

Spousal Military Deployment during Pregnancy and Adverse Birth Outcomes

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Background: Pregnant women with a spouse deployed in the military are at increased risk of depression and self-reported stress in comparison to those without a deployed spouse. In non-military populations, women who experience anxiety, depression, and stress during pregnancy face increased risk of adverse birth outcomes. This study aims to determine the association between a spouse's deployment and adverse birth outcomes in a military population.

Methods: Using a retrospective cohort study, we examined birth records of all singleton deliveries to dependent spouses from September 2001-September 2011 at Madigan Army Medical Center. Logistic regression was used to estimate relative risks and 95% confidence intervals (CI) of the associations between deployment and low birth weight (LBW, <2500g), preterm delivery (PTD, <37 weeks), small for gestational age (SGA, <10 percentile for gestational age), and Cesarean delivery.

Results: We identified 14,799 births at Madigan Army Medical Center; 1,939 (13.1%) women had a spouse deployed at time of delivery. We found women with spouses in branches of service other than the Army (Air Force, Navy, Marines, and Coast Guard) were at a 79% increased risk of LBW (95% CI 1.18, 2.71) and a 75% increased risk of PTD (95% CI 1.19, 2.57). Among women with two or more children, we observed a 49% increased risk of LBW (95% CI 1.04, 2.13) and a 56% increased risk of SGA (95% CI 1.09, 2.22). Women aged 30 to 34 years were at

a 48% (95% CI 1.02, 2.17) increased risk of PTSD, 81% increased risk of LBW (95% CI 1.18, 2.77), and a 67% increased risk of SGA (95% CI 1.09, 2.55). Women aged 35 years and older were at a 79% increased risk of PTSD (95% CI 1.11, 2.88).

Conclusion: Further research should focus on the relationship between the timing of deployment and gestational age, social support and stress reduction during deployment, and differences between branches of service and military treatment facilities.

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