
- Specific deployment hazards and exposures were not measured; the impact of specific exposures cannot be assessed.
- Misclassification bias may have occurred due to the study's reliance on electronic databases.

AVENUES FOR FUTURE RESEARCH

Future research could:

- Explore the relationship between specific military occupational exposures and their impact on reproductive health
- Examine the outcome over time for these children
- Explore a broader range of possible health outcomes among the children

ASSESSING RESEARCH THAT WORKS



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